



**STUDY OF FLIPPED CLASSROOM TEACHING METHOD TOGETHER
WITH CYBERSPACE LEARNING TO PROMOTE CHINESE
CONTEMPORARY LITERATURE HISTORY ACHIEVEMENT**

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**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
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UNDER THE ROYAL PATRONAGE PATHUM THANI
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ผลของการจัดการเรียนรู้ด้วยห้องเรียนกลับทางร่วมกับการเรียนรู้ผ่านไซเบอร์สเปซเพื่อส่งเสริม
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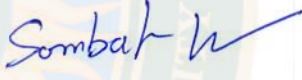
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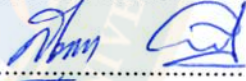
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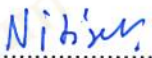

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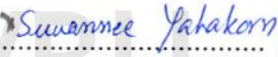
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บทคัดย่อ

งานวิจัยนี้มุ่งศึกษาการประยุกต์ใช้การจัดการเรียนรู้ด้วยห้องเรียนกลับทางร่วมกับการเรียนรู้ผ่านไซเบอร์สเปซ และอภิปรายถึงความเป็นไปได้ที่จะนำไปใช้ในการจัดการเรียนรู้และก่อให้เกิดการพัฒนา นวัตกรรมทางการศึกษา มีวัตถุประสงค์เพื่อ 1) เปรียบเทียบผลสัมฤทธิ์ทางการเรียนประวัติศาสตร์วรรณกรรมจีนร่วมสมัยระหว่างก่อนและหลังเรียนด้วยการจัดการเรียนรู้ด้วยห้องเรียนกลับทางร่วมกับการเรียนรู้ผ่านไซเบอร์สเปซ และ 2) เปรียบเทียบผลสัมฤทธิ์ทางการเรียนประวัติศาสตร์วรรณกรรมจีนร่วมสมัยหลังเรียนด้วยการจัดการเรียนรู้ด้วยห้องเรียนกลับทางร่วมกับการเรียนรู้ผ่านไซเบอร์สเปซกับเกณฑ์ร้อยละ 70 กลุ่มตัวอย่างที่ใช้การศึกษาครั้งนี้ เป็นนักศึกษาจีน ชั้นปีที่ 1 สาขาวิชาภาษาและวรรณกรรมจีน Zhoukou Normal University ประเทศสาธารณรัฐประชาชนจีน ที่เรียนรายวิชาประวัติศาสตร์วรรณกรรมจีนร่วมสมัย จำนวน 30 คน ซึ่งได้มาโดยวิธีการสุ่มแบบแผนการทดลองเป็นแบบกลุ่มเดียววัดก่อนและหลังเรียน เครื่องมือที่ใช้ในการวิจัย ประกอบด้วย 1) แบบสอบถามผลสัมฤทธิ์ทางการเรียนประวัติศาสตร์วรรณกรรมจีนร่วมสมัยซึ่งมีค่าความตรง เท่ากับ 1.00 ค่าความเที่ยง เท่ากับ 0.72 ค่าความยาก เท่ากับ 0.20 - 0.45 และค่าอำนาจจำแนก เท่ากับ 0.20 - 0.70 สำหรับการวิเคราะห์ข้อมูลที่เก็บรวบรวมมาได้ ใช้การวิเคราะห์ด้วยโปรแกรมสำเร็จรูป สถิติที่ใช้ในการวิเคราะห์ข้อมูล ประกอบด้วย ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และสถิติทดสอบที

ผลการวิจัยพบว่า 1) นักศึกษาที่เรียนด้วยการจัดการเรียนรู้ด้วยห้องเรียนกลับทางร่วมกับการเรียนรู้ผ่านไซเบอร์สเปซมีคะแนนผลสัมฤทธิ์ทางการเรียนประวัติศาสตร์วรรณกรรมจีนร่วมสมัยสูงกว่าก่อนการเรียน อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 ($t_{29} = -9.04, p < 0.05$) 2) คะแนนผลสัมฤทธิ์ทางการเรียนประวัติศาสตร์วรรณกรรมจีนร่วมสมัยหลังจากเรียนด้วยการจัดการเรียนรู้ด้วยห้องเรียนกลับทางร่วมกับการเรียนรู้ผ่านไซเบอร์สเปซสูงกว่าเกณฑ์ร้อยละ 70 อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 ($t_{29} = 26.83, p < 0.05$)

องค์ความรู้ที่ได้จากการวิจัยนี้ช่วยให้เกิดองค์ความรู้เกี่ยวกับปัจจัยความสำเร็จของการเรียนสอน ดังนี้ 1) กิจกรรมออนไลน์นอกชั้นเรียนด้วยแพลตฟอร์มการเรียนรู้ช่วยให้ผู้เรียนสามารถเข้าถึงได้ตลอดเวลา และสอดคล้องกับแบบการเรียนรู้และความเร็วในการเรียนรู้ของแต่ละคน อีกทั้งครูผู้สอนสามารถติดตามพฤติกรรมการเรียนรู้จากการติดตามดาวนโหลดทรัพยากร เวลาที่ใช้ในการเรียนออนไลน์ 2) กิจกรรมการมีส่วนร่วมในชั้นเรียนนั้น ครูจะเลือกเนื้อหาบางประเด็นที่สำคัญและมีความยากเพื่อจัดความสับสนและทำให้ผู้เรียนเกิดความชัดเจนโดยผู้เรียนจะได้รับการกระตุ้นให้มีส่วนร่วมด้วยการสนทนาตอบคำถามในประเด็นที่สงสัยหรือยังไม่ชัดเจน

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ABSTRACT

The research aimed to explore the application of flipped classroom teaching method together with cyberspace learning, and discuss its feasibility in today's teaching practice and even enlighten educational innovation and development. Thus, two research objectives were proposed: 1) to compare the Chinese contemporary literature history achievement both before and after receiving the flipped classroom teaching mode based on cyberspace learning, and 2) to compare the Chinese contemporary literature history achievement with the determined criterion at 70 percent. The sample was 30 Chinese freshmen students, majoring in Chinese Language and Literature, Zhoukou Normal University, Republic of China. They enrolled in Chinese Contemporary Literature History course. The sample was randomly selected. The experimental design was one group pretest-posttest design which was to determine a new teaching mode by integrating flipped classroom teaching method with cyberspace learning to promote Chinese contemporary literature history achievement of university students. The research instrument was an achievement test with the validity at 1.00, inter-rater reliability at 0.72, item difficulty (p) at 0.20 - 0.45 and item discrimination (r) at 0.20 - 0.70. The collected data were analyzed by a computer software. The statistics of analysis were mean scores, standard deviation, and t-test.

The results showed that: 1) the students immersing in the flipped classroom teaching method together with cyberspace learning received a higher score in the posttest than that of the pretest at 0.05 level of statistical significance ($t_{29} = -9.04$, $p < 0.05$), and 2) the posttest mean scores of students' Chinese Contemporary Literature History achievement after learning through flipped classroom teaching mode based on cyberspace learning was statistically higher than the criterion of 70% at 0.05 level of statistical significance ($t_{29} = 26.83$, $p < 0.05$).

The knowledge gained from this research provides the new insight relevant to effective teaching that 1) the out-of-class online activities through the platform allow students to access at any time to learn according to their own pace and teachers can monitor the students' performance through their downloaded resources, viewing times, and video watching progress, and 2) for the in-class participatory learning, teachers can select some key lessons with suitable difficulty and make clear explanation to avoid students' confusion, and also students are encouraged to express their hesitations and ask questions.

Keywords: Chinese Contemporary Literature History Achievement, Flipped Classroom Teaching Method, Cyberspace learning

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CHAPTER 1

INTRODUCTION

1.1 Research Background

With the rapid development of science and technology, the Internet has also developed greatly and integrated into many fields, esp. education. Moreover, it has emerged various forms of educational resources and autonomous learning platforms, such as MOOCs, micro-lectures, or APPs, and more advanced information technologies have been used to assist learners in academic study in different disciplines, like cloud computing, 4G mobile phone communication technology, mobile terminal, etc., all of which are beneficial to change the teaching modes, teaching approaches and learning methods.

The concept of flipped classroom was first discussed in a paper entitled “The ‘classroom flip’: Using Web course management tools to become the guide on the side” in the 11th international Conference on College Teaching and Learning (Baker, 2000). In 2007, in Colorado, U.S.A., chemistry teachers Jonathan Bergmann and Aaron Sams proposed a new teaching mode, that is, students were asked to watch online videos and listen to the explanations at home; after that, teachers would answer their questions and solve the problems in class. In the case, a new teaching concept seems to come into being –flipped classroom, and students tend to learn autonomously on line (Baker, 2000; Bergmann & Sams, 2012).

1.1.1 The Need to Promote the In-depth Development of Education Informatization

In order to facilitate the application and development of internet technology upon the education, deepen the integration of educational informatization, Chinese government has published many policies and regulations to push the deep and extensive integration of Internet and Education. Two important documents have illustrated the important roles of internet and informatization in the development of education, and they also offered a better guide for the educational reform in the new era.

One is *The Outline of the National Program for Medium and Long-Term Educational Reform and Development (2010-2020 years)*, in which the informatization of teaching content, teaching means and teaching methods should be promoted through the construction of an educational information system. It can be seen that educational informatization has been incorporated into the national strategy, and the reform of education and teaching would be achieved with the significant change of both contents and forms. The promotion of educational informatization is bound to have a significant impact on people's learning philosophy, learning methods and learning environment. The other government documentary — *Ten-Year Development Plan for Education Informatization (2011-2020)*, proposes that China should explore

the deep integration of information technology and education, and innovate educational concept and educational model by informatization, in order to give full play to the supporting and leading role of educational informatization in educational reform and development.

Because these critical proposals are necessary to meet the demands of social and economic development, the information technology in the future education, has the profound significance to the education reform and innovation. Information-based teaching needs to be based on the deep integration of information technology and teaching. It not only depends on the establishment of learning environment such as network infrastructure and online learning platform, but also needs the design of diversified learning activities and the construction of diversified learning resources.

1.1.2 The Need to Help Education Reform by Flipped Classroom Teaching

In recent years, flipped classroom, as a powerful tool to promote the reform of teaching methods and learning methods, has set off a global upsurge, attracting extensive attention and exploration from researchers. In flipped classroom, teachers have to change their roles from the dominators to the directors of the class activities, and they also need to innovate the teaching methods to enlarge students' autonomous learning activities after class. Different from the traditional teaching, students have to make presentations and practice in class.

In the case, flipped classroom teaching not only extends students' learning time and space from classroom to extracurricular, but also changes the roles of teachers and students, which fully reflects the student-centered teaching idea. It puts the development of learners' learning ability in the first place in teaching, strongly supports the curriculum reform of basic education and provides them with new ideas and methods.

1.1.3 The Need to Construct and Develop Cyberspace Learning

In the second teleconference of national education information work, the vice premier of the State Council Liu Yandong (2015) proposed that the construction of *Three Links and Two Platforms* project should be further improved, and cyberspace learning for everyone should be popularized and developed, as well as the reform of teaching and learning methods should be further promoted.

As the core of the project, cyberspace learning complies with the needs of educational reform and development in the era of "Internet +" to promote the construction of cyberspace learning, institutions such as the Ministry of Education issued a series of policy document to push the education administrative departments at all levels across the country, and universities, colleges or other enterprises to be equipped with informational technology, in order to accelerate the deployment of the cyberspace learning. It is known that the public resources in online teaching and learning are increased significantly in the development of educational informatization in China, like Hunan, Fujian, Guangdong, Beijing and other regions have made remarkable achievements in the construction of cyberspace learning, accumulated rich

practical experience, and provided valuable advice. On this basis, the thirteenth Five-Year Plan (2016) further put forward the guidance of "integrated innovation" of the cyberspace learning, which is shifted from construction-oriented to application-oriented, and the popularization of application has become the focus of space development.

1.1.4 The Importance of the Course

As the focus of the research is to propose a new teaching method –the flipped classroom teaching together with Cyberspace learning, and the research subjects are from the School of Chinese Language and Literature, so there is a need to choose one professional course to test students' academic performance in order to testify the feasibility of flipped classroom teaching method.

It is known that the course – Chinese Contemporary Literature History is absolutely a special one with academic vividity. As Chinese contemporary literature comes into being around the May Fourth Movement, expressing modern Chinese thoughts, emotions and psychology with modern literary language and form. And contemporary Chinese history is both a reflection of national suffering and national liberation, from which the Chinese youth will learn more about their mother country, about the image record of Chinese socialist revolution and construction, thus it is very important and valuable for students to learn hard no matter what teaching mode is used.

1.1.5 Problems of the Course Teaching and Learning

First, the traditional approach emphasizes teachers' leading role in class, so teachers' talk time is more than that of students, neglecting students' enthusiasm and initiative in self-learning and exploration. Meanwhile, the traditional approach is simple and boring, lack of the necessary teacher-student interaction; teachers prefer to explain more in class, thus no enough time for students to think, to discuss, or to practice in the group-work. What's more, modern advanced equipment is not fully used in traditional class, which may further aggravate the boredom of class activities, diminish the learning interest of students, and weaken teacher-student interaction.

Second, students also have some problems relevant to their learning methods. With fast development of information technology and explosion of internet resources, students would like to surf online to study their courses by smart phones, iPads or palmtops, they can learn anytime anywhere without being restricted in a definite spatiotemporal space, and they are involved in the fragmented learning. But obviously, they haven't got the correct interpretation towards online learning, and make little use of cyberspace learning. The traditional learning method is not suitable for today's young students; and they are not satisfied with learning only in class, where they listen more yet practice less, with little self-exploration to analyze and solve problems. But they still keep curiosity towards new things and challenges, confronting and trying to resolve them.

Therefore, most students today are seemingly in a paradox — they want to behave actively yet pay little attention to the cultivation of self-learning abilities; they undoubtedly possess much more learning resources yet cannot make good use of them, and the worse thing is that their learning methods are not suitable for the flexible internet resources and internet platforms. And there is the same truth applies to teachers.

As a result, both teachers and students need to change their roles and their ideas towards the application of internet learning resource and platforms. And teachers should reconsider the critical influence of educational informatization upon their teaching design, and value both physical and psychological development of students to cultivate their critical thinking and competency to analyze and solve problems.

1.1.6 Summary

From the discussion above, the critical influence of informational technology on the internet have made the multimedia teaching and internet-based technology integrate deeply together, and with the large amount of online teaching and learning resources, both teachers and students are supposed to enhance their own information literacy, and activate themselves to involve in autonomous cyberspace learning. In this case, both the roles and functions of teachers and students in class have been changed, and students' self-learning will not be restricted spatiotemporally, perhaps, they will make efforts at large to obtain better academic achievements due to their subjective initiative and curiosity.

What's more, the order of in-class and after-class activities should not be restrained, they can be reversed by a new teaching approach, or a new learning method, which probably give rise to a new development and reform in Education.

Therefore, this study puts forward a new integrated teaching method, i.e., the flipped classroom teaching method plus cyberspace learning, and compare the different academic achievements of the course – Chinese Contemporary Literature History, aiming to suggest some new teaching and learning ideas in educational development, and elaborate how to use it scientifically to better meet the various needs of social and economic development in the era of educational informatization.

And from the study of the relationship between education and information technology, the new teaching mode will help make advantage of internet resources and platforms, and integrate education and informatization tightly and scientifically, which may provide a reference model for the further study of other disciplines' reform and development, and the study can be beneficial to cultivate young students' critical thinking and analytical abilities in solving problems.

1.2 Research Questions

1.2.1 How does the Chinese contemporary literature history achievement before and after receiving flipped classroom teaching method together with Cyberspace

learning?

1.2.2 How does the Chinese contemporary literature history achievement comparing with the determined criteria at 70 percent.

1.3 Research Objectives

Based on the current situation and problems, the new teaching method is to be constructed and testified.

1.3.1 To compare Chinese contemporary literature history achievement before and after receiving flipped classroom teaching method together with Cyberspace learning.

1.3.2 To compare Chinese contemporary literature history achievement with the determined criteria at 70 percent.

1.4 Research Hypotheses

The research hypotheses for statistic testing are the following points.

1.4.1 Students involved with flipped classroom teaching method together with Cyberspace learning have higher scores and better achievement on Chinese Contemporary Literature History than before learning through flipped classroom teaching method together with Cyberspace learning.

1.4.2 Students learned through flipped classroom teaching method together with Cyberspace learning have higher scores than 70 percent.

1.5 Delimitation of the Study

1) Population and samples

The samples were composed of 30 freshmen enrolled in September 2020, majoring in Chinese language and literature in the school of Chinese language and literature of Zhoukou Normal University. They were randomly chosen from around 200 undergraduates in 8 classes.

2) Variables

Independent variable is flipped classroom teaching method together with Cyberspace learning.

Dependent variable is Chinese contemporary literature history achievement.

3) The Selection of content in the test

First, the tested content of the course is selected contingently, covering only a quite limited scope of the Chinese contemporary literature history, which is a professional compulsory course for freshmen majoring in Chinese Language and Literature.

Second, the course should be finished within a year, but the study just focuses

only one month's learning, to some extent, the overall level is hard to evaluate towards understanding literature works or the writing styles of the authors. Meanwhile, students will learn the topics relevant to the historical development of Chinese literature in contemporary society, and they are required to read the classic works of Chinese contemporary literature deeply and, to understand the writers' creation path and literary ideas.

Third, the test aims to help cultivating students' ability to analyze literature works independently with literary criticism, and also deepen their aesthetic perception and criticism towards text analyses. So by using flipped classroom teaching method, students' autonomous learning in cyberspace will learn the topics relevant to the historical development of Chinese contemporary literature, and they are required to read classics deeply and extensively in order to understand authors' creation ideas.

4) Time duration

Due to the limited research time, I selected four weeks of the course teaching in November 2021 to complete the research practice. Thus, the time Duration for the research lasted only four weeks in November 2021.

1.6 Theoretical Framework



1.7 Definitions of Terms

1.7.1 Flipped Classroom Teaching Method refers to a learner-centered instruction that provides an opportunity for students to gain first exposure prior to class or out of class. In that way, students can develop a general understanding of the main contents with rich learning resources, reify that information in some way, and use technology to convey that reified information to students during out-of-class tasks. For in-class activities is designed to help students construct a deeper understanding of content by having them complete tasks that make meaning of content both individually and with the assistance of others (Yang, 2015).

1.7.2 Cyberspace Learning refers to a space or platform that provides resources for learners, which is characterized with extensive content and also supportive to

learners. It should be the effective product of the combination of the virtual and the reality. Learning space is a virtual or physical place or environment that can be designed and planned for learning (Fabregas, Farias, Dormido-Canto, Dormido, & Esquembre, 2011). In addition, learning space is divided into several spaces, such as thinking space, memory space, application space, interaction space, perception space and practice space, etc., (Zhong, Zhong, Li, Wang, & Zhang, 2008).

By cyberspace learning, it is a kind of learning environment which integrates management, resources, evaluation, service and interaction. It is a whole new learning environment. On the basis of the original theoretical framework of learning space, cyberspace learning will provide users more resources and information through convenient online services (Mulholland, et al, 2012). And its biggest advantage is that it can be designed and realized according to the different features of disciplines. Moreover, domestic scholars believe that cyberspace learning is a virtual interactive autonomous learning space, which is optimized by the teaching design and constructed by the combination of information technology and network technique; it will provide massive information for learners through discipline design optimization (Zhu & Guan, 2013).

1.7.3 Teaching Procedures of Flipped Classroom Teaching Method together with Cyberspace Learning refers to the teaching process that consists of two main sections; out-class and in-class teaching. Out-class teaching is mainly used for delivering course contents through cyberspace that provides various online resources and activities, such as online videos, micro- lectures, electronic documents, PPT, etc., which propose higher demands on teachers to make good preparation and application of teaching resources, including courseware, video lessons, text files and interactive content. Out of class time can support and encourage learners to perform personalized learning. While in class time is mainly used for active learning activities such as hand-on activity, small group discussion, and brainstorm activity. Moreover, during class, teacher also uses cyberspace learning as tool for students learning. The teaching procedures during in class time are listed as follows:

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Teaching procedures	Learning Activity
1) Selecting and processing pre-class knowledge.	3.1 Out of class activities 3.1.1 Let students find videos of MAO Dun's life on the Internet and watch them, so as to know some basic information about the author.
2) Constructing the internalization of discipline knowledge.	3.2 In class activities Play a video clip of a film or commentary about MAO Dun's life in class, and ask students to think about the following questions: (1) The difference between MAO Dun and his contemporaries. (2) MAO Dun worked on two fronts: politics and literature.
3) Transferring and applying the knowledge after-class.	5.2 Student groups are required to submit reports on the following issues: 1. What are the characteristics of MAO Dun's realistic theory? 2. What is the influence of rationality on MAO Dun's novel creation?

1.7.4 Chinese Contemporary Literature History Achievement refers to both the discipline knowledge and literary criticism ability towards Chinese contemporary literature history by applying flipped classroom teaching method based on cyberspace learning. The achievement is tested by different types of questions, including Fills up the topic (15%), Free Response (10%), and Performance Tests (15%), which have to be finished online within 60 minutes.

1.8 Significance of the Study

First, the study will help teachers change their roles in teaching, and benefit them to make good use of internet and information techniques. Teachers are no longer the disseminators of academic knowledge, but also the problem-solvers and integrators of teaching resources.

Second, with the study, more questions will be reconsidered seriously, which will bring a new trend and research focus in “Internet + Education” era, like how to use information technology to convoy “Internet +” upon educational reform, what strategies should be put forward and implemented to improve the current situations of college education, how to revise the traditional teaching mode, and how to use Internet and cyberspace to establish a "flipped" classroom in order to promote students' academic performance in different disciplines, etc., such questions are both an opportunity and a challenge for both scholars and educators, as well as government

departments concerned.

Third, the study provides a new teaching paradigm – flipped classroom teaching based on cyberspace learning, which not only offer teachers a whole-new point towards online teaching, but also motivate learners make effective use of internet and recourses online for their autonomous learning, consequently, benefiting both in informational level promotion and the cultivation of critical thinking.

Fourth, the study emphasizes the profound influence of cyberspace learning, which will bring a new learning idea and learning method for today's fast life pace. The cyberspace learning can effectively establish a unified platform for the flipped classroom teaching mode, which possibly help reduce teachers' pressure, but also conducive to establish a learning community, and the teacher-student interaction will be greatly improved.

Based on cyberspace learning, the study proposes a flipped classroom teaching method and carries out exploration in teaching practice. Through the organic integration of cyberspace learning and flipped classroom teaching, learners can enhance their learning methods, and strengthen their confidence and independence in self-learning, then gradually foster their critical thinking in personalized development. And in that way, their cyberspace learning can be motivated and effective.



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CHAPTER 2

LITERATURE REVIEW

With the development of “Internet + education”, the ways for learners to acquire knowledge has been changed, and Cyberspace learning can offer more convenient and flexible approaches and methods for special autonomous learning. Meanwhile, flipped classroom emphasizes learners’ autonomy and personalized learning, for which Cyberspace learning can guarantee its operation.

Therefore, the study assumes a new teaching method – flipped classroom teaching method based on Cyberspace learning, which would make great influence on learners’ achievements in academic study. The research tends to compare the different achievement of students with or without such integrated teaching method, and points that there is a need to promote both teachers’ and students’ information levels.

Consequently, this chapter mainly discusses the definitions and characteristics of flipped classroom, then explore the essence of flipped classroom teaching, in addition, it analyzes the concept of Cyberspace learning; and investigate the construction of flipped classroom teaching method based on the Cyberspace learning.

2.1 Flipped Classroom Teaching Method

2.1.1 Definition of Flipped Classroom

Originated in the United States, flipped classroom has been gradually accepted and promoted by domestic educators and scholars, as well as front-line teachers. As an instructional strategy and a type of blended learning, flipped classroom reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It is the reallocation of in-class and after-class activities based on learners' characteristics and teaching needs, and also the realignment of time in and out of the classroom, so that students can make decisions and gain autonomy in learning (Yang, 2015).

By such teaching method, the traditional teacher-centered teaching model will be transformed into a student-centered teaching model. The student-centered model can be adequately guaranteed in terms of time. In terms of educational technology, more colorful teaching resources can be provided for students’ cyberspace learning, such as online videos, micro lessons, electronic documents, PPT, etc., which puts forward higher demands on teachers, from initial preparation to teacher-student interaction, like make good preparation of courseware, video lessons, text files and interactive content. In addition, the arrangement of homework and exercises is designed, and both teaching and learning effects are evaluated.

Therefore, the study defines the flipped classroom teaching method as follows — through information technology means, combined with the teaching content, the original classroom teaching model for students and teacher-only teaching is

transformed into a new teaching model with student-centered, rich learning methods (online mode + offline centralized tutoring) and interactive connection between teachers and students.

2.1.2 Characteristics of Flipped Classroom Teaching

1) The role transmission of both teachers and students. Teachers in traditional classroom will change their roles from "the lecturer" to "the guide", and their focus will change from "textbook" to "curriculum design and development".

2) Reconstruction of classroom structure. Mainly reflected in the allocation of time, activity on the allocation. Teachers spend less time lecturing and students spend more time collaborating and exploring

3) The transformation of students' roles. Students from the traditional classroom independent passive receivers, into active explorers and learners.

This study is based on the theory of flipped classroom teaching model. This model reverses the main content in the classroom and after class. Organize students to use the school's existing network teaching platform for pre-class preview. By watching recorded videos, lectures and other related learning materials, students can complete the preview before class and enhance their learning enthusiasm. In class, teachers and students should increase interactive links, mutual free discussion, expand students' thinking creativity, let students participate in, independently use the brain to build knowledge, to achieve better teaching results.

2.1.3 Advantages of Flipped Classroom Teaching

Compared with traditional teaching approach, flipped classroom teaching has several advantages and difference (Yang, 2015; Xie, 2017; Li, et al., 2017).

First, the leading role will be changed from teachers to students. Since flipped classroom emphasize the central role of students, not only can students learn new knowledge in class, but also can communicate online with teachers and other students.

Second, more valuable classroom time is reserved, which may benefit both students and teachers. For students, more classroom time allows them to focus more on active project learning; they can not only receive teaching content in class, but also interact with teachers and other students.

In addition, they would like to work together to face and solve problems in order to gain deeper understanding. And they have enough time for deep learning in their spare time, such as cooperative learning and project learning. Through communication and discussion in class, students can gain a deeper internalization of discipline knowledge.

For teachers, they no longer spend more classroom time to teach students knowledge before class. While students are allowed to take part in the activities below, such as watching video lectures, listening to podcasts, reading E-books, or discussing online with others. Teachers also have more time to communicate with others.

Third, more colorful technical forms will be used to enrich teaching activities,

like online videos, micro-lectures, PPT, electronic documents, etc., which may pose a challenge to teachers to make good preparation, like PPT, video courses, text files and interactive content. Teachers also need to design teaching activities and interaction with students, and consider the assignments after class and make evaluation towards testing and students' learning effect.

After class, students have more opportunities to preview, and make a plan for their learning pace, learning method and ways of presentation, and teachers meet students' needs through teaching and collaboration, so as to facilitate students' personalized learning and make students learn more truly in practice. The flipped classroom teaching is part of a broader education movement that overlaps in meaning with blended learning, inquiry learning and other teaching methods and tools to make learning more flexible, proactive and participatory.

2.2 Cyberspace Learning

In a broad sense, learning space refers to a space or platform that provides help and resources for learners. It is consisted of two features: one is supportive for learners, and the other is extensive in learning resources (He & Xue, 2013). And it should be the effective product of the combination of the virtual and the real. Fabregas E (2011) points out in his research that learning space is a virtual or physical place or environment that can be designed and planned for learning. In addition, Elman divides learning space into thinking space, memory space, application space, interaction space, perception space and practice space (Zhong, Zhong, Li, et al, 2014).

On the basis of the original theoretical framework of learning space, Cyberspace learning provides users with more convenient services in the form of network and with the help of resources and information.

As to the definitions of Cyberspace learning, until now no unified views among scholars at home and abroad. Cyberspace Learning is a specially designed virtual space that uses modern information technology and computer networks to support learning (He, 2013). It is a kind of learning environment which integrates management, resources, evaluation, service and interaction. It is a whole new learning environment, whose biggest advantage is that it can be designed and realized according to the different characteristics of each individual (Wu, 2014).

Domestic scholars believe that Cyberspace learning is a virtual interactive autonomous learning space that combines information technology with Internet technology and provides massive information for learning through discipline design optimization (He & Xue, 2013; Wu, 2014; Zhong, 2014; Xie, 2017; Li, et al., 2017).

From the technical attributes of Cyberspace learning, it can be divided into two categories: virtual space and application system. The former considers that the virtual space supports formal and informal learning for teachers and students with the assistance of the service platform; the latter considers that Cyberspace learning is an

application system that provides personalized and convenient services for different types of education users.

Several elements should be considered in the construction of Cyberspace learning, like the requirements towards both teachers and students, the design and application of online resources, the design of teaching tools, the teaching design and the use of technical support. Role requirements mainly consider the relevant requirements towards teachers, students, and administrators in the Cyberspace learning; resource design mainly considers that Cyberspace learning should be able to meet the teaching process of resource generation, resource convergence, resource application, etc.; the teaching tools mainly should support teaching in the Cyberspace learning, such as a concept map. Process design mainly considers the display and record of teaching and learning process in the Cyberspace learning. Technical support mainly considers the technical methods and other contents adopted in the Cyberspace learning (Zhong, et al., 2008; Xie, 2017; Li, et al., 2017).

2.3 Theoretical Basis of Flipped Classroom Teaching Method together with Cyberspace Learning

In the design of the flipped classroom teaching method based on Cyberspace learning, relevant theories will be discussed below, such as Computer-assisted Collaborative Learning, Group Dynamics Theory, Constructivism Learning theory, Connectivism, etc.

1) Computer Supported Collaborative Learning (CSCL)

Computer supported collaborative learning refers to the use of computer technology, network technology and other collaborative learning environment, to support learners to carry out cooperation, communication, discussion and other learning activities. It focuses on educational resources and content, and provides learners with abundant and appropriate learning resources, and then help and support students to learn effectively together (Zhao, 2006).

Based on CSCL, the integration of flipped classroom teaching method based on Cyberspace learning aims to cultivate and develop students' knowledge acquisition and internalization, and make a summary in the reflection phase, providing students with web-based learning space. In the case, both teachers and students can make good use of online resources, and teachers can enhance teaching effects; students can discuss and communicate with each other on network platform.

2) Group Dynamics Theory

Group Dynamics, proposed by American psychologist Kurt Lewin in 1939, argues that the group's interpersonal relationship is one of the main factors to influence group behavior. It is said that individuals exist in groups, and groups have effects and influences on individuals. And the effects of group dynamics are influence by several elements, like the leadership, the nature and organization of the group structure, as

well as the group pact and majority members (Lewin, Lippitt & White, 1939).

Based on such theory, the flipped classroom teaching method tends to give full play to the network learning platform for students in groups as a unit of influence on each team member in knowledge discussion, the whole teaching model uses more collaborative inquiry to carry out doubts marking, results exchanging and multiple learning evaluation, etc., to promote students' development under group's influence upon Cyberspace learning.

3) Constructivist Learning Theory

Constructivism is first put forward by the Swiss scholar J. Piaget, and later revised by O. Kemberg and R. J. Temberg et al, forming a theoretical system with rich content and numerous schools. According to constructivist learning theory, learning is a process of autonomous and meaningful construction (Steffe, 2002).

In the study, students will be asked to make presentation and discussion with each other in explorative and cooperative manner. And by applying the flipped classroom teaching combined with Cyberspace learning, students are likely to effectively utilize the original resources designed by teachers before, during and after class, generative resources constructed by teachers and students and recommended resources on the Internet, so as to promote students to form meaningful knowledge construction.

4) Connectivism

Connectivism proposed by Siemens (2004) holds that learning is the process of knowledge networking, and the emergence of new tools will inevitably affect people's cognitive mode and learning purpose. At the same time, the emergence of new information will add new stages and create new cognitive pathways. Connectivism expresses a kind of learning concept involved in learning in relations and distributed cognition (Wang & Zhu, 2006).

Based on Connectivism, the study tends to design the learning path to acquire knowledge and meanwhile, it emphasizes to support cooperative learning activities within and between groups of students, and learning activities are carried out in the relationship to promote the acquisition of knowledge before and during class.

2.4. The Design Principles of Flipped Classroom Teaching Method together with Cyberspace Learning

Based on the foreign and domestic researches on the construction of flipped classroom teaching (Talbert, 2011; Zhang, 2012; Yang, et al 2013; Ma, et al 2013), the study will apply the principles to design flipped classroom teaching based on Cyberspace learning in the course — Chinese Contemporary Literature History.

1) The Principle of Scientificity

The study will abide by the learning regularities of university students, and

highlight the specific features of course learning relevant to Chinese Contemporary Literature History. Meanwhile, the proper teaching resources should be offered based on actual needs of university students. And teachers should design scientific and reasonable teaching strategies, and hold various teaching activities for students.

2) The Principle of Autonomy

Students' dominant position should be highlighted, and their subjective initiative should be given full play. Under the guidance of teachers, students should carry out independent learning with the help of diversified resources provided by the online learning space, or carry out cooperative exploration and cooperation in the communication and discussion with their peers, so as to be urged to actively process information and construct meaning.

3) The Principle of Adaptability

The flipped classroom teaching method in point should fully consider the individual differences and needs among learners. And also, the teaching design of flipped classroom should carry out different learning activities, cover different learning contents, set up different learning objectives and make different evaluation towards different learners with different starting point, bearing different abilities and requirements.

4) The Principle of Ease of Operation

Apart from the consideration of supports towards teaching activities, data processing and teacher-student interaction, the study focuses on the exploration of the convenience and usability of the integrated teaching method, that is, how to make Cyberspace learning easily used by both teachers and students, as well as by administrators and parents; and how to make good use of flipped classroom teaching method to conduct various activities in order to deepen teacher-student interaction. Thus, the course teaching should implement powerful yet simple and practical Cyberspace learning activities, and encourage traditional teaching approach transferred into the flipped classroom teaching in the course Chinese Contemporary Literature History.

2.5 The Synthesis of Flipped Classroom Teaching Method with Cyberspace learning in the Course Chinese Contemporary Literature History Teaching

Based on the above literature review, the study in point argues that both teachers and students are involved in several stages. They are Design and Development Stage, Knowledge Acquisition Phase, Internalization Stage, and Reflection phase, so that the teaching structure is flipped, and students are put in an indigenous knowledge acquisition by internalizing collaborative knowledge and intellectual consolidation in the promotion of both knowledge digestion and learning effects. The flipped classroom teaching model based on cyberspace learning is constructed in the course Chinese Contemporary Literature History. Figure 2-1 shows this graphically.

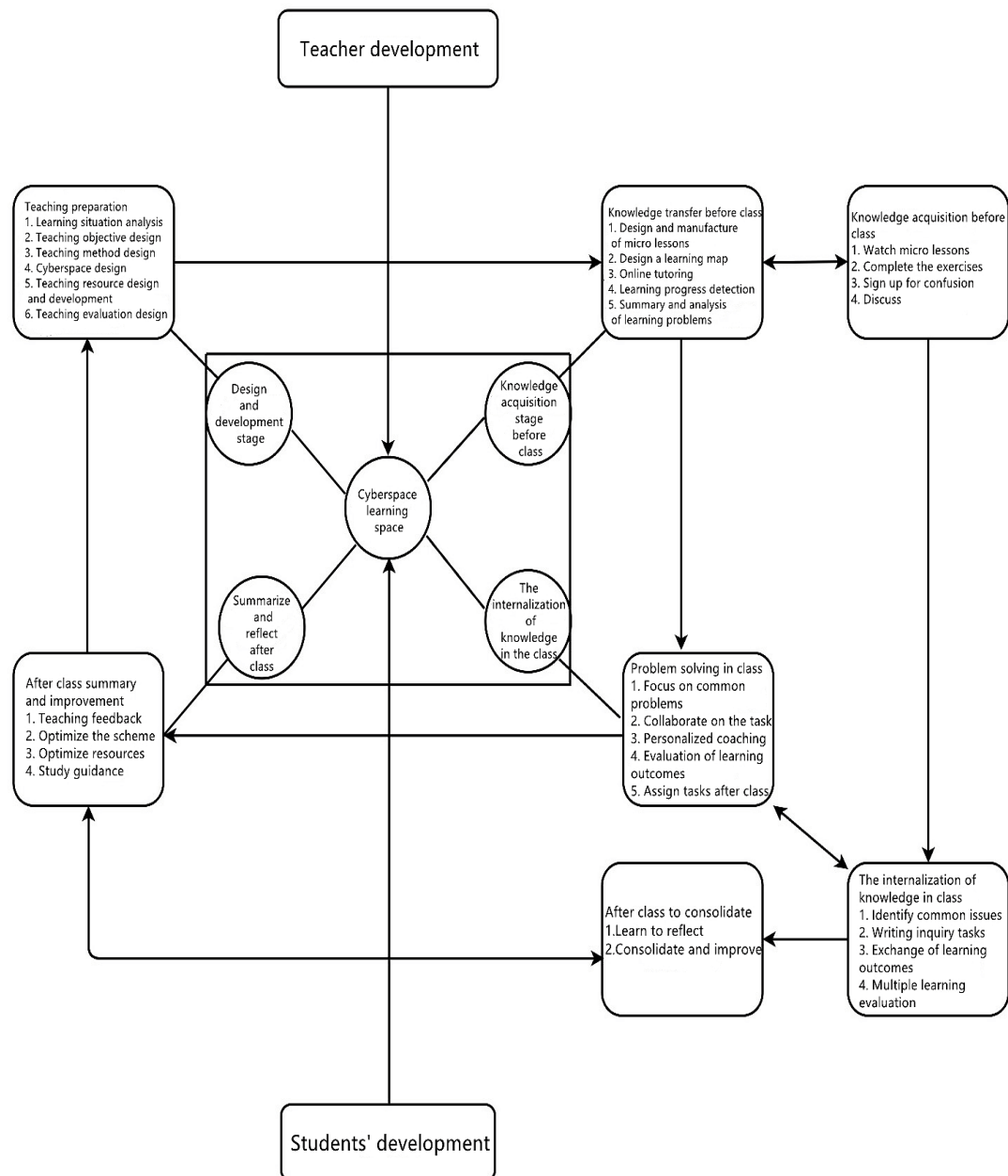


Figure 1 Flipped Classroom Teaching Model based on Cyberspace Learning

2.5.1 The Phrase of Course Design and Development

In the design and development phase, teachers are mainly responsible for teaching preparation, including student analysis, teaching objective design, teaching method design, Cyberspace structure design, teaching resources design and development, teaching evaluation design and other activities.

1) Student Analysis

As to student analysis, some issues are involved, like students' characteristics, their existing knowledge and experience, their cognitive level, and their learning environment, etc., (Xu, 2020).

First, the relevant factors, like age, interest and hobby, are involved with characteristics of students.

Second, students' existing knowledge and experience are involved with the different degree of connection between the content they will learn and the knowledge they have mastered in order to obtain a better understanding of students' learning situation.

Third, students' cognitive ability mainly considers students' information literacy, or whether they have the ability to use information equipment to carry out self-learning.

Forth, students' learning environment involves with whether their families and schools have network conditions and information technology equipment.

2) Teaching Objectives

Teaching objectives are mainly about the specific requirements of visible behaviors that learners should meet after teaching, and the respective results learners should achieve in the teaching activities. In the design of teaching objectives, the position of this unit in the whole curriculum and the relationship between the unit and the close courses are considered as a whole, and the teaching objectives include three aspects: knowledge objectives, ability objectives, emotional objectives.

3) Teaching Method

Based on the analyses of teaching objectives, the flipped classroom teaching will ask students to make both inquiry learning and cooperative learning, and the respective teaching activities should be better integrated into the online learning space, that is, students are supposed to take their autonomous learning in Cyberspace, and teachers are asked to offer guidance and suggestions when confronting learning problems and situations, as well as clearing up puzzles in case study (Zhao,2018).

4) Cyberspace Structure Design

According to several proposals by domestic scholars (Zhang, 2005; Huang, 2016; Zhao, 2018), the design of Cyberspace structure is supposed to cover many areas, such as online learning, course management, online testing, information management, system management, etc.

Online learning mainly manages learning process, and conduct several online activities. For example, students are asked to take online lessons and watch micro-lectures, as well as learn online resources independently. In addition, they are supposed to finish case study in order to realize online inquiry learning and online problem solving. It mainly guarantees the realization of teaching activities in the pre-class phase of knowledge acquisition and the in-class phase of knowledge internalization.

Course management aims to construct online courses and create Cyber learning space for students' autonomous learning. The concrete implementation includes importing courseware, establishing both task points and questions for the teaching keys and difficulty, deliver exercises, homework, and quizzes, and make students to take learning notes, set up each individual's learning files, conduct knowledge points management, and dynamically monitoring learning situation, etc., in order to realize the management of different types of courses.

Online testing regulates a specific question bank, like paper management and test management, mainly involved with the management of questions and papers, as well as the management of questionnaire and statistics.

Consulting management mainly emphasizes the modification and management of the course, like releasing a dynamic information relevant to the course teaching, and manages to realize the interactive functions of course news, emails and short messages.

While system management is designed to achieve user management, authority management, and system logs, etc.

5) The Design and Development of Teaching Resource

According to Liu (2015), the needs of flipped classroom and the technical characteristics of Cyberspace learning, appropriate teaching resources are selected, including various media materials, test questions, examination papers, cases, software, literature, auxiliary tools, etc., to support teachers to carry out diversified teaching activities and students to use relevant resources for learning.

6) The Design of Teaching Evaluation

Teaching evaluation is an activity that describes and evaluates the teaching effects by selecting reasonable indicators based on the requirements of teaching objectives. Its purpose is to check and promote both teaching and learning.

First, teachers should design the respective content and subjects of the evaluation, and consider the evaluation method, etc. The evaluation subjects include students and Cyber learning space, and the evaluation contents include the development of students' knowledge, ability, attitude and the appropriateness of the Cyberspace learning space. The evaluation methods are diversified, including student self-evaluation, mutual evaluation, teacher evaluation, parent evaluation, and Cyber learning space evaluation.

2.5.2 The Pre-Class Phase of Knowledge Acquisition

In the pre-class knowledge acquisition stage, teachers mainly transfer pre-class knowledge, complete micro-lesson design and production, design learning map, online tutoring, learning progress monitoring, learning problem summary and analysis and other activities; Students mainly acquire pre-class knowledge, complete micro-class learning, self-testing exercises on learning effects, mark doubts, exchange and discussion and other activities (Zhong, et al., 2008).

1) Micro lectures design and construction

First of all, the teacher should design, make and upload the micro-lessons that need self-learning in this unit to the Cyberspace learning space. Micro-course design should aim at specific knowledge points, or a series of knowledge points with logical relationship, and pay attention to the analysis and explanation of the key and difficult points. In terms of the content design of micro course, it should be enlightening, suspense and interesting to a certain extent, and pay attention to timely reflection. In terms of aesthetic design, we should pay attention to the reasonable layout of the page, clear text, and remember to form a "fancy" and "rigid" style. In terms of micro-course production, multiple methods such as screen capture, video recording and mobile phone recording can be adopted, and special software can be used to maintain sufficient clarity.

2) Learning map design

When designing the learning map for students in this chapter based on the Cyberspace learning space, learning objectives, learning links, learning results and other contents are clearly proposed. The design of learning map should fully consider the needs of students' independent learning based on the Cyberspace learning space and reflect the cognitive law from simple to complex and the connection of knowledge. In the process of cooperative inquiry activities, open questions or problems with cognitive conflicts are designed to arouse students' interest and guide students to complete the acquisition of knowledge.

3) Online tutoring and monitoring

Through students' completion of online exam questions, the situation of Posting and responding in the discussion area, etc., the students' doubts and difficulties in the process of independent learning were understood, and online tutoring was conducted through real-time interaction, asynchronous discussion and other methods. With the help of the learning monitoring function of the Cyberspace learning space, the rate of students' posts and replies, online time, progress of micro-class watching, login frequency, test completion time, test completion accuracy, etc., were recorded to dynamically monitor students' learning progress and mastery. For common problems encountered in the learning process, I sorted out and recorded them in time, and answered them in the stage of knowledge internalization in class.

4) Micro-class learning and self-testing exercises

Students mainly complete micro-class learning, learning effect self-testing exercises, marking doubts, communication and discussion and other learning activities. Complete the learning activities clearly specified in the learning map in the Cyberspace learning space, use micro-class to solve the learning of knowledge points, and on this basis, carry out self-testing exercises for learning effects, record the problems in learning through online learning notes or puzzle notebooks, and discuss with peers and teachers in the discussion area.

2.5.3 The In-Class Phase of Knowledge Internalization

In the stage of knowledge internalization in class, teachers mainly solve problems in class, organize learning and carry out activities such as centralized solution of common problems, collaborative inquiry task arrangement, personalized guidance, learning achievement evaluation, and after-class task arrangement. Students mainly internalize the knowledge in class, identify common problems, cooperative inquiry tasks, exchange of learning results, multiple learning evaluation and other activities.

1) Focus on common problems

Teachers should concentrate on solving common problems and solve the problems existing in the process of students' independent learning in the stage of knowledge acquisition before class. The methods to solve the doubts can be heuristic teaching, case analysis, or joint discussion and sharing.

2) Arrange collaborative inquiry tasks, offer personalized guidance, and make evaluation and assignment after class

On the basis of common problem solving, teachers divide students into heterogeneous learning groups and carry out collaborative inquiry activities. Due to the more esoteric and complex parts of the common problems, or with the need to further expand students' knowledge, and further solve the deeper application problems of some knowledge points for students, the exploratory method is adopted to let students explore together based on the Cyberspace learning. In the process of inquiry, personalized guidance was carried out according to the situation of students' inquiry, and students were organized to evaluate the learning results between different groups. In the later stage of knowledge internalization in class, teachers should assign corresponding after-class tasks to consolidate students' knowledge mastery and improve students' ability to use knowledge to solve problems.

3) Identify common problems, and collaborative tasks, exchange learning results, and make multiple evaluation towards learning results

Students mainly carry out inquiry learning activities on the network. First of all, heterogeneous learning group was formed, and the goal and content of the inquiry task in class were determined through discussion. The division of labor is clear within the group, and the content and resources related to the theme are found by using the network resources. The consensus is reached through discussion and communication within the group, and the results are presented by PPT, videos, courseware, etc., which can be uploaded from the Cyber learning space. Multiple evaluations are carried out through students' self-evaluation, teachers' and students' mutual evaluation, teachers' evaluation and network evaluation (Liu, 2018).

2.5.4 The Phase of Summary and Reflection

In the summary and reflection stage, teachers mainly conduct after-class summary and teaching reflection, and try to revise teaching plan, optimize teaching resources, and provide more perfect learning guidance. Students mainly carry out

activities such as after-class knowledge consolidation and remediation, study reflection, consolidation and promotion.

1) Teaching reflection

Teaching reflection can be carried out by writing online reflection logs, communicating and discussing with peers and teachers. From the teaching content, teaching process, teaching strategy and other aspects of reflection. In terms of teaching content, it mainly considers whether the setting of teaching objectives is reasonable, whether the teaching objectives are achieved, how much the teaching objectives are achieved, whether the teaching contents arranged by the teaching objectives are reasonable, which teaching contents are well mastered by students and which contents are poorly grasped by students, etc.

In terms of teaching process, recall how teaching is carried out, what links the flipped classroom has gone through with the support of Cyberspace learning, whether the organization of each link is smooth, and whether students actively participate in each teaching link, and think about how to improve the teaching process to make it more effective. In terms of teaching strategies, recall which strategies to guide students in the teaching process, whether each strategy is effective in the Cyberspace learning space environment or in flipped classroom teaching, and think about how to improve teaching strategies to achieve better teaching effects (Zang, 2016).

2) Revise teaching plan and optimize teaching resources

According to the results of teaching reflection, further revision of teaching programs, optimization of teaching resources, further improvement of teaching objectives, teaching content, teaching methods, teaching strategy design, especially considering the needs of better teaching under the conditions of Cyberspace learning space. In addition, in terms of teaching resources, enrich the teaching resources in the Cyberspace learning and assist students to conduct independent learning and inquiry learning in the flipped classroom.

3) Provide guidance

The learning guidance in the after-class summary and reflection stage is aimed at the students who still have doubts about the knowledge points after the independent learning before class and the cooperative learning in class. Can be through one-to-one learning guidance, through the focus of the analysis of key questions, learning questions to focus on solutions and other ways.

4) Learn to reflect and consolidate and improve

Make a teaching reflection based on teaching activities and students' performance, and the extent of knowledge acquisition, as well as group activity effect, etc., the study will focus on recording what they have learned; distinguish among what you know well, what you know little, and what you don't know at all. At the same time, relevant materials and exercises are explored to further consolidate and improve the contents.

2.6 Chinese Contemporary Literature History Achievement

2.6.1 The Teaching of the Course

Chinese Contemporary Literature History is a course that students like and accept easily for the following reasons.

Compared with some abstract theoretical courses such as Comparative Literature, Ancient Chinese Language and Modern Chinese Language, this course is more visual and aesthetic, and it is also one of the subjects closest to students' lives. Compared with ancient literature and foreign literature, the advantage of this course is that they are the subjects closest to students' life.

Therefore, Chinese Contemporary Literature is the course popular with students majoring in Chinese language and literature, who are most willing to learn and command, and the course has more interaction and the best relationship between teachers and students.

However, with the gradual development and formation of the network society, this good state is slowly disappearing.

On the one hand, the rich information on the Internet attracts the attention of young students, which makes them become impetuous and lose the will to do things in the field after entering the university. On the other hand, all kinds of useful and useless examinations distract students' energy and make it difficult for them to concentrate on their study. Under the traditional instruction, students are tired of teachers' teaching methods, which makes literature courses more difficult to attract students.

In addition, even with their own needs to carry out scientific research projects, teachers are easily to be distracted by other affairs, so they find hard to keep close pace with the social development and make a good preparation for their teaching design, resulting in the worse atmosphere of teacher-student interaction. This situation is not only due to teachers' own problems, but also reflected in the actual teaching of the course, in the improper curriculum design, or between teacher-student interactions. Therefore, students, teachers and school administrators all need to think deeply about the root causes and nature of these problems.

2.6.2 Teaching Research on Chinese Contemporary Literature History in the New Era

Since entering the 21st century, Chinese educational circle has put forward the slogan of mass education. The theme of mass education is to weaken specialty and strengthen both quality education and general education. In order to adapt to the goal of educational reform, the proportion of general education courses in colleges and universities is gradually increased, and contemporary literature courses are compressed, but the whole contemporary literature discipline is developing.

Under the current educational reform system, the curriculum of contemporary literature has been compressed, and many writers and works involving ideological issues have emerged, while contemporary literature itself has no lower limit. With the social and economic progress, there are more and more literature work, and new literature phenomena need more attention.

Unlike science and engineering, discipline knowledge can be divided into old and new categories. New knowledge can replace old knowledge, but literature and history cannot be judged in this way, which is a great contradiction in itself. Contemporary literature is not only a literature course, but also a theoretical course, which consists of literary ideas, arguments, writers, works and so on. Due to the compression of learning time, it is difficult to accomplish these two goals in such a short time (Zhou, 2018).

2.6.3 Teaching Focus and students' Accumulation

At present, the textbooks of Chinese Contemporary Literature History used in colleges and universities include literature history and literature work. Some works focus on interpretation, while others focus on literary history. No matter what kind of material is used, it is a great challenge for students and teachers.

In this case, how to grasp the relationship between the two, and the allocation of relevant hours has become a difficult task to deal with. In the actual teaching process, some teachers are busy with the narration of literary history. Over the course of a semester, the contemporary literature course becomes a series of lectures on various literary trends, events or writers' creative processes, leaving little time for in-depth analysis of a particular author's work.

Some teachers attach great importance to the interpretation of literary works, but often do not consider the interpretation of some necessary knowledge of literary history, the real understanding of contemporary literary works must be implemented in the specific context of each work. First, as the pressure to enter high school increases dramatically, once entering middle school and high school, most students have little time to read literature during the middle school and college entrance exams. Secondly, driven by the rapid development of social networks, students' knowledge accumulation and learning interest are also changing. Therefore, fewer and fewer students choose the major of Chinese language and literature, and fewer and fewer students understand and learn the knowledge of the history of contemporary Chinese literature.

2.7 Researches Related to the Study (2011-2021)

2.7.1 Theories of Learning Methods based on Cyberspace Learning

The design of Cyberspace learning has become an important research content in this field. Scholars generally believe that the design of learning space in cyberspace should focus on the core position of students and establish a learning experience that can effectively support the teaching needs of teachers and the learning needs of students, including resources, tools and environments that can effectively support different approaches. The design principles are as follows.

1) Apply mobile technologies, cloud computing, big data analytics and other advanced technologies to provide participatory learning opportunities in a variety of flexible ways.

- 2) Core concepts of learning resources in the design and organization process.
- 3) Support rich learning activities and integrate teaching resources.
- 4) Seamless integration of teachers, build platforms and equipment for students and resources, and realize network intelligent learning space. The details are shown in Table 1.

Table 1 An Overview of Cyberspace Learning Design

Serial Number	Investigator Product	Time	Main Content
1	Australian Teaching Council	2008	The evaluation model of baseline development of learning space with three cycles of "design-construction-application" was established.
2	NGLS Project	2009	To construct the design and evaluation framework of "pedagogy - space - technology" learning space.
3	Cindy E	2013	Establish a learning space composed of problem space and related concept space.
4	Zhu Zhiting	2013	The "Everyone Connected" space is designed from four dimensions: spatial framework, access environment, supporting services and user capabilities.
5	Wang Wei	2014	The Cyberspace learning is designed around "needs analysis of learners' abilities, technical requirements, subject content, communication and management concepts".
6	Zhang Zishi	2015	Design a central platform, two extended functions, three level service objects, four dimensional octagonal integration platform Cyberspace learning.
7	Liao Yi	2016	For different applications of students' learning activities, it supports community activities such as cooperation, communication and mutual assistance among different roles. Unified identity authentication and data exchange system, personalized learning resources are designed according to the learner model, and learning tools and activities are recommended. Achieve personalized application, collaboration, and administration goals.

According to the viewpoints of the above scholars, the construction of Cyberspace learning should consider the core elements such as role demand, resource

design, tool design, process design and technical support. Role requirements mainly consider the related needs of teachers, students, teaching management and technical management personnel in the Cyberspace learning. The main consideration of resource design is that the Cyberspace learning should be able to meet the requirements of resource generation, resource aggregation and resource application in the teaching process. The tool design mainly considers the tools supporting teaching in the Cyberspace learning, such as concept map, etc. Process design mainly considers the display and record of the teaching and learning process in the Cyberspace learning. The technical support mainly considers the technical methods adopted in the Cyberspace learning.

2.7.2 Teaching Design based on Flipped Classroom Teaching Method Combined with Cyberspace Learning

Combined with the characteristics of "flipped classroom" teaching mode, many scholars at home and abroad put forward different design ideas for different teaching contents and teaching scenarios (Qin, 2016; Pi, 2017).

Wang Pei puts forward the principles of the flipped classroom teaching model, including the principle of students' subjectivity, the principle of teachers' dominance, and the principle of democratic cooperation. On this basis, the flipped classroom teaching model is proposed: the teaching process is mainly composed of two parts: pre-class and classroom. The main stage before class is video learning. Students adopt the method of self-learning, take the teacher as the main body, design the video program, and cultivate students' interest in watching the video under the guidance of the questions. The class stage includes raising questions, creating scenarios, cooperative learning, summarizing and evaluating, reflecting and expanding, etc.

From the perspective of general education, learning space refers to a kind of learning environment, both can be also can be out of school, can be materialized "tangible" space, also can be the space of "intangible" culture, today's education scholars research meet the students' learning "intangible", "materialization" and "physical" need of the construction of the space and cultural space. Learning space can be divided into real space and virtual space (formal space and informal space) according to its existence mode. Specifically, the real formal learning space mainly refers to the classroom and laboratory in the campus. Virtual learning space refers to a variety of learning platforms, learning resource sharing platforms and social networking tools existing on the Internet. Informal learning environments include libraries, reading rooms, and places where learning behaviors can take place outside of school.

At present, there is no clear and unified view on the definitions of Cyberspace learning in domestic academic circles. In terms of the technical attributes of Cyberspace learning, there are basically two categories: virtual space and application system. The Virtual Space category argues that Cyberspace learnings are virtual Spaces that provide formal and informal learning support for teachers and students with the help of service platforms that support learning. The category of application system holds that the

Cyberspace learning mainly provides personalized and convenient services for different types of educational users. Typical definitions are shown in Table 2.

Table 2 Typical Concepts of Cyberspace Learning

Serial number	Author	Time	Definition
1	He Bin	2013	Cyberspace learning refers to the virtual space specially designed to support learning by using information technology and computer network.
2	Wu Zhongliang	2014	In the virtual network learning environment, teachers and students belong to different fields, they can create, share or delete learning resources in their own space, and organize or participate in the course, but also with learning partners or teachers online, to gain timely communication and share information.
3	Zhong Shaochun	2014	In the construction of digital campus, it is necessary to build application system according to the different needs of students, teachers, administrators and parents, that is, it is necessary to provide different personalized application services for different users, which can provide personalized services for different network users.

Based on the research and analyses of resource-based teacher professional development at home and abroad (Miao, 2017).

Wang (2016) proposed the flipped classroom teacher training model based on video open course. The main design idea is to take open video course as the resource. Develop the design of training content system, personalized training strategy, training activities, training support services, and three-dimensional training evaluation system. The first stage is the design stage of the content system of teacher training. Mainly complete course information, training content, training evaluation, interactive activities, etc. The second stage is the design stage of personalized training strategy.

Complete the selection of training path, training pace, training knowledge network, knowledge meaning construction; The third stage is the design stage of training activities. Complete pre-training, flipped classroom, training summary and other activities. The fourth stage is training support services. Content oriented, activity oriented, evaluation oriented, environment oriented. The fifth stage is the design of the training evaluation system, including the completion of pre-training testing, training process, automatic evaluation, post-training practice evaluation and other activities.

Wu Zhongliang (2014) proposed the flipped classroom teaching model based on the Cyberspace learning. In the stage of teaching resources development, teachers compile teaching designs, make courseware, record videos and assign exercises. In the stage of knowledge transfer before class, students make evaluations by watching videos, communicate online, do exercises, and teachers check the learning effect, analyze problems, and design classroom activities. In the sublimation stage, teachers organize classroom activities, personalized tutoring, group discussions, and exploratory activities. Students engage in classroom activities, problem solving, collaborative learning, and inquiry-based learning. In the after-class evaluation and summary stage, the teacher checks the teaching effect and makes a summative evaluation. Students summarize their learning, give feedback on the learning results, and make suggestions.

Zhao Chengling proposed the flipped classroom teaching mode based on micro-video resources. Before class, teachers and students fully communicate. Teachers make learning guidance plans, make micro videos and upload resources. Students download the micro video, download the guide map, complete the preview self-test questions. In the course, we communicate and interact mainly through setting scenes, autonomous learning, cooperative learning, feedback and evaluation. After class to develop practical activities, carry out extracurricular inquiry learning. Formative evaluation and summative evaluation activities run through the whole stage.

Yang Jiumin et al. proposed the flipped classroom based on micro-video resources and put it into practice in the experimental course Educational Technology. Before class, I mainly completed pre-class preparation activities such as teacher recording micro videos and releasing resources. Students conduct independent learning and collaborative learning based on micro-video experimental resources. The class mainly carries on the actual evaluation, carries on the cooperation exchange and the instruction answer question, finally completes the evaluation.

Lin Caiying (2014) proposed the flipped classroom teaching model for junior middle school English. In the early stage, teachers provide self-study materials, including syllabus, guided learning design, self-test questions, videos, PPT and so on. Paper learning materials were distributed to students, including learning task lists, guidance plans, test cards, etc., and micro videos were distributed through QQ group platform. In the pre-class learning stage, students will study and take a test

independently. They complete the self-test according to the study task sheet. In the pre-class interaction stage, if students encounter difficulties in learning, they can communicate with students or teachers in the process of self-study through QQ group platform in time. In the consolidation stage of classroom learning, teachers organize students to discuss the problems existing in the independent learning link in groups. The discussion can be inquisitive or situational.

Huang Yan proposed a flipped classroom experimental teaching model by design-based research (DBR). Before class, teachers stimulate interest, release tasks, provide information to help guide and collect feedback through communication between teachers and students through the communication platform. Students understand the task, determine the goal, watch the video to complete the connection, ask questions and give feedback in the group discussion. In the classroom experiment stage, the teacher introduced feedback summary in the class, organized activities to guide and help, and summarized and recorded the teacher-student interaction: students self-study, review questions, cooperative communication, practical operation, asking for help and sharing gains; The overall formation of the problem review, independent exploration, collaborative practice, results exchange, summary feedback of the closed loop. After class, with the help of the communication platform, teachers will guide review, evaluate and summarize, and reflect after class. Students submit reflections, review for exams, and extracurricular practice.

Although scholars at home and abroad have different understandings on the Cyberspace learning, they all emphasize the need to provide special virtual space for teachers and students in the network environment to meet the needs of online communication, resource sharing, course learning and other learning activities. Therefore, this paper believes that the Cyberspace learning is: in the network learning environment can effectively support teachers and students to carry out education and teaching activities, open up virtual space.

2.7.3 Teaching Process by Flipped Classroom Teaching together with Cyberspace learning

Flipped Classroom teaching method is applied in the course teaching of Chinese Contemporary Literature History in colleges and universities. By introducing the new teaching concept of "Flipped Classroom", it is implemented in the Cyberspace learning. In order to change the traditional teaching of students lack of learning motivation, lack of interest, teachers teach a single way, theoretical knowledge obscure, learning efficiency is not high, teachers and students' evaluation system is not reasonable and other teaching status quo. Research conducted at the beginning of the literature research, through online learning resources and further learning about data network space to build and use, and flip the origin and the research status of classroom (Jin,2016). Combined with Henan local characteristics of Chinese contemporary literature teaching present situation investigation and analysis of the advantages and disadvantages of the traditional teaching mode and turn the classroom

teaching mode

According to the design principle of teaching mode, the flipped classroom teaching mode of Chinese Contemporary Literature History in colleges and universities based on Cyberspace learning is determined. Then, based on the new teaching model, the theoretical knowledge is used to prepare teaching resources in combination with the selected teaching content, which includes three stages: knowledge acquisition, knowledge internalization and knowledge summary and reflection. Finally, teachers and students use the feedback information to evaluate whether the teaching model designed in this paper is feasible. Analytic Hierarchy Process (AHP) and Markov chain principle are introduced to conduct quantitative analysis on students' questionnaire data and test scores respectively, so as to obtain a comprehensive evaluation of the implementation effect of the teaching model.

The emergence of Cyberspace learning has changed the traditional closed classroom teaching, making it more open, flexible and free, and realizing the freedom and fragmentation of teaching and learning. In general, it has the following characteristics:

1) Meet the teaching needs. The Cyberspace learning should be designed as a multi-module function. According to the teaching needs and teaching concepts of teachers of different disciplines, the component design scheme is adopted to meet the expansibility and versatility of the Cyberspace learning.

2) Support a variety of learning methods. Since each teacher has a different teaching philosophy and teaching method, the Cyberspace learning should be able to meet the needs of different teaching methods. Such as independent learning, WebQuest, group discussion, etc., they should also be able to expand a variety of learning resources, write classic exercises, expand learning content, meet the needs of different students, stimulate students' subjective initiative, and enjoy the pleasure of acquiring knowledge.

3) Provide a wealth of knowledge. Teachers can according to the needs of different learners in the expanding space to show all kinds of teaching resources, such as emotion, and contemporary Chinese literature in the interesting stories, etc., can give a person the feeling that find everything new and fresh, many of the Chinese language and literature major studies in and contemporary Chinese literature at the same time, enjoy the expanding of Chinese contemporary literature knowledge, improve students' interest in Chinese Contemporary Literature History.

4) Offer a variety of communication methods. According to the user's habits, the Cyberspace learning provides users with different kinds of communication tools, such as blogs, instant messaging tools, forums and so on, so that students and teachers, students and students can fully communicate.

The value appeal of Cyberspace learning is embodied in: 1) to improve learners' deep-thinking ability and cognitive level; 2) promote the occurrence of deep learning; 3) Promoting participation in practice and learning by doing; 4) enriching

and expanding learning experience; 5) catalyze the formation of personalized learning; 6) improve individual social communication and cooperation ability; Germination of innovative thinking and creative ability (Zhang,2014).

2.7.4 Roles of teachers and learners in the flipped classroom combined with Cyberspace learning

Taking the teaching method in the question raising stage as an example, the teacher acts as the subject to show and explain the problem, and plays back the video clips selectively. In the context setting stage, the teacher as the main description method is used to describe the real situation of the problem. In the stage of cooperative learning, the cooperative learning method with teachers as the main body and students as the main body is adopted. Create groups, group discussions, collaborative discussions, execution plans, and result displays. In the summary and evaluation stage, mutual evaluation method is adopted. Students and teachers participate together. Students evaluate each other, teachers comment, knowledge summary and so on. In the expansion stage of reflection, the method of discovery, with teachers as the leading and students as the main body, is adopted to guide students to reflect and put forward new thinking questions.

The typical pattern is the Explore-Explain -Apply pattern proposed by Robert Karplus. Ramsey Musallam proposed Explore-Flip-Apply based on the previous model. The first stage is exploration, that is, the exploration of materials on the basis of prior knowledge. The second stage is concept introduction and understanding. The teacher introduces and explains concepts, and the learner acquires knowledge through the teacher's guidance. The third stage is the application stage, in which learners gradually expand the concepts they have learned and apply them to new areas. At the same time, learners have a deeper understanding of concepts and new ideas through independent practice, and their way of thinking is gradually stabilized. Zeng Mingxing believes that in the pre-class teaching of flipped classroom, teachers and students are separated from each other in space, and students are usually in a learning state of "dissociation". Lack of face-to-face communication and on-site monitoring, teaching quality is difficult to guarantee. Accordingly put forward in this interactive platform, teachers and learners, learning tools, such as classroom interaction of multi-dimensional, three-dimensional system of "flip" the classroom teaching, from teaching process, teaching content, teaching resources and interactive tools to increase the degree of interaction of the supervision system, not only can realize the remote monitoring of the student, but also can stimulate students' learning initiative and enthusiasm, improve the teaching effect. In addition, three "flipped classroom" teaching modes are proposed, among which the most commonly used is the alternative mode of MOOC video, which is divided into two parts: pre-class and in-class. Before class, teachers mainly initiate MOOC to release course summaries, notices, micro videos, PPT assignments, etc. Students browse, participate, train and test through forums, microblogs, social networks, social tags and other ways. In the classroom,

raise questions, create the environment, assign tasks, conduct cooperative training, discuss and explore, exchange questions and answers, evaluate feedback, improve knowledge content and ability.

2.7.5 New Development of Cyberspace Learning

Since 2012, China has issued a series of important documents and implemented a series of important measures to launch online learning applications nationwide. The detailed information is shown in Table 3.

Table 3 Policy analysis of Cyberspace learning

The Serial Number	Time	Name (Proposer)	Core Content
1	2012.03	Ten-year Development Plan for Educational Informatization (2011-2020)	We will basically build an informatized learning environment where everyone can enjoy quality educational resources.
2	2012.05	Du yuan	Build real-name Cyberspace learning. Promote individual autonomous learning and interactive teaching under the network environment.
3	2012.09	Liu Yandong	Promote the "Cyberspace learning for everyone", and promote the reform of teaching and learning methods.
4	2012.10	The Ministry of Education, the National Development and Reform Commission, the Ministry of Finance and other nine ministries and commissions jointly issued a	Cyberspace learning construction as one of the seven key work.

Table 3 (cont.)

The Serial Number	Time	Name (Proposer)	Core Content
		document to promote the "three links and two platforms" project	
5	2013.11	Du Foyuan	We will innovate and explore the institutions where the government plans and guides, enterprises build and operate, and schools purchase services, and promote the "Internet learning space accessible to everyone".
6	2014.11	Implementation Plan for Constructing an Effective Mechanism to Expand the Coverage of Quality Educational Resources by Informatization	The phased goals that should be achieved in the construction of educational Cyberspace learning in each stage in 2020 are clarified.
7	2015.09	Guiding Opinions on Comprehensive and Deep Promotion of Informatization in Education during the 13th Five-Year Plan Period (Draft for Comments)	"Build networked, digitized, personalization, lifelong education system, the construction of" everyone, everywhere can learn, to learn all the time, 'the learning society, cultivate a large number of innovative talents "as the development goals, in accordance with the" service, integration innovation, deepen the global application, perfect the mechanism of "the principle of teaching, management and service mode in the information age.
8	2015.11	Liu Yandong	We will make it more widespread and in-depth. We will comprehensively promote a real-name system, organized, manageable and controllable Cyberspace learning.

Under the guidance of national policies, educational administrative departments at all levels, all kinds of schools and enterprises have also joined in the construction tide of "Everyone Access". Henan Province has also launched the "Henan Basic Education Resources Public Service Platform" (<https://www.hner.cn/>) to provide a platform, resources, micro-courses, MOOCs, information and other services for schools of all levels, all teachers and students in the province. The main functional modules are easy question bank, digital library, online homework, micro class, digital campus, online learning, etc. as shown in Figure 2.

文件通知	日期	资讯中心	日期
河南省教育厅办公室关于“河南省中小学2021年秋季电教教材推荐目录”审定结果的公告...	05.10	河南省中小学校校长信息化领导...	04.28
河南省教育厅办公室关于开展2021年度信息技术与课程融合优质课评选活动的通知...	04.26	平顶山市召开2021年教育信息化...	04.06
河南省电化教育馆关于转发《关于第79届中国教育装备展示会具体事项的通知》的通知...	04.19	新乡市举办春季教学教育资源平...	03.10
河南省电化教育馆关于转发《中央电化教育馆关于召开“中国梦—行动有我：全国中小学校...	04.19	新乡市基础教育信息化重点工作...	01.27

Figure 2 Public Service Platform of Basic Education Resources in Henan Province

In order to further systematically analyze the research and practice of Cyberspace learning. Taking "Cyberspace learning" as the key word and using CNKI academic index, the relevant situation is indirectly reflected: the research on Cyberspace learning is the most involved in the field of "educational theory and educational management", accounting for 50.1% of all published articles; The second is the computer software and computer application field which is most closely connected with the Internet, accounting for 22.1%. However, the teaching of Chinese contemporary literary history targeted by this study belongs to higher education, and its research achievements account for only 0.66% of the total research. Therefore, the proportion of real research on the application of Cyberspace learning in colleges and universities, especially in the Chinese language and literature discipline, is relatively

less. The teaching mode designed in this paper is to provide feasible suggestions for the application of Cyberspace learning in the teaching process of and contemporary Chinese literature history in colleges and universities by using the media of Cyberspace learning and carrying out reasonable teaching practice process.

2.8 Chinese Contemporary Literature History Achievements

2.8.1 Academic Achievement

Although the use of flipped classroom combined with online teaching platform to assist teaching can improve students' academic performance and learning enthusiasm, the use of the Internet for learning will also be affected by other factors from the Internet. In the current environment of network society, students' understanding of the outside world also comes from the network. Therefore, the interference of other factors brought by the network will more or less affect the learning process of students. When taking the exam through the network teaching platform, students can use other network information tools to find the relevant content of the network exam. Therefore, the author believes that students' learning results can be displayed through the network exam and judged by combining with the actual offline exam results.

2.8.2 Research Background of Chinese Contemporary Literature History

The course of Chinese contemporary literature is a required basic course for the major of Chinese language and literature in colleges and universities, which plays a decisive role in the study of the students who just come into contact with the major of Chinese language and literature. However, there are still some problems in curriculum setting and teaching methods. Therefore, it is necessary to study the teaching of Chinese and contemporary literature under the Internet teaching mode. This part will elaborate the research background, teaching status quo and reason analysis of this topic.

Chinese language and literature major training to master the basic knowledge of Chinese language and Chinese literature talent, through the relevant theories, the development history and research status of system basic training, education and business ability in scientific research organs, higher colleges and universities engaged in research, teaching, and can be engaged in teaching Chinese as a foreign language talents;(Zhou,2015) Can be suitable for the Party and government organs and other enterprises and institutions engaged in language work of specialized talents. As an important place for the cultivation of Chinese language and literature talents, colleges and universities shoulder the responsibility of carrying forward the excellent traditional Chinese culture in the context of the Internet era. In the teaching of Chinese language and literature, colleges and universities should deeply penetrate the traditional culture, carry forward the traditional culture, promote the students to inherit and carry forward the traditional culture, promote the realization of the teaching

objectives of Chinese language and literature, and improve the students' cultural deposits and ideological quality. From the characteristics of Chinese language and literature major, it is an important carrier of inheriting Chinese traditional culture (Yu,2018).

In terms of professional content, Chinese language and literature is the precious wealth of the Chinese nation and an important support for the inheritance of Chinese culture up to now.

On the one hand, in the process of Chinese language and literature teaching, students should be trained to enrich their own traditional cultural quality, in order to meet the cultural inheritance and innovation. On the other hand, Chinese language and literature courses include Introduction to Literature, Ancient Chinese Literature, Chinese Literature, Contemporary Chinese Literature, and Aesthetics, etc. Most of these courses involve the inheritance of China's excellent cultural traditions. In terms of function, the theme of Chinese language and literature has strong humanism and instrumentality, among which humanism is more instrumentality. Humanism itself is to cultivate students' emotion and sentiment, stimulate students' thinking and improve students' ability through "inheriting human civilization". In the traditional teaching mode, Chinese teaching is often more instrumental than humanistic, and teachers' teaching is highly utilitarian, ignoring the promotion of traditional culture in teaching. In a word, Chinese language and literature major, as an important carrier of inheriting traditional culture, has the closest relationship with traditional culture. In carrying forward traditional culture, Chinese language and literature teaching in colleges and universities should also adapt to the actual needs of cultivating outstanding Chinese traditional cultural talents in the network society, so as to ensure that the training of Chinese language and literature talents can adapt to the network society.

2.8.3 Definition of Contemporary Chinese Literary History

First of all, the scope of literary history is not clearly defined. Secondly, the interpretation of literary history can be understood from many aspects. There are two interpretations of "literary history" in *Works and Literary History* written by German scholar Norman. On the one hand, it means that literature is intrinsically related within the scope of history. It is relevant to our knowledge and the text in point. Dong Naibin once defined literary history as an ideological knowledge system: it is its own logical structure formed by selecting, selecting, revising and organizing relevant historical materials according to certain literature and literary history view. Zhu Defa believes that literary history belongs to the category of history, and history itself is a whole, which is the organic combination of literature and the whole historical ideology. But it is different from the general history, but a special history, it takes the rise and fall of the historical evolution process and its internal laws as the research object.

History of and Contemporary Chinese Literature, as a required basic course for college students majoring in Chinese Language and Literature, is divided into two stages: Chinese Literature and Contemporary Chinese Literature. First of all, the

history of Chinese literature refers to the period from around the May 4th Movement in 1919 to the founding of the People's Republic of China in 1949. The literary circle is accustomed to call it the New Democratic Literature. Secondly, contemporary Chinese literature refers to the literature of the People's Republic of China since 1949 (including Taiwan, Hong Kong and Macao). The and contemporary Chinese literature includes the literary movements, literary debates, literary trends of thought and so on, as well as the literary associations, literary schools and works created by all different types of writers during this period.

2.8.4 Significance of research on and contemporary Chinese literary history

Carrying forward the excellent traditional Chinese culture has gradually risen to the height of national strategy. Carrying forward traditional culture is an important duty of Chinese language and literature teaching in colleges and universities. Colleges and universities should actively undertake the responsibility of education and cultivate high-quality talents in line with the needs of social development. However, from the point of view of the actual teaching situation in colleges and universities, the teaching of Chinese language and literature in China's colleges and universities is generally inadequate in the inheritance of traditional culture. In the teaching process of teachers in colleges and universities in China, the promotion of traditional culture awareness and the lack of educational purpose will lead to the traditional culture cannot penetrate deeply into the teaching work, the teaching methods and methods lag behind, the stimulation of students' interest in learning and the promotion of traditional culture are not in direct proportion to the actual teaching effect (Qiu, 2018). With the increasing development of the Internet era, traditional teaching methods can no longer meet the needs of cultivating talents in Chinese language and literature teaching in colleges and universities. Most universities in order to reverse this situation, our country attaches great importance to the high quality teacher troop construction, improve the teaching quality of teachers' professional education task, and dig deeper into the teaching resources, innovating teaching methods, improve the efficiency of traditional culture, make students really experience the charm of traditional culture and influence, lets the student on own initiative to inherit and carry forward the traditional culture.

The research significance of this paper is mainly reflected in two aspects: first, on the basis of reading a large number of literature, to understand the current situation of Chinese language and literature courses in colleges and universities in Henan Province; Through technical means, such as data analysis, understand the Chinese literature and materials of the course design in colleges and universities in Henan province, teachers' teaching and students' learning situation, using flip class combined with network auxiliary teaching method for teachers to study space, and observation and found that the problem from the perspective of students, and puts forward the corresponding countermeasures and Suggestions (LUO, Li, SHI, YE & HUO, 2016).

2.8.5 Evaluation System of Flipped Classroom Teaching Based on Cyberspace learning

For this study, we propose the "turn research combined with online learning classroom space auxiliary teaching to improve college students' achievement of and contemporary Chinese literature", knowledge network platform in China, using the theme "Cyberspace learning" and including "flip" class to search a total of 779 articles, published mainly in the year 2014 to now, in front of the statistical results and the analysis is relatively similar. To flip the classroom teaching mode based on Cyberspace learning research focuses on the theory level (50.5%) education theory and education management, and in the concrete practice especially in the higher education stage research results less of higher education (3.9%), this may be due to higher education is facing the student for the Chinese and contemporary history of literature is not well understood, and from three aspects of teachers, students and parents can't accept the new teaching mode brought about by the risk. Facing this background, this paper is carrying out the research process, spending relatively more time on model design, teaching resources preparation and specific teaching link setting.

In combination with the research results, various scholars expounded the instructional design ideas of using Cyberspace learning to carry out flipped classroom from different perspectives, such as course design Implementation of specific courses.

Based on the analysis of the characteristics and significance of flipped classroom, Wu & Zhao (2014) expounded the function and technical route of the Cyberspace learning. And he constructed the flipped classroom teaching mode supported by the Cyberspace learning, taking the characteristics as the standard and meaning as the guide.

The Cyberspace learning is mainly composed of four parts: user management, individual learning, interactive module and classroom Rubik's cube. User management includes registration module, login module and information management. Interactive modules include message board, comments, friends; Course Rubik's Cube includes teaching design, teaching resources, learning progress, online question-answering; Personality study includes: study plan, career plan, picture library. The flipped classroom teaching model based on Cyberspace learning mainly includes: development of teaching resources (teachers write teaching designs, make courseware, record videos, and arrange exercises); knowledge transfer before class (teachers check teaching effects, analyze problems, and design classroom activities; Students watch videos, communicate online, take notes, and complete exercises), and develop and sublimate in class (teachers organize classroom activities, conduct personalized counseling, analyze, discuss and research activities, and carry out formative evaluation; Students participate in classroom activities, problem solving, cooperative learning, cooperative exploration), after-class evaluation and summary (teachers investigate the teaching effect and make summative evaluation; Summarize the students' learning, give feedback on the learning effect and give suggestions) (Wang, 2012).

It can be seen from the above content that scholars have expounded the process, resource design and space design of the flipped classroom teaching combined with Cyberspace learning. From the perspective of Cyberspace learning and flipped classroom, both have become hot research and practice fields in recent years.

As Cyberspace learning research is weak in the research literature attention from various dimensions, object and environment for design and construction of the Cyberspace learning, such as using mobile technology, extensive in technology, cloud computing and other advanced technology, support for teachers, students, resources, platform, equipment for seamless integration, but for the application of the Cyberspace learning, based on the teaching mode of the Cyberspace learning research is not enough, especially for different disciplines for network learning empty asked teaching application is more rare.

In terms of flipped classroom research, there have been a large number of theoretical models and practical exploration at home and abroad, and researchers have also proposed a relatively mature flipped classroom model. However, researches on flipped classroom combined with Cyberspace learning are few and not in-depth. In this study, how to construct and apply the flip classroom teaching method together with Cyberspace learning is still worthy of further discussion. Therefore, this research tried to use flip class combining the application of Cyberspace learning of and contemporary literature in China, based on the analysis of the characteristics and limitations of traditional classroom teaching of and contemporary Chinese literature, on the basis of sorting out "flip the classroom teaching combined with Cyberspace learning" in the advantage and feasibility of the application of teaching in colleges and universities, and further clarify its design principles, combined with the related theory foundation of Cyberspace learning support to flip the classroom teaching mode of and contemporary Chinese literature.

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2.9 Related Research

Table 4 The study of flipped classroom teaching method

Serial Number	Time	Author	Content
1	2012.08	Zhang Jinlei, Wang Ying, Zhang Bao-hui	The origin of flipped classroom teaching model and its comparison with traditional classroom teaching model.
2	2012.11	Wang Pa-ling (reporter)	In the form of a new report, this paper introduces an educational pilot project called "Flipped Classroom" promoted by the Junior School of PLC Women's College in Australia.
3	2013.08	Wang Xiaodong, Zhang Chenjing	The Application of Flipped Classroom in the Teaching Process of College Educational Technology. (Pan,2016)
4	2013.10	Xu Da, Zhong Shaochun, The horse in spring	Exploration of Flipped Classroom in College Chemistry Experiment Teaching Model and Research of Supporting System Theory.
5	2013.12	Shen Shusheng, Liu Qiang, Xie with auspicious	Discusses the flipped classroom teaching mode based on the support of electronic schoolbag, and studies the flipped classroom supported by electronic schoolbag to realize several transformations in classroom teaching, such as initiative, lecture time, and individualized teaching in class teaching.
6	2014.02	Zeng Mingxing, Zhou Qingping, Cai Guomin	In the teaching of software development courses, the flipped classroom teaching mode is adopted,(Sui,2018) in which students learn theories independently before class, develop and discuss real enterprise projects in class, which will greatly improve students' thinking ability, practical ability and innovation ability, and improve the classroom teaching effect.

Table 4 (cont.)

Serial Number	Time	Author	Content
7	2015.09	Li Xiaodong, Cao Honghui	Taking the course "Appreciation of Classic Film and Television" as an example, this paper designs and carries out an empirical study on college film and television English teaching. The research results show that the application of flipped classroom based on micro class in film and television English has achieved good teaching results. This research has important guidance and practical significance for exploring a new model of university education and serving quality-oriented education in colleges and universities.
8	2016.02	Wang Guoliang, Zhan Jianguo	This paper discusses the introduction of flipped classroom into physical education teaching, and puts forward the strategy of flipped classroom in physical education teaching. The results show that the introduction of flipped classroom into physical education has achieved the unity of "instrumental" and "humanistic". The PE teaching process is more individualized and humanized.
9	2016.06	Zhang Shumiao, Wang Yue min, Liu Yali	Taking physiology experiment "reflection, the measurement of reflection time and the analysis of reflection arc" as an example, this paper discusses the preliminary teaching effect of applying the "flipped classroom" teaching mode in the teaching of physiology experiment.

In conclusion, flipped classroom is a very good teaching mode:

1) It is difficult for students to pay attention, and the teaching video is usually about 10 minutes, which is more suitable for students to learn.

2) All videos can be paused and replayed. When students encounter any problems in learning knowledge, they can watch it again and again. In this way,

students can not only find problems in time, but also solve them in time. In addition, the video can be reused. After studying the knowledge points for a period of time, students can look at them again to consolidate and deepen their understanding of the knowledge points. In this way, students can study independently, arrange their own learning time, control their own learning, become the master of their own learning, promote meaningful learning, reduce meaningless learning.

3) The teaching video only contains learning content and the pace is moderate. In the process of knowledge teaching in traditional classroom, students are easily disturbed by teachers, equipment, environment and other factors. In addition, in real classes, teachers may distract students with inadequate lesson preparation and slow writing.

Table 5 Research overview of flipped classroom based on Cyberspace learning

The Serial Number	Time	Researchers	Contents
1	2013.12	Ren Qingwei	By using the technology of Microsoft SharePoint platform, a "digital campus" was built and meanwhile, according to the needs of the flipped classroom teaching, the research aims to build a "flipped classroom" mathematics network for learning community upon the SharePoint platform.
2	2014.04	Wu Zhongliang, Zhao Lei	Firstly, the characteristics and significance of flipped classroom are analyzed, (Wu & Zhao, 2014) and then the functions and technical routes of the Cyberspace learning are expounded. Finally, a teaching mode of flipped classroom based on the empty query of online learning is constructed with the characteristics as the standard and the meaning as the guidance, so as to provide reference for the implementation of flipped classroom.
3	2014.12	Rong jiJiHui	In the design of teaching mode, students are taken as the main body, assisted by teachers, guided by mind mapping and learning task lists, and students are guided to make use of learning resources set up by teachers in the Cyberspace learning for self-learning, so as to realize the reversal of classroom.

Table 5 (cont.)

The Serial Number	Time	Researchers	Contents
4	2015.05	Xia Qizheng	Aiming at the problems existing in the elementary school language classroom teaching, tries to turn four representative classroom teaching at home and abroad for reference, the design model, build turn to adapt to the primary school Chinese classroom teaching model, selection of reading class and the composition of the two teaching design and implementation of specific teaching, aims to highlight flip the advantages of the classroom teaching mode, provide personalized learning space for students and the way of learning.
5	2015.07	Tang Yewei, Fan Yaqin, Pang Jingwen, Zhong Shaochun	With Cyberspace learning application in the elementary school mathematics classroom teaching as the research point, embarks from the actual teaching practice, through classroom observation, interviews, case studies and other methods, analysis of Cyberspace learning in the application of elementary school mathematics classroom teaching and the existing problems, and with wisdom education concept as the instruction, from the teaching design, teaching implementation, teaching evaluation of three aspects put forward based on the Cyberspace learning of the elementary school mathematics classroom teaching strategy wisdom.
6	2016.11	Yi Yongping	This paper explores the teaching reform of flipped classroom of military course for college students, and carries out a preliminary exploration to promote the construction of online sharing platform course of military course.

Table 5 (cont.)

The Serial Number	Time	Researchers	Contents
7	2017.02	Gao Xinfeng, Sun Xiaomei	Select the course "Network Literacy" on the MOOC platform of "Chinese Universities". Flipped classroom teaching mode was adopted to conduct MOOC learning experiment, and the passing rate of learners reached 100%. Through the analysis of the MOOC learning behavior under the flipped classroom mode, it is shown that external driving factors such as credit certification are the key to the passing rate of MOOC, the lack of communication between MOOC online learning partners, and offline classroom discussion can make up for the lack of face-to-face communication in the face of MOOC.
8	2017.02	Yang Zhenhua, Xie Shuhong, Ma Zengsheng	In view of the current situation of experimental teaching of new energy materials and devices major, the flipped classroom teaching method based on the network space platform is proposed to cultivate students' experimental operation ability and innovation ability.

Based on the above academic views, the implementation stage of flipped classroom is mainly divided into two design ideas. One is the three-stage theory, which holds that the flipped classroom is divided into three stages: "before class, in class and after class". In the "before class" stage, teachers mainly complete the preparation of course resources and the guidance of students' independent learning. In the "in-class" stage, students carry out learning activities such as discussion, exploration and cooperation, and teachers give active guidance. In the "after-class" stage, students mainly consolidate and improve knowledge. The other is the "four-stage theory", which clearly divides the "pre-class" stage on the basis of the "three-stage theory", and mainly emphasizes the resource preparation and effective teaching design in the "pre-class" stage. In this study, the flipped classroom based on Cyberspace learning needs to be designed in detail in the "pre-class" stage, so the

"four-stage" flipped teaching mode should be adopted to highlight the preparation and design of Cyberspace learning.

In order to fully understand the domestic research status of flipped classroom research and determine the rationality of the topic of this paper, through CNKI, the attention of this research is statistically analyzed with "flipped classroom" as the key word. The results show that "Educational Theory and Educational Management" pays high attention to flipped classroom (accounting for 51.5% of all research fields). Foreign languages were a close second at 13.9 percent. This may be attributed to the fact that language learning pays attention to the creation of situations, which is in line with the characteristics of flipped classroom that emphasizes micro-lessons and interactive links. The research on flipped classroom in higher education studied in this paper accounts for 5.0% of the total research results. Combined with the proportion of the research on foreign languages, it can be shown that the flipped classroom teaching model of the teaching practice of Chinese and contemporary literature history has attracted many scholars and is a hot direction of the current education informatization and the reform of traditional classroom teaching model.



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CHAPTER 3 RESEARCH METHODOLOGY

This chapter describes the design and methodology of the study. The purpose of this study is to 1) To compare Chinese contemporary literature history achievement before and after receiving flipped classroom teaching method together with cyberspace learning. 2) To compare Chinese contemporary literature history achievement with the determined criteria at 70 percent. This chapter explains research process, population and sample description of the study, experimental design, research tools, data collection, and data analysis.

3.1 The research process

The specific research process was shown in figure below.

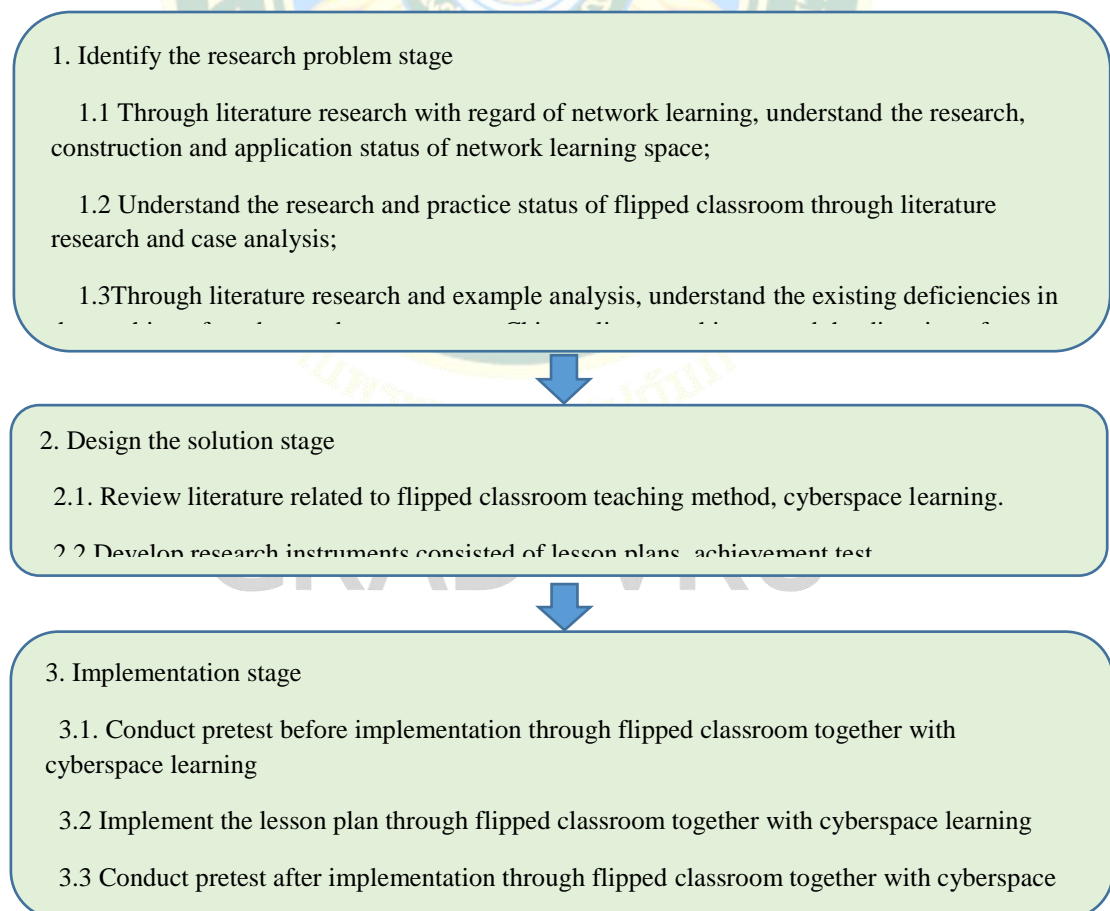


Figure 3 Research process

3.2 Population and sample

3.2.1 The population was two hundred freshmen students (8 classes) majoring in Chinese Language and Literature of Zhoukou Normal University in Henan Province.

3.2.2 The samples selected in this study were thirty freshmen students majoring in Chinese Language and Literature of Zhoukou Normal University in Henan Province, who were randomly selected through probability sampling techniques by the cluster random sampling method.

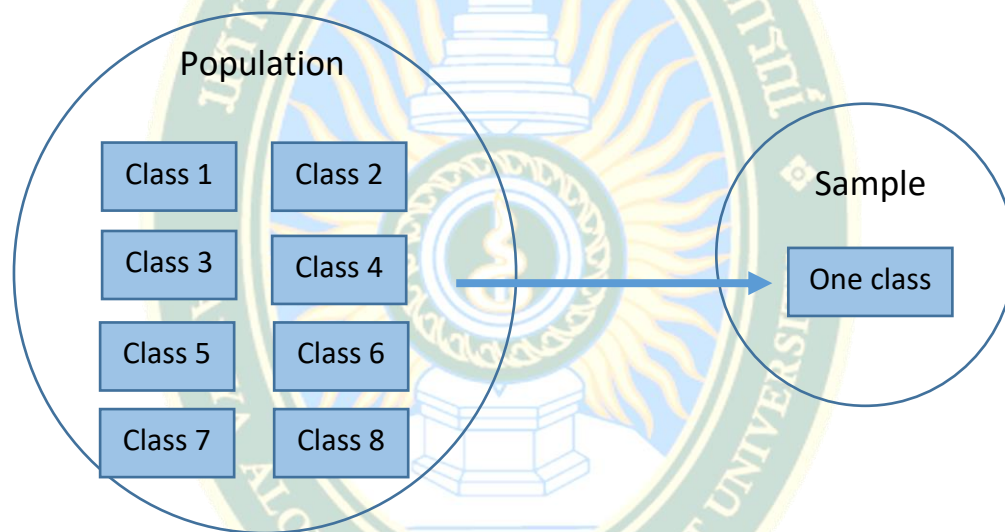


Figure 4 Sampling procedure for selecting the sample

3.3 Experimental design

This study employed a quasi-experimental design with one group pretest-posttest design shown in the figure below. Pretest-posttest were used to investigate students' achievements in learning the history of modern and contemporary Chinese literature before and after learning through flipped classroom teaching method together with Cyberspace learning. The experimental design was shown in the figure below.

Group	Pretest	Treatment	Posttest
Experimental group	O ₁	X	O ₂

O₁: was the study of students' achievements in learning the history of modern and contemporary Chinese literature before learning through flipped classroom

teaching method together with Cyberspace learning.

X: It was the treatment of learning through flipped classroom teaching method together with Cyberspace learning.

O₂: was the result of students' learning of Chinese modern and contemporary literary history after learning through flipped classroom teaching method together with Cyberspace learning

3.4 Research instruments

Research instruments were the tools for conducting the research to collect data. According to the research methodology, the research instruments which were used in this study were 2 main parts of instruments: 1) the instrument for experiment and 2) the instrument for data collection

3.4.1 Instruments for experiment

Lesson plans were designed based on flipped classroom combined with the teaching method of cyberspace learning space. There are altogether 12 lessons hours as follow;

Lesson	Topic	Time Duration
1	MAO Dun's novel creation	3 lessons hours
2	<i>Midnight</i>	3 lessons hours
3	Lao She's creative path	3 lessons hours
4	<i>Camel Xiangzi</i>	3 lessons hours

The draft lesson plans that mentioned earlier were assessed by 3 experts to give suggestions regarding an appropriateness of each component of the draft lesson plans. The instrument which used for evaluating of appropriateness evaluation was five-point rating scale which ranged the level of appropriateness from very high level, high level, moderate level, low level, and very low level.

The appropriateness data which collected from evaluation form was analyzed by calculating mean scores and assigned the interpretation of appropriateness level as follow;

Mean Scores	Interpretation of Appropriateness Level
4.51 – 5.00	Very high level
3.51 – 4.50	High level
2.51 – 3.50	Moderate level
1.51 – 2.50	Low level
1.00 – 1.50	Very low level

If the mean scores of the appropriateness which evaluated by a group of experts was higher than 3.51, meaning lesson plans were appropriate. In addition, experts' recommendations were used to revise the lesson plans. It was found that the mean scores of the appropriateness was at 4.8 and standard deviation was at 0.41 that mean the lesson plans had the quality at the very high level.

3.4.2 Instrument for data collection

Research instrument for data collection in this study was achievement test of Chinese Contemporary Literature History.

The steps of constructing the achievement test of Chinese Contemporary Literature History were proceeded as follows.

Step 1 :Studying the construction of the achievement test and the relevant documents .Consideration was focus on purposes, types, and contents of the test. The construction of the test involving the validity and reliability of the test as well as item analysis in order to clarify the item discrimination and item difficulty of the test.

Step 2: Analyzing the curriculum contents and the learning objectives by constructing the analysis table of course regarding the coverage of objectives and content of the course .The test items consisted of four types of cognitive domain : 1) knowledge, 2) comprehension, 3) application, and 4) analysis.

Step 3: Constructing the achievement test on Chinese contemporary literature history. The test questions include MAO Dun's literary thoughts during the May Fourth Movement, the understanding of the relevant content and the analysis of the characters in midnight, the literary creation of Lao She's life, and the dynamic understanding of the relationships and psychological activities of the characters in Camel Xiangzi.

Step 4 :The draft achievement test was presented to thesis advisors for their advice on the appropriateness, precision, accuracy, ambiguity and wording of the test . After that the draft test was revised according to the thesis advisors' suggestions .The test document and the test evaluation form were offered to the 3 experts for evaluating the content validity. The content validity of the test was considered through Index of Item-Objective Congruence (IOC) obtained from the achievement test evaluation form. Moreover, other considerations of the quality of a test were the suggestions such as the type of questions, accuracy of the test and wording.

Step 5 :Analyzing the IOC index of the test items .The formula used to calculate the IOC index is:

$$IOC = \Sigma R / N$$

Where

IOC	means	Index of Item-Objective Congruence
ΣR	means	Summation of experts' opinion marks
N	means	A number of experts

If the Index of Item-Objective Congruence (IOC) of each item of the test is greater than 0.5 that means it can be used in the test . It was found that Index of Item-objective congruence of each item was 1.00 that mean the test had the validity.

Step 6 : Revising the test according to the experts' comments and suggestions before preliminary study.

Step 7 : Preliminary study of the draft test was conducted with a group of students who had learned these content. After that calculating the reliability, item difficulty (p) and item discrimination (r) through test analysis program. Item difficulty should range from 0.20-0.80 and item discriminability should be greater than 0.20. The reliability of the test was computed using the inter-rater correlation and should be greater than 0.7. It was found that inter-rater reliability was at 0.72, item difficulty (p) 0.20-0.45 and item discrimination (r) between 0.2-.07 that mean the achievement test had the quality for collecting data.

3.5 Data collection

The data collection procedures were as follows:

1) Administered pre-test of “Chinese Contemporary Literature History” to the sample group of first-year students of Chinese language and literature in Zhoukou Normal University before learning through flipped classroom teaching method together with Cyberspace learning space to assist the learning of Chinese Modern and Contemporary Literature History.

2) The samples which were assigned as experimental group were taught by using flipped classroom teaching method together with Cyberspace learning space. This group were taught through the written lesson plans of modern and contemporary Chinese literature history required 12 hours.

3) After finishing the instruction, the samples received the posttest by using the same instrument which were used in the pretest.

3.6 Data analysis

According to the research objectives, statistical procedures were used to analyze the data:

1) Compare Chinese Contemporary Literature History achievement before and after receiving flipped classroom teaching method together with Cyberspace learning through t-test for dependent sample.

2) Compare Chinese Contemporary Literature History achievement with the determined criteria at 70 percent through t-test for one sample.

CHAPTER 4 RESULT

This chapter presents the findings related to the objectives of the research. The objectives of this research were as follows: 1) To compare Chinese contemporary literature history achievement before and after receiving flipped classroom teaching method together with Cyberspace learning and 2) To compare Chinese contemporary literature history achievement with the determined criteria at 70 percent. The findings of this research were analyzed through descriptive statistics and t-test by using statistical package program to answer the progress of participants after its implementation. The findings were described as follows.

Statistical symbols

Statistical symbols	Description
\bar{X}	Mean scores
S.D.	Standard deviation
t	T statistics
p	Significance level

4.1 The results of research objective

The result of comparing the different scores of Chinese contemporary literature history achievement before and after learning through flipped classroom teaching method together with cyberspace learning. The below table showed descriptive statistics and t-test as analyzed by statistical package program. This table aimed to answer the research objective whether flipped classroom teaching method together with Cyberspace Learning was able to enhance Chinese contemporary literature history achievement.

Table 6 The result of comparing the different scores of Chinese contemporary literature history achievement before and after learning through flipped classroom teaching method together with cyberspace Learning.

Group	N	Pretest		Posttest		t	p
		\bar{X}	S.D.	\bar{X}	S.D.		
Experimental group	30	28.73	6.44	38.70	2.18	9.034	0.000

As presented in Table 1, the mean scores of pretest of students' Chinese contemporary literature history achievement was 28.733 (SD = 6.44) and posttest scores of students' Chinese contemporary literature history achievement was 38.70 (S.D. = 2.18).

Moreover, it aimed to examine the different scores of before-and-after using flipped classroom teaching method together with cyberspace learning to enhance Chinese contemporary literature history achievement. The result of this table showed that after learning through flipped classroom teaching method together with cyberspace learning in the classroom, the posttest scores of students' Chinese contemporary Literature History Achievement was greater than pretest scores at .05 level of statistical significance ($t_{29} = 9.043, p < .05$). The average scores of the study developed increasingly higher than pretest.

4.2 The results of research objective

The result of comparing the different scores of Chinese contemporary literature history achievement after learning through flipped classroom teaching method together with cyberspace learning with the criteria set at 70 percent. The below table showed descriptive statistics and t-test as analyzed by statistical package program. This table aimed to answer the research objective whether flipped classroom teaching method together with cyberspace learning was able to enhance Chinese contemporary literature history achievement

Table 7 The result of comparing the different scores of Chinese contemporary literature history achievement after learning through flipped classroom teaching method together with cyberspace learning with the criteria set at 70 percent

Group	N	Full score	Criteria score	\bar{X}	S.D.	t	p
Experimental group	30	40	28	38.70	2.18	26.837	.000

As presented in Table 2, the mean scores of students' Chinese contemporary literature history achievement after learning through flipped classroom teaching method together with cyberspace learning was 38.70 from a possible full marks of 40 and the standard deviation was 2.18 which was statistically higher than the criterion of 70% at .05 level of statistical significance ($t_{29} = 26.837, p < .05$).

CHAPTER 5

DISCUSSION

The experimental design was to examine a new teaching mode by integrating flipped classroom teaching method together with cyberspace learning in order to promote Chinese contemporary literature history achievement of university students. This research aims to 1) compare Chinese contemporary literature history achievement before and after receiving Flipped Classroom Teaching Method together with Cyberspace learning; 2) To compare Chinese contemporary literature history achievement with the determined criteria at 70 percent. The sample was composed of around 30 freshmen as the research subjects, majoring in Chinese language and literature of Zhoukou Normal University. The experimental design was one group pretest posttest. The instrument was achievement test with the validity at 1.00, inter-rater reliability at 0.72, item difficulty (p) 0.20-0.45 and item discrimination (r) between 0.2-.07. The collected data were analyzed by computer software. The statistics of analysis were mean scores, standard deviation, t-test.

5.1 Research conclusion

5.1.1 Result of the first research objective

The result of the first research objective was found that students who immersed into the flipped classroom teaching method together with cyberspace learning got a higher score in the post-test than they achieved in pre-test without such teaching method at .05 level of statistical significance ($t_{29} = -9.043, p < .05$).

5.1.2 Result of the second research objective

The result of the first research objective was found that post-test mean scores of students' Chinese contemporary literature history achievement after learning through flipped classroom teaching mode based on cyberspace learning was statistically higher than the criterion of 70% at .05 level of statistical significance ($t_{29} = 26.837, p < .05$).

5.2 Research discussion

In this study was shown that the flipped classroom teaching method and cyberspace learning were an effective pedagogy in Chinese contemporary literature history. As mentioned above, the results revealed that academic achievement of Chinese contemporary literature history for students immersed in the flipped classroom teaching method together with cyberspace learning is better than that before learning.

This result can be explained that with the new teaching method in the course teaching, no matter out-class activities online or in-class participatory learning, students have been gradually emphasizing independent inquiry, and they are immersed in the

sense of achievement gained by their own efforts. It is generally believed that this mode would improve their independent learning ability, and they hope to learn online and participate into learning tasks thoroughly. Students tend to use learning materials that are demonstrable and shared in class and provide direct assistance to their own learning. And before the teaching in class, the learning resources or tasks provided by teachers are mostly used and previewed by students, such as video materials, lectures or PPT, which are all transmitted onto the online learning space. Specific practices were as follows.

1) Teaching methods

Based on the research design, the real teaching activities for the course have been observed and recorded, and it is found that most teachers still apply traditional approach in class, that is, teacher-centered. Teachers talk more in class, yet students listen more and participate in the exercises inactively. But the fact is that the in-class teaching and learning is quite limited, and no adequate time for students to understand completely in class, because they have not been exposed to the course in high school; thus, they need more time to preview what they will learn next. Therefore, they need available learning materials and pre-class tasks or exercises to gain their own understanding towards the general idea and some specific details, and they also have questions for teacher to answer in class, which would make learning effectively and actively.

Consequently, the research proposes to apply flipped classroom teaching method combined with Cyberspace Learning. By such flipped classroom teaching mode, both the roles of teachers and students are changed, and the teaching idea is also changed from traditional teacher-centered to student-centered. First, that is the pre-class learning tasks. Depending on the Superstar network platform, students would preview the Chinese literature of the 1930s and some representative writers and their works in that phase.

Second, that is the in-class participatory learning, teachers would select some keys and difficulties, and make detailed explanation to clear students' confusion, and also students are encouraged to speak aloud their questions or puzzles, and the group work or pair work are needed, as well as students' presentation is allowed to check what they have learnt and mastered, so students will talk more, exercise more and cooperate with others more, they have become the leader for their own study.

Third, that is after-class activities. Assignments or post-tests are left for students in the Cyberspace, so they are asked to finish the online homework in time, and the score will be calculated automatically in the objective tests. Thanks to the new flipped classroom teaching method based on cyberspace learning, students are learnt how to express their own viewpoints about their understanding of representative writers of Chinese Contemporary literature and their works.

Therefore, in the network environment, the teaching of the course Chinese Contemporary Literature History can be flipped from in-class teaching to the out-class

learning activities, no matter it is pre-class online learning or after-class assignments, and the new teaching method can generate many different learning methods, which will help abstract learning to be concrete, from complex learning to become simpler, so as to improve students' comprehensive use of literature knowledge and obtain the best teaching effects. By adopting the flipped classroom teaching method together with Cyberspace learning, the specific activities or procedures are identified according to the actual content and teaching situation.

(1) Independent study before class

Activity design: Autonomous learning activities emphasize that teachers create a free learning environment for students. Under the correct guidance of teachers, students learn self-management and self-evaluation, and gradually become autonomous learners. Therefore, it is an important part of the idea of flipped classroom, which aims to create a harmonious, mutual aid and independent environment. Teachers arrange students to log in the learning interface in the Cyberspace Learning after class every day, and then enter the "Learning guide" module to study independently and watch the teaching plan and teaching design of this unit.

(2) Cooperative inquiry learning before class

Activity design: After observation and investigation, make complementary adjustment to individual students' learning ability, and divide the class into different groups, and their online group name is decided by their own group. In the process of online discussion and presentation before class, teachers encourage students to cooperate in groups to explore the intra-group discussion and complete pre-class learning, and try to solve problems with the help of group members. When encountering difficult problems, they can leave online messages to teachers or mark their doubts. Moreover, each group should carefully record the online results in the Cyberspace, and be able to timely find the advantages and disadvantages of each group and make advice online for other groups.

(3) In-class case study

Activity design: Based on the exercises which have no standard answers, teachers and students analyze the cases in class. Students learn the micro-lecture in the Cyberspace and propose their doubts, some of which may generate cases in class. Inspired by the teacher, students exchange notes, share opinions and help each other to recognize common problems, so as to stimulate students' creativity in class and improve their ability to analyze and solve problems. Finally, teachers use the relevant information obtained from Internet and expand the relevant knowledge to students in class.

(4) Individualized in-class teaching

Activity design: compared with the traditional teaching mode, the flipped classroom teaching method based on Cyberspace learning tends to pay more attention to learners' autonomous learning after individualized instruction. As an organizer and designer of class activities, teachers are supposed to provide individualized instruction

for students' inquiry learning; they should clarify students' wrong understanding towards some points of the teaching keys or difficulties. After communicating with students, teachers will get a general idea of students' analysis, and help solve their problems. In the case, after personalized teaching, at least one half of students have a more thorough understanding of teaching keys and difficult points in the class and they also get clear teachers' intention of teaching design, and their participation in the activities has been significantly improved, and the subjectivity of students in class has also been reflected.

(5) Diversified after-class teaching

Activity design: the teaching of the Chinese Contemporary Literature History is one important part of learning Chinese language and literature, which has far-reaching and significant significance for the successful completion of the whole course. Teachers need to pay attention to after-class communication with students on the Cyberspace Learning or face to face communication in class, so teachers should pay close attention to the change of students' thoughts. At the same time, teachers should focus on the diversity and interest of teaching and optimize the teaching content reasonably.

Teachers carry out various literary exchange activities after class, such as supporting students to write scenarios of different times, participating in more online open classes, holding literary debate contests and speeches, so as to enhance students' emotional awareness, summarize learning methods and promote the development of literary heritage in the learning process.

In addition, teachers in learning obstacles, lack of confidence, timid, will not strong student, after class to implement different forms of teaching methods, contents and evaluation methods, such as the use of super star, learning platform for literature foundation weak students some more easily learning teaching task, can ask to the teaching content to understand and master basic content, encourage all students to be as active as possible after class.

2) The design of learning environment

According to the flipped classroom teaching method together cyberspace learning with Superstar Erya designed in this study. Because of information technology and network As shown in Figure 5-1, there are various learning resources and tests upon Superstar Erya network platform, and students can carry out different autonomous learning by various methods, which can meet the needs of students in different stages of learning. The platform interface is easy to understand, and students can check learning materials and complete homework submission.

According to the above situation, students have their own computers, and the dormitory has a wireless network, so the clarity of micro-videos can be guaranteed for students, and the Cyberspace learning can be proceeded and become a frequently phenomenon for students' self-study after class. And the Cyberspace can be constructed easily only if students have mobile phones, iPads, computers, or any other electronic

devices. In addition, the Wi-Fi signals and networks are set up all around the campus. Students can maintain their online learning anytime anywhere, so the learning modes and environments become available and flexible, and they can arrange their spare time reasonably.

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Figure 5 Interface of Superstar Erya Cyberspace Learning

In addition, the results of the above big data analysis was found that students tend to use learning materials that can be displayed and shared in class and provide direct help for their own learning. In the teaching process of this study, the learning resources provided by teachers are mostly used by students, such as video materials in the cyberspace Learning, electronic teaching materials and PPT matching the course content.

As shown in Figure 5-2, 5-3, in the first two days of the course, the number of people logging in to the platform has reached a relatively high level, indicating that when the mode of flipped classroom combined with Cyberspace Learning assisted teaching is implemented, most students learn independently before class and master the course content in advance. In the two days after the end of the course Chinese contemporary literature history, the number of students on the platform was still at a

moderate level, which proves that students are still willing to use the online learning space to learn knowledge or explore solutions to problems.

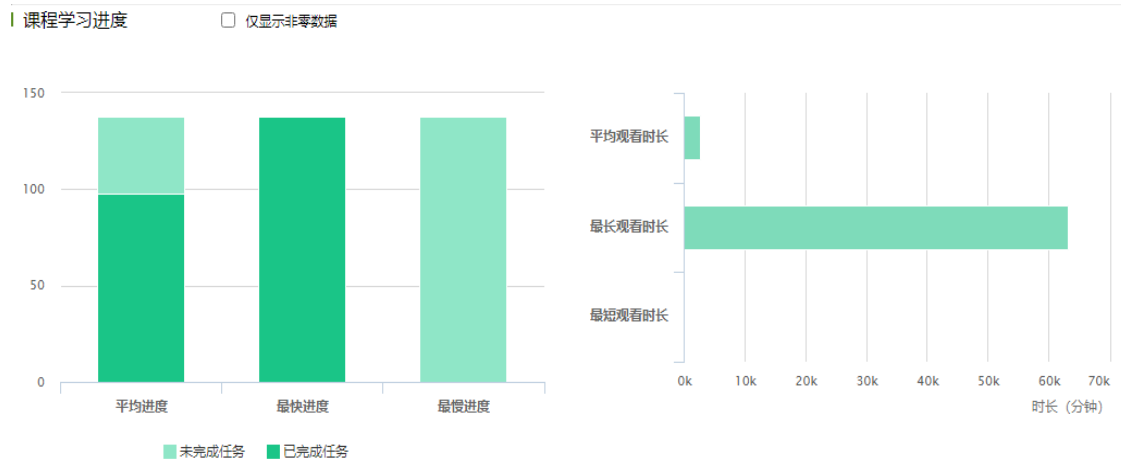


Figure 6 Length recording of students' video-watching

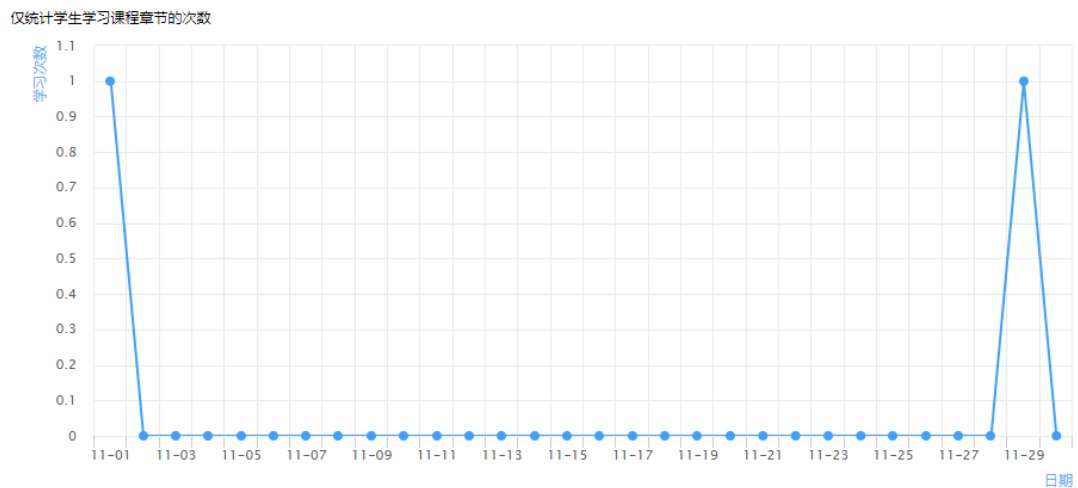


Figure 7 The times of students' video-watching

Guided by the flipped classroom teaching method together with cyberspace learning, teachers are supposed to make a record of teaching reflection and improve the existing deficiencies. In the case, students can consolidate what they have learnt, and make a summarization and sublimation. As the online learning space is open, that is, the superstar network platform is free anytime anywhere, students can carry out various learning tasks, no matter online learning or in-class participatory learning. For example,

they can log in to review and do homework online anytime anywhere, communicate with teachers or other classmates, make active discussion, or check the answer, etc. See Figure 5-4.



Figure 8 Students' online discussion after class

In order to have a deeper understanding of the implementation effect of the flipped classroom teaching method combined with the cyberspace learning, the research used the existing big data analysis platform to analyze the data of students' learning performance, and the analysis results showed that the superiority of the research topic was more intuitive in the form of graphics.

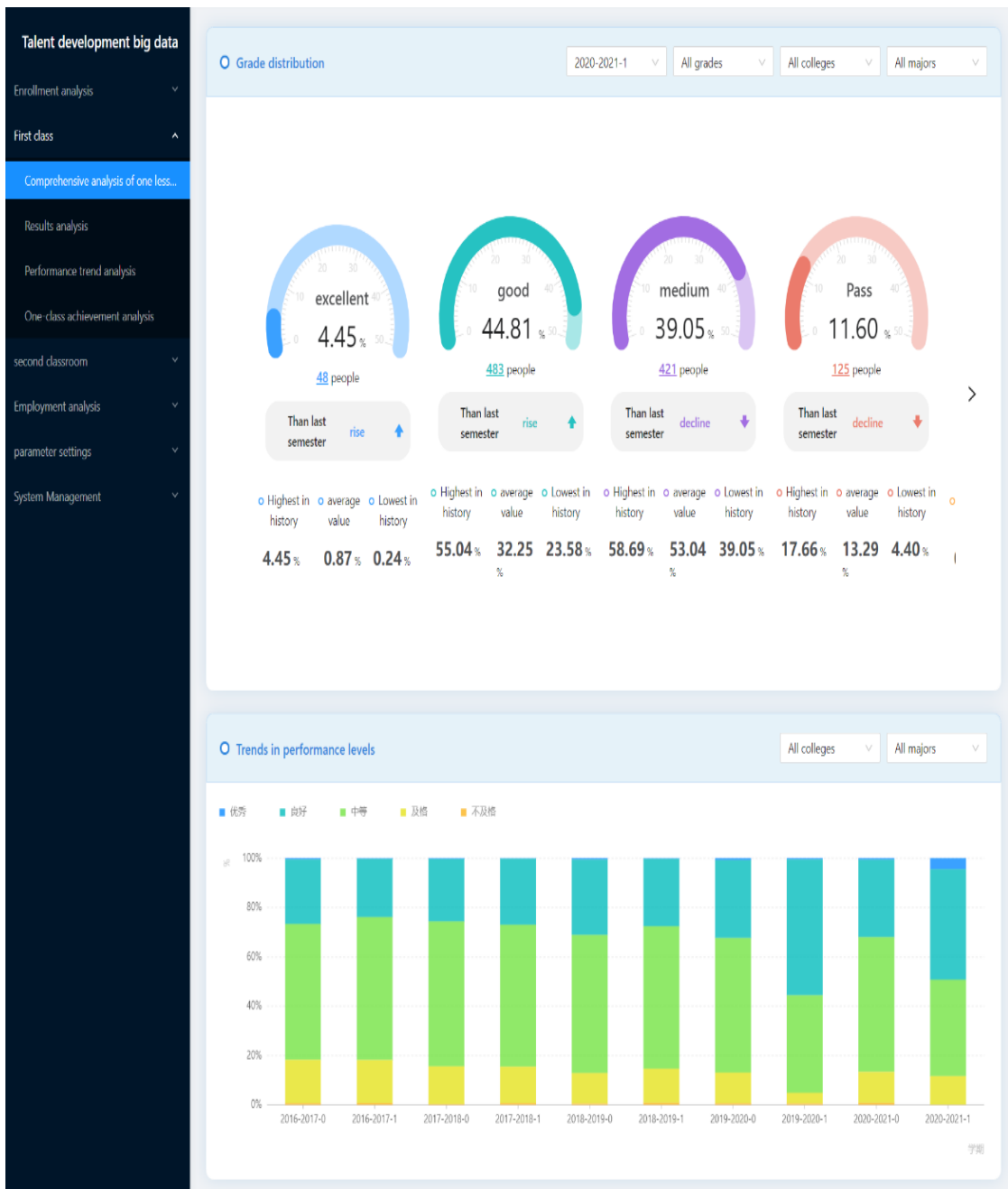


Figure 9 Big data analysis of students' performance

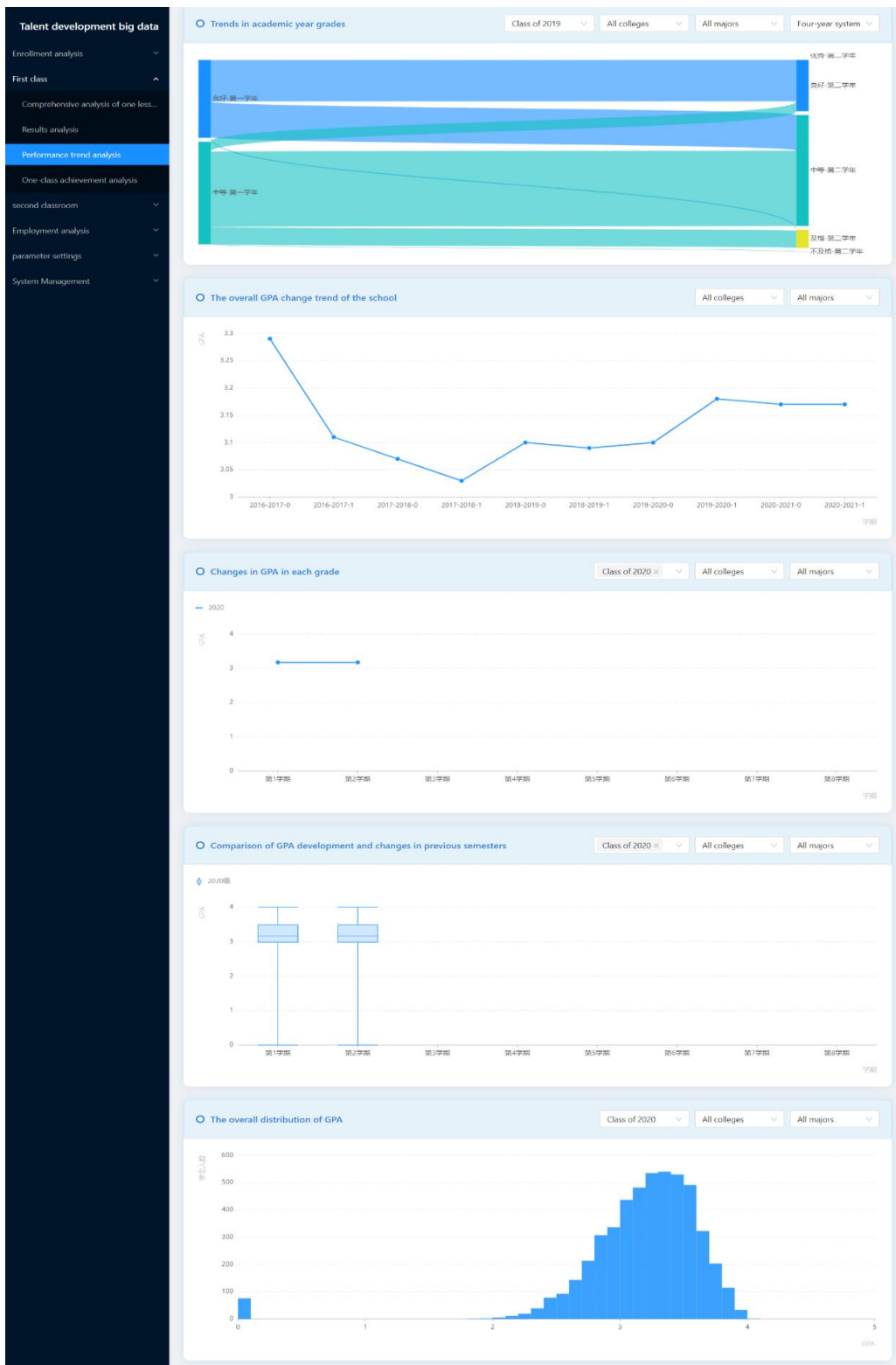


Figure 10 Horizontal illustration of video watching by big data analysis

3) The design of learning resource

The focus of this study is to realize the use of flipped classroom teaching method together with cyberspace learning to promote Chinese contemporary literature history achievement of university students, which contains both the abstract theory knowledge, as well as the actual presentation skills training. Therefore, it is suitable to record short videos for students' autonomous learning.

And micro-video is the core content of flipped classroom. It not only has the characteristics of vivid images, but also lasts for a short time, which can ensure efficient learning of learners within a limited time. In addition, due to the short time, micro video occupies little space, and can be played on various mobile devices to meet the personalized learning of students. Main recording devices for the micro-videos include the following aspects: 1) PPT/animation/operation demonstration screen recording; 2) Handwritten presentation; and 3) Interior scenery shooting combined with PPT.

The micro videos were recorded by teachers from the department of Liberal Arts, Zhoukou Normal University, they use both micro-videos and PPT on the Superstar Erya network learning platform. When making micro videos, teachers are supposed to pay special attention to the themes, highlight the keys and difficult points of the content, and use PPT which are rich in animation effects to enhance the learning interest of students. See Figure 5-7.



Table 8 The view of micro-videos

In addition to watching micro-videos, teachers will also provide other types of learning resources, like MOOCs, online learning platform, APPs for any mobile devices, electronic textbooks or links to relevant forums, so as to enrich students' learning resources and diversify their learning modes. Moreover, some popular online chatting APP, like QQ, WeChat, are often used to clarify in-class teaching keys and difficulties, in the case, there is a need to construct cyberspace for students to carry out systematic and consistent online learning. And because the concept of flipped classroom has been advocated around the world for many years, and popularizing across Chinese universities to enhance student-centered teaching idea, therefore, it is reasonable and feasible to combine the idea of flipped classroom with cyberspace learning in the course teaching. As both teaching resources and learning record can be traced and analyzed on the cyberspace, which is established upon the Superstar network teaching platform, thus teachers can deal with the problems and feedback timely, adjust teaching contents and schedules, and communicate a bit effectively with students to make them learn actively and independently.

Moreover, in the application of flipped classroom teaching method together with cyberspace learning, teachers will upload various kinds of learning resources, including audios, videos, PPT, electronic teaching materials, etc. These resources are available for students to browse at any time on the platform, and teachers will also make corresponding records: resource download times, viewing times, video watching progress. And teachers should pay special attention to students who have not viewed or downloaded the resources, because they may have understood the course content and do not need to view it, or they cannot view the downloaded resources because of other external factors. Moreover, teachers should assist students to manage different online learning resources. In terms of time management, teachers will set the submission time of each task, but not limited to class submission, generally set within one or two days after the end of the course, fully respect students to learn according to their own learning style and pace.

In order to further demonstrate the superiority and advancement of this study, the researchers conducted interviews with students. Some students said that most of the learning methods adopted in the mode of flipped classroom combined with Cyberspace Learning assisted teaching are independent learning, especially before class, and teachers will not systematically talk about basic knowledge in class, but directly talk about specific topics. The help for us lies in guiding us to search for other relevant learning materials, not only limited to videos and textbooks, and teachers' online Q & A is very timely. If you ask questions to teachers in WeChat group, you can get a timely reply. If you encounter difficulties in class, you can ask teachers for help at any time.

5.3 Recommendation

5.3.1 Recommendation for implication

1) The design and application of flipped classroom teaching could be a good example for the higher education reform and innovation. The young teachers are supposed to learn new pedagogical theories to refresh their teaching idea and guide their teaching practice, to adjust teaching design to meet the cultivation of the talents with discipline theories and professional competence needed by social and economic development.

2) As a teacher, it is apparent that flipped classroom teaching method together with cyberspace learning should be an integrated aspect of education. Investigations from the repeated implementation to use it in the classroom show that it transformed students from passive to active learners and also change the progression in academic achievement.

5.3.2 Recommendation for further research

1) The further study should make further analysis on the complexity and of flipped classroom teaching method together with cyberspace learning. The flipped classroom teaching mode concentrates on reversing the teaching procedures, and extending learning space for students, but the concrete implements is a bit out of control, because the idea of learning first probably does not get students' enough attention, and teachers' administration may be not timely and effective. Besides, the construction of the flipped new teaching method together with cyberspace learning is a bit sophisticated; it should be revised in the future study.

2) Time duration for the observation and data collection is a bit limited, more time is needed for the further study, and discuss the close relationship between flipped classroom teaching methods together with cyberspace learning.

3) Flipped classroom combined with Cyberspace Learning assisted teaching mode is widely used in universities, and the research on this mode also shows a trend of blowout development. Although there are some achievements in the research on this mode in China, there are still many problems. In view of the application prospect and potential value of flipped classroom. Utilization of China turn classroom teaching model combined with auxiliary Cyberspace Learning of the object of study, first of all, mainly related to primary and secondary schools, university education, such as population, lack of attention to the rest of the population, the education system contains the main crowd are students, not only are teachers, schools, parents, etc., should be more closely; Secondly, the research objects are mainly subjects whose purpose is to obtain academic degrees and grades, and there is a lack of research on spontaneous learners. Therefore, the universalization and fairness of education should be promoted to provide a learning platform for others who want to improve themselves. Finally, the current research objects in China are mostly individual cases, lacking commonality, which is not conducive to the promotion of large areas. The current research trend leads to the limitation of theoretical research, which cannot better apply theories into practice.

Many researches are stopped before practical application. The flipped classroom teaching model originated from foreign countries and has made some achievements after being introduced into China's education field. However, given the cultural background and differences between teachers and students, can it achieve good results? Are the models and methods reasonable? Does it work? Whether the most critical is applicable to Chinese research objects, future researchers can deepen the theoretical research of this model in innovative ways, and improve the Flipped classroom combined with Cyberspace Learning assisted teaching mode suitable for Chinese research objects. Throughout and utilization to Flipped classroom teaching model combined with auxiliary Cyberspace Learning related teaching experiments, experimental time is generally shorter, more than one semester, short week, although preliminary obtained the certain effect, but could not determine the learning enthusiasm of the students increase because of the newness of a designed to lead to higher grades. Therefore, a long-term teaching time should be designed to test whether flipped classroom teaching is really effective. In order to maximize the dissemination of high-quality educational resources and cultivate high-quality talents more suitable for social needs, the application of flipped classroom combined with Cyberspace Learning assisted teaching mode in higher education has certain practical value. Although this study has carried out certain teaching practice application of flipped classroom combined with Cyberspace Learning-assisted teaching mode, due to the limited time and energy, it failed to improve the depth and breadth of practice. Only pay attention to the history of Modern and contemporary Chinese literature in colleges and universities. Can pay attention to develop multidisciplinary collaborative teaching practice, make use of flipped classroom combined with Cyberspace Learning assisted teaching model combined with auxiliary Cyberspace Learning really into student's study, and not just on a particular subject to paraphrase, comparative study between the different disciplines, refine factors that influence the flip class analysis commonness and characteristics of the model under different disciplines, In order to further guide the practice of using Flipped classroom combined with Cyberspace Learning assisted teaching mode. Therefore, this teaching model should be applied in more subject areas and research objects in the subsequent research. It is hoped that a teaching model with higher adaptability can be constructed by improving the teaching model of Flipped classroom combined with Cyberspace Learning through practice.

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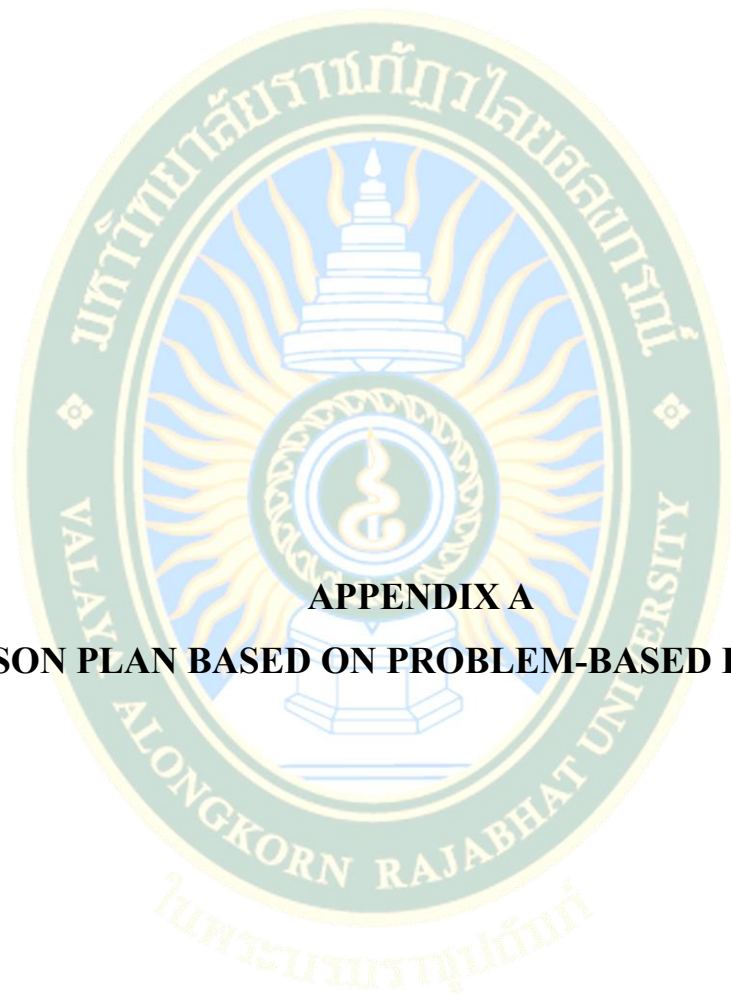
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APPENDICES

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APPENDIX A
LESSON PLAN BASED ON PROBLEM-BASED LEARNING

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Lesson Plan No.1

Course / Subject : Modern Chinese Literature II
Instructional Topic : MAO Dun's novel creation
Class Level : 2020 Chinese Language and Literature
 Undergraduate Class 2
Time for Instructional : 3 Hours
Instructor's name : Chang Yipeng

1. Objectives

- 1.1 Describe MAO Dun's theoretical advocacy and literary propositions during the May Fourth Movement.
- 1.2 Explain MAO Dun and *The Monthly Journal of Fiction*.
- 1.3 Explain the general situation of MAO Dun's Chinese and short stories and his representative works "Rural Trilogy" and *The Shop of the Lin Family*.
- 1.4 Explain MAO Dun's lofty position in the development of Chinese modern novels and Chinese modern literature.

2. Content

- 2.1 MAO Dun's life and artistic achievements.
- 2.2 MAO Dun's creative path and realistic theory of "For life".
- 2.3 MAO Dun's literary theory criticism activities and achievements.
- 2.4 "Rural Trilogy", *The Shop of the Lin Family* and other short stories.

3. Instructional Strategies (teaching methods)

3.1 Out of class activities

- 3.1.1 Let students find videos of MAO Dun's life on the Internet and watch them, so as to know some basic information about the author.
- 3.1.2 Students are required to form groups freely to answer the following questions:
 - (1) MAO Dun's position and influence in the history of Modern Chinese literature.
 - (2) What are the characteristics of MAO Dun's realistic theory?
 - (3) The social analysis nature of MAO Dun's novels.
 - (4) The influence of rationality on MAO Dun's novel creation.
- 3.1.3 Watch the explanation and videos provided by Superstar Erya General Education class.

The screenshot shows a web interface for managing course resources. At the top, there is a navigation bar with '中国现代文学II 课程门户' (Modern Chinese Literature II Course Portal) and various menu items like '首页', '活动', '统计', '资料', '通知', '作业', '考试', '讨论', '管理', and '体验新版'. Below the navigation bar, there are tabs for '课程资料', '题库', '作业库', and '试卷库'. A search bar is present with the text '请输入关键字' and a search icon. A table lists course resources with columns for '序号' (Serial Number), '文件名' (File Name), '上传者' (Uploader), '大小' (Size), '创建日期' (Creation Date), and '操作' (Operations). The table contains five entries, all uploaded by '朱婷婷' (Zhu Tingting) on various dates in February 2020 and 2021. The resources include folders for '课程公共资源', '教材教参', and '中国现当代文学(上)', as well as a file named '寒夜'. At the bottom of the table, there are options for '全选', '批量删除', '批量下载', and '批量移动'.

3.1.4 Thinking:

(1) Is there any difference between the teacher's thinking and yours? If you are more ingenious, write down your thoughts.

(2) After watching the video, are there any questions? Clean it up and communicate within the group.

3.2 In class activities

Play a video clip of a film or commentary about MAO Dun's life in class, and ask students to think about the following questions:

(1) The difference between MAO Dun and his contemporaries.

(2) MAO Dun worked on two fronts: politics and literature.

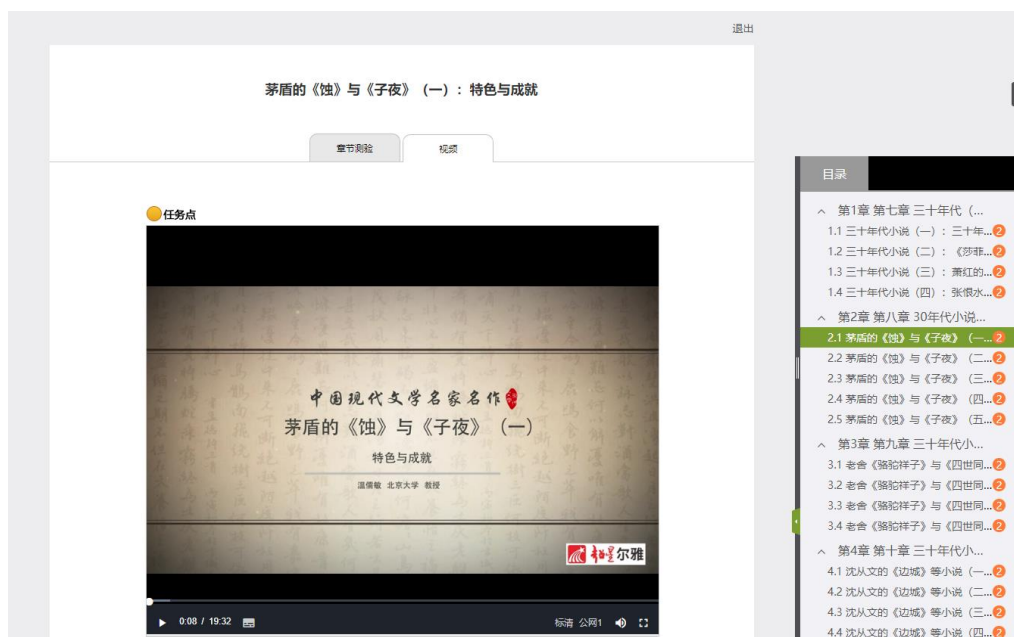
3.2.2 Three groups will be randomly selected for class presentation. Each group will show the interpretation of MAO Dun's *The Shop of the Lin Family*. The group members can work together to show the historical background and inner activities of the author's writing. Through these exhibitions, we can understand the changes in the author's heart and what the work wants to express.

3.2.3 One group was randomly selected to display MAO Dun's literary achievements in various aspects, such as new literary theory advocacy, new literary creation criticism, introduction of foreign literature and literary creation.

3.2.4 Each student group proposes a question about MAO Dun's life or literary achievements, and then they discuss it together and reach a unified conclusion.

4. Media and Learning Resources

4.1 View the micro video course uploaded by Superstar Erya General Education Class.



4.2 Search for reviews, evaluation articles or videos related to MAO Dun through Baidu.

4.3 Network teaching resources: Fujian Normal University "History of Modern Chinese Literature" (I) course, (<https://www.icourse163.org/course/FJNU-1001773017>.)

4.4 Learning materials: *History of Modern Chinese Literature (1915-2018) (Volume 1)*, edited by Zhu Donglin, Higher Education Press, the fourth edition, 2020.

4.5 Reference books: *Thirty Years of Modern China (revised edition)*, edited by Qian Liqun, Wu Fuhui and Wen Rumin, Peking University Press, 1998.

5. Measurement and Evaluation

5.1 30% of the score will be taken into account by giving the students in the group the corresponding score based on the class presentation and the answers to the questions.

5.2 Student groups are required to submit reports on the following issues:

1. What are the characteristics of MAO Dun's realistic theory?
2. What is the influence of rationality on MAO Dun's novel creation?

According to the students' answers, they can be divided into the following situations:

Mean scores	Interpretation of appropriateness level
4.51 – 5.00	Very high level
3.51 – 4.50	High level
2.51 – 3.50	Moderate level
1.51 – 2.50	Low level
1.00 – 1.50	Very low level

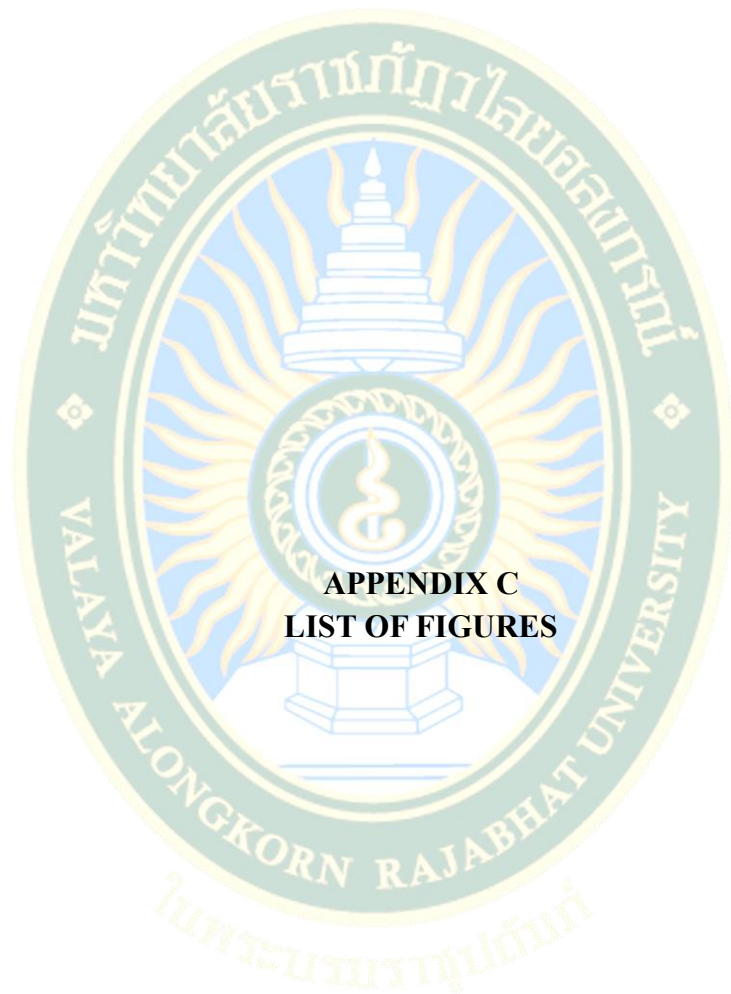


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**APPENDIX B
PRETEST AND POSTTEST BASED**

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APPENDIX C
LIST OF FIGURES

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T-TEST

/TESTVAL=28
 /MISSING=ANALYSIS
 /VARIABLES=Posttest
 /CRITERIA=CI(.95).

T-Test



Notes

Output Created	25-12月-2021 22时34分26秒		
Comments			
Input	Active Dataset	数据集0	
	Filter	<none>	
	Weight	<none>	
	Split File	<none>	
	N of Rows in Working Data File	30	
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.	
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.	
Syntax	T-TEST /TESTVAL=28 /MISSING=ANALYSIS /VARIABLES=Posttest /CRITERIA=CI(.95).		
Resources	Processor Time	00 00:00:00.000	
	Elapsed Time	00 00:00:00.007	

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Posttest	30	38.7000	2.18380	.39870

One-Sample Test

	Test Value = 28					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Posttest	26.837	29	.000	10.70000	9.8846	11.5154

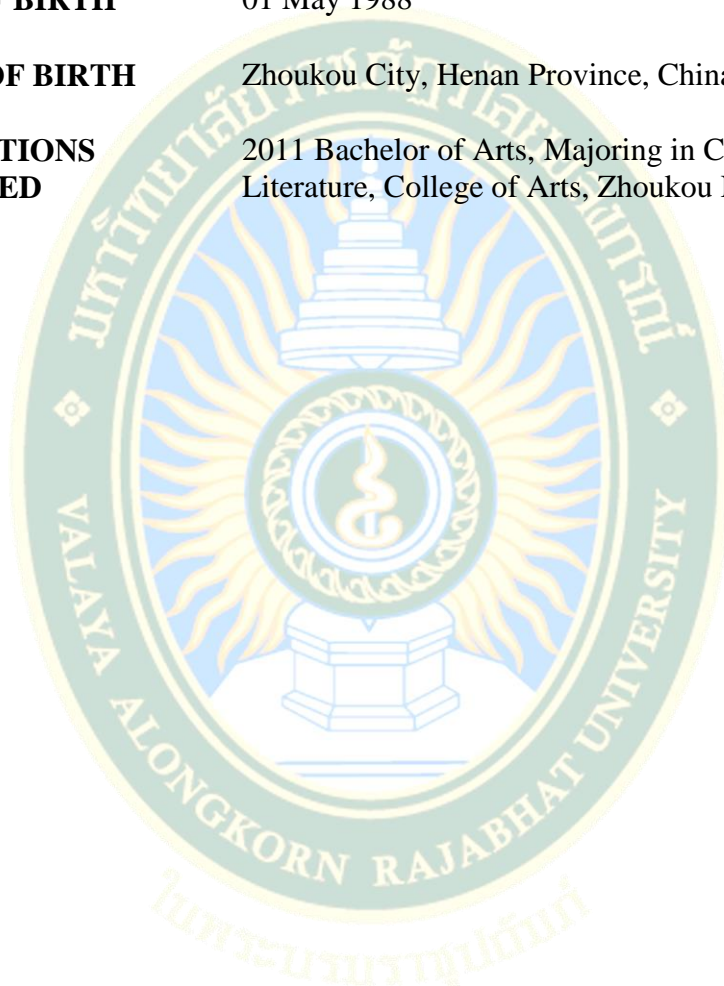
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