



**AN APPLIED STUDY ON THE TEACHING REFORM OF
CLOTHING ACCESSORIES DESIGN COURSE**

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**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE MASTER'S DEGREE OF BUSINESS ADMINISTRATION
GRADUATE SCHOOL OF BUSINESS
SIAM UNIVERSITY**

2023



**AN APPLIED STUDY ON THE TEACHING REFORM OF
CLOTHING ACCESSORIES DESIGN COURSE**

Thematic Certificate

To

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This Independent Study has been Approved as a Partial Fulfillment of the Requirement of International Master of Business Administration in Education Management

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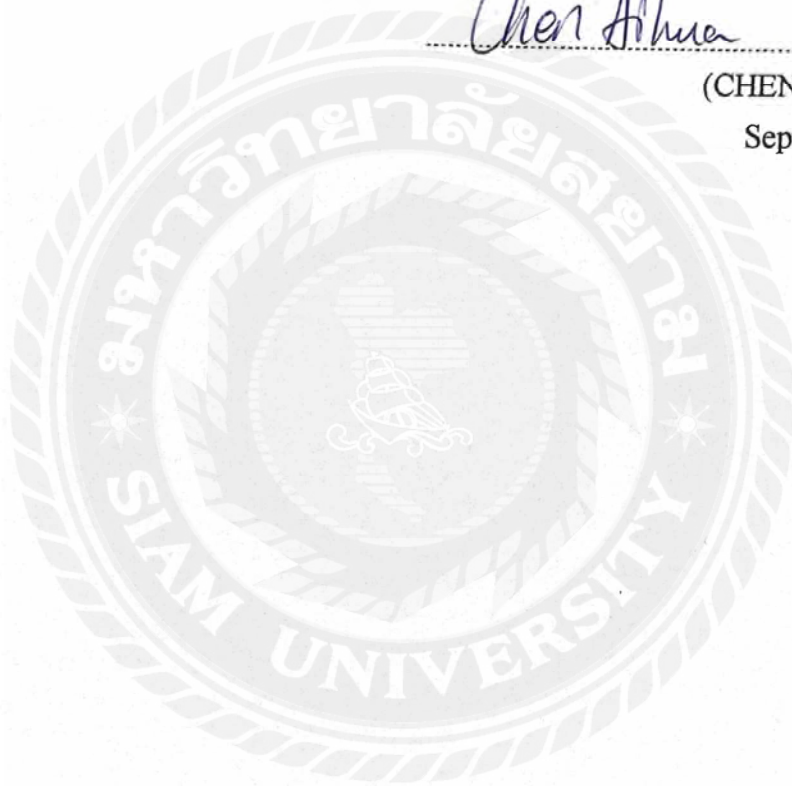
Declaration

I, CHEN AIHUA, hereby certify that the work embodied in this independent study entitled "AN APPLIED STUDY ON THE TEACHING REFORM OF CLOTHING ACCESSORIES DESIGN COURSE" is result of original research and has not been submitted for a higher degree to any other university or institution.

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Sept 1, 2022



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..... *7* / *Nov* / *2022*

ABSTRACT

As the reform of China's higher education continues to deepen, the course of "Dress Accessory Design" is also facing the test of teaching reform. This study took constructivist learning, humanistic education, and Kurt Lewin field theory as the theoretical basis, and summarized the problems in teaching content, teaching methods, and school equipment and facilities of the course "Dress Accessory Design" through the teaching practice and literature research. The author reformed the teaching in order to improve students' student engagement and improve students' learning effectiveness.

This study used Mixed Research Methods and used "Apparel Accessory Design" course as an example, and two classes of students in the Clothing and Apparel Design Class of 2020 at Quanzhou Light Industry College as the research subjects. The learning engagement and academic performance of the students in the two classes before and after the teaching reform were compared and analyzed. From the data analysis, reformed teaching improved students' learning engagement and learning interest in the course as compared traditional teaching, which can help improve performance. Therefore, the implementation of teaching reform for content, teaching method, and teaching equipment with students' learning interest and learning commitment as the starting point can improve students' learning in this course. Through effective learning, students can master the skill requirements that meet the vocational needs and achieve the expected teaching effect.

Keywords: clothing accessories design course, teaching reform, Constructivist learning theory, Humanistic education theory, Kurt Lewin's field theory



ACKNOWLEDGEMENTS

First of all, I would like to express my heartfelt thanks and sincere respect to my respected supervisor, who has poured in a lot of help and given me a lot of guidance during the writing process of my thesis, which has benefited me a lot.

Secondly, I would like to thank my teachers, classmates, and friends who have been helping me with the thesis writing process and who have given me many valuable suggestions and help. I would also like to give special thanks to my workplace for their support in allowing us to put aside our work for a while to complete the dissertation writing in our studies.

Finally, I would like to give a special thanks to my family for their understanding and support. In particular, I would like to thank my husband for taking on more responsibility for our children while I was studying, and for giving me some IT support and help during the dissertation. All in all, thank you for all that you have done for me.



CHEN AIHUA

Oct 2022

CONTENTS

ABSTRACT.....	I
ACKNOWLEDGEMENTS.....	II
CONTENTS.....	III
TABLE CONTENTS.....	VI
FIGURE CONTENTS.....	VII
Chapter 1 Introduction.....	1
1.1 Background Of The Study.....	1
1.2 Significant Of The Study.....	2
1.3 Objectives Of The Study.....	2
1.4 Research Question.....	3
1.5 Contribution Of The Study.....	3
1.6 Limitation Of The Study.....	3
1.7 Terms And Definition Used In This Study.....	4
Chapter 2 Literature Reviews.....	5
2.1 Definition Of Related Concepts.....	5
2.1.1 Apparel Accessories Concept.....	5
2.1.2 Concept Of Pedagogical Reform.....	5
2.1.3 Learning Input Concept.....	5
2.2 Overview Of Research On Curriculum And Teaching Reform.....	6
2.2.1 Teaching Content.....	6
2.2.2 Teaching Method.....	7
2.2.3 Teaching Equipment.....	9
2.3 Research Relevant.....	10
2.3.1 Literature Analysis Method.....	10
2.3.2 Comparative Case Analysis Method.....	11
2.3.3 Survey Research Method.....	11
2.4 Theoretical Foundation.....	12
2.4.1 Constructivist Learning Theory.....	12
2.4.2 Humanistic Education Theory.....	13
2.4.3 Kurt Lewin's Field Theory.....	14

2.5 Conceptual Framework	15
2.6 Terms And Definition Used In This Study.....	16
2.6.1 The Relationship Between Constructivist Learning Theory And Teaching Reform	16
2.6.2 The Relationship Between Humanistic Learning Theory And Teaching Reform	17
2.6.3 The Relationship Between Kurt Lewin's Field Theory And Teaching Reform	18
Chapter 3 Research Methodology.....	19
3.1 Introduction.....	19
3.2 Research Hypotheses	20
3.3 Research Design.....	20
3.3.1 Literature Research Method.....	20
3.3.2 Reform Content.....	20
3.3.3 Questionnaire Survey Method	26
3.3.4 Case Comparison And Analysis Method	37
Chapter 4 Results Of The Study	42
4.1 Introduction.....	42
4.2 Analysis Of Students' Learning Before The Teaching Reform.....	42
4.3 Analysis Of Learning Engagement In The Process Of Teaching Reform	43
4.3.1 Analysis Of Online Learning Situation.....	44
4.3.2 Analysis Of Offline Learning.....	47
4.3.3 Comparative Analysis Of Performance Results.....	51
4.4 Questionnaire Analysis Of Students' Learning Engagement After Teaching Reform	54
4.4.1 Analysis Of Factors Influencing Students' Learning Engagement	54
4.4.2 Analysis Of Students' Classroom Engagement.....	55
4.5 Summary Of This Chapter	56
Chapter 5 Conclusion And Recommendation.....	57
5.1 Conclusion	57
5.1.1 Teaching Content Should Be In Line With The Current Trend As A Prerequisite	57
5.1.2 Teaching Methods Should Be Student-Centered	57

5.1.3 Teaching And Learning Equipment Should Aim To Improve Student Learning Outcomes	58
5.2 Discussion	58
5.3 Recommendation	59
5.4 Further Study	59
References	61
Appendix	63

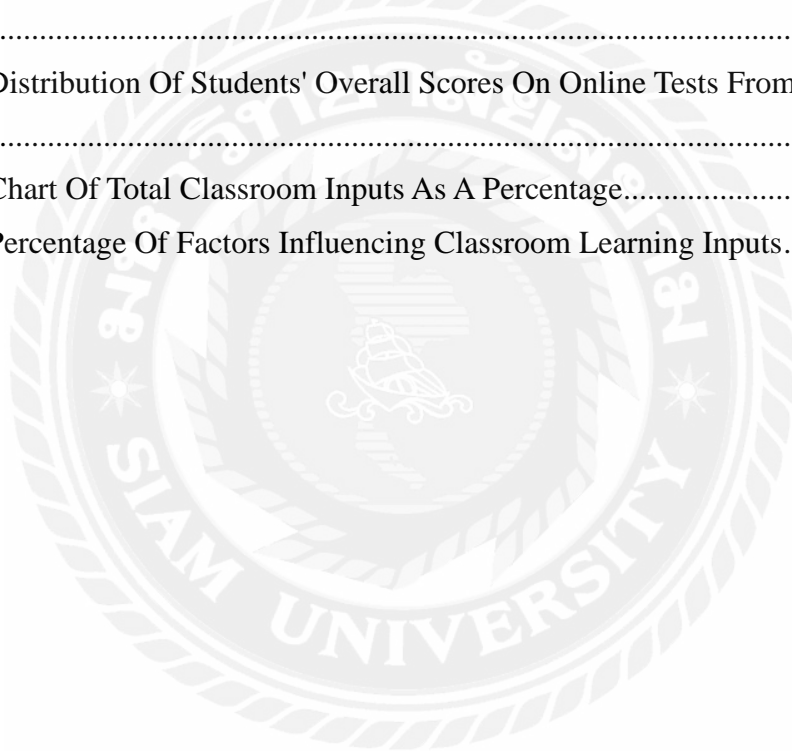


TABLE CONTENTS

Table 3.1 Teaching Content And Class Time Allocation Before Reform	21
Table 3.2 Teaching Content And Class Hours After Reform	22
Table 3.3 Questionnaire On Factors Influencing The Learning Input Of Apparel Accessories Courses.....	28
Table 3.4 Reliability Analysis Of The Questionnaire On Factors Affecting Learning Inputs In Apparel Accessories Courses.....	29
Table 3.5 Validity Analysis Of The Questionnaire On Factors Affecting Learning Inputs Of Apparel Accessories Course	30
Table 3.6 Classroom Engagement Questionnaire For Apparel Design.....	31
Table 3.7 Cronbach's Reliability Analysis	33
Table 3.8 Results Of Validity Analysis	35
Table 3.9 Online Discussion Coding Table.....	37
Table 3.10 Reference Table For Analysis Of Students' Level Of Engagement In Classroom Learning	39
Table 3.11 Test Paper Data Analysis Scheme	41
Table 4.1 Faculty-Student Teaching-Stream Interaction.....	47
Table 4.2 Classroom Input Statistics.....	48
Table 4.3 Statistics Of Average Scores Of Classroom Assignments By Class	50
Table 4.4 Average Score Of Each Item	51
Table 4.5 Class 1 Course Examination Results Analysis Table.....	52
Table 4.6 Class 2 Course Examination Results Analysis Table.....	53
Table 4.7 Student Classroom Engagement Scores.....	55

FIGURE CONTENTS

Figure 2.1 Conceptual Framework	16
Figure 3.1 Framework Diagram Of The Research Methodology	19
Figure 3.2 Online And Offline Learning Flow Chart.....	24
Figure 4.1 Learning Input Influence Factor Share Chart.....	43
Figure 4.2 Percentage Of Online Discussion Content In Weeks 1 To 4	44
Figure 4.3 Percentage Of Online Discussion Content For Weeks 5 To 8 Of The January To April Weekly Language	45
Figure 4.4 Distribution Of Students' Overall Scores On Online Tests From Week 1 To 4.....	46
Figure 4.5 Distribution Of Students' Overall Scores On Online Tests From Week 1 To 8.....	46
Figure 4.6 Chart Of Total Classroom Inputs As A Percentage.....	50
Figure 4.7 Percentage Of Factors Influencing Classroom Learning Inputs.....	55



Chapter 1 Introduction

1.1 Background of the study

With the massive expansion of higher education, the number of college students in school increases year by year; the number of students majoring in clothing and costume design also increases year by year. Graduates of higher education apparel design majors are facing the problem of employment difficulties. In the book "Research on the Development Strategy of Art and Design Education in China", it is mentioned that "there is a big problem with the expansion of enrollment now, and the quality of graduates also leads to the employment difficulties of students ." In the talent cultivation programs of clothing design education in colleges and universities, most of them favor design education and focus on the cultivation of design talents. However, the field apparel industry involves more positions than just design. Fashion and apparel design are different from pure art; it is a practical art, which is influenced by commercial market factors. In many institutions of higher education, teaching is detached from the development of the apparel industry and market demand, and the concept of "emphasis on theory, light on practice". The lack of clarity on talent cultivation goals has led to the failure of enterprises to find the talents they need, and the graduates are unable to find or be qualified for the corresponding employment positions. This leads to the misunderstanding and suspicion of the enterprises to the clothing education, and also affects the docking between the education and enterprises of the college clothing. This is one of the reasons for the relative backwardness of apparel design education.

At present, there is a gap between the practical operation ability of students of clothing and apparel design and the demand of employers, and there is a contradiction between the teaching of colleges and universities and the talents demanded by enterprises. Chinese local garment enterprises are mostly small and medium-sized, and comprehensive cognition is relatively scarce. Garment companies do not pay much attention to the design of apparel accessories, and the majority of them are in the way of OEM and OEM production. Therefore, the demand for design talents specialized in apparel accessories is not high. In addition, the talents of apparel accessories design in colleges and universities have insufficient knowledge and practical experience, so it is difficult to integrate the knowledge learned into the actual design and production. Therefore, the demand of the apparel accessories design industry is to need both rich theoretical knowledge and practical experience of high-quality skilled personnel. This urgently requires the school teaching to carry out teaching reform. This study uses constructivist learning theory, humanistic education theory and Kurt Lewin's field theory as the theoretical basis to implement the student-centered and teacher-led teaching philosophy applied to the teaching reform.

1.2 Significant of the Study

With the development of the economy, people's aesthetics with the improvement of living standards slowly began to pay attention to the beauty presented by the overall collocation of clothing and clothing. In the coordination of the overall collocation of clothing, clothing accessories play an important role. Therefore, clothing accessories design is paid more and more attention by the market, and it is the demand of society for clothing design talents to cultivate composite talents who are sensitive to the market and have the solid practical ability.

The Costume Accessory Design course is a required core course for the Costume and Apparel Design program. The course has a wide variety of contents: including the historical evolution of costume items, characteristics, basic concepts, and practical production. It is a highly practical course, which is essential in the fashion design major. Through this course, students will be able to design and produce clothing items designs that are more harmonious and infectious with the clothing according to the fashion trends. This course is a professional course for enterprises to provide composite talents with the concept of brand operation

The meaning of this paper is to reform the course through teaching practice, adjust teachers' teaching methods and approaches, and change the teaching mode. By improving the students' commitment and interest in learning, we can continuously improve the students' practical ability in this course and achieve better learning results. The reform practice of this course has a reference value for the reform of other courses in clothing and fashion design. To meet the vocational needs of the apparel industry and to cultivate highly skilled professionals.

1.3 Objectives of the Study

The study hopes to achieve the following objectives.

1. to understand the current teaching status of the course "Design of Apparel Accessories" in higher education institutions.
2. To propose the problems of teachers in the teaching process according to the current situation of the course of "Fashion Accessories Design".
3. To propose measures to improve the teaching quality of "Fashion Accessories Design" course through literature research method, comparative analysis method and questionnaire survey method.

1.4 Research Question

1. Is there any difference in students' final grades before and after the teaching reform for the course "Design of Fashion Accessories"?
2. Is the students' learning engagement significantly improved after the reform of the course "Fashion Accessories Design"?
3. Is the reform of teaching content, teaching method and teaching equipment of the course "Fashion Accessories Design" positively correlated with the teaching quality?

1.5 Contribution of the Study

At present, the research on the measurement of learning engagement at home and abroad is more mature, mainly from three aspects: cognitive, behavioral and emotional. For the course of Dress Accessory Design, which is mostly practice-oriented, it is suitable to detect students' learning engagement from three aspects: behavioral, cognitive and emotional.

The research of this paper takes the reform of the course of Apparel Accessory Design as an example, and carries out the teaching reform of the course of Apparel Accessory Design from the aspects of teaching content, teaching method and teaching equipment, etc. The main contributions are as follows.

1. With the support of relevant theories, the corresponding teaching methods are summarized and summarized by teaching reformed and unreformed classes to provide new perspectives for existing educational theories.
2. Through the study, the author reformed teachers' teaching methods, teaching contents, and teaching equipment to provide new initiatives to improve students' learning engagement.
3. The author mainly carries out reforms in terms of innovative teaching methods, integration of teaching contents, and improvement of teaching equipment, which are of value for teachers of clothing majors to provide reference in the process of lesson preparation and teaching.

1.6 Limitation of the Study

In the process of this study, there are two problems:

1. the author conducts research for the course "Dress Accessories Design", but in the process of the study the scope of the study is relatively small because it only targets two classes with 88 students.
2. In the reform process, the author focused more on the teachers' teaching reform and ignored the students' own factors. However, in this study, the teacher is the main object around

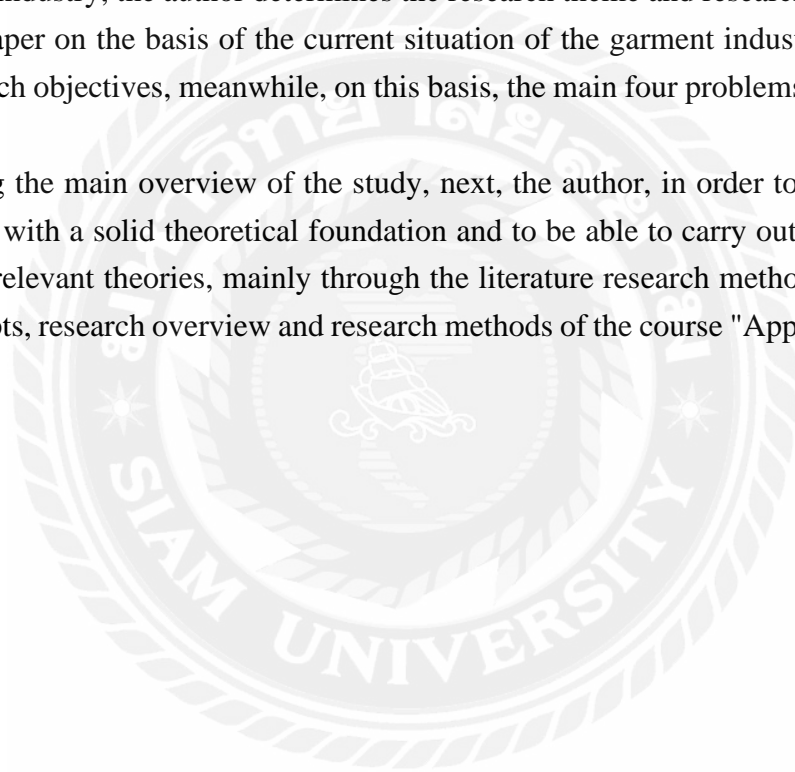
which the research is conducted, and the student factor is the measurement object. Therefore, students' own factors may not be considered as a key factor.

1.7 Terms and Definition Used in this Study

Through the course, students are able to design and produce clothing accessories that are more harmonious and infectious with clothing according to fashion trends; at the same time, the course is also a professional course for enterprises to provide composite talents with brand operation concepts.

In order to make the course of Apparel Accessory Design keep pace with the development of the garment industry, the author determines the research theme and research significance of this research paper on the basis of the current situation of the garment industry, and clarifies the main research objectives, meanwhile, on this basis, the main four problems of this research are determined.

After mastering the main overview of the study, next, the author, in order to make the study more equipped with a solid theoretical foundation and to be able to carry out the study under the support of relevant theories, mainly through the literature research method to sort out the relevant concepts, research overview and research methods of the course "Apparel Accessories Design".



Chapter 2 Literature Reviews

2.1 Definition of related concepts

2.1.1 Apparel accessories concept

Costume accessories, also known as "costume goods", is a general term for all kinds of accessories related to clothing (Zhang,2013). It includes jewelry, bags, hats, shoes and socks, gloves, waist ornaments, and so on. The overall dress of a person is composed of three parts: the human body, clothing, and clothing accessories. Clothing accessories in the overall clothing with a relatively small proportion of the area, but it plays a "finishing touch" role, the overall clothing with a certain impact on the shape.

The clothing accessories design course is a comprehensive practical course integrating aesthetics, design, material selection and application, technology, and production, mainly teaching the development history, classification, design, and production methods of clothing items, including bags, hats, jewelry, shoes and socks, waist accessories and other clothing accessories. The course guides students to design clothing items to match with clothing, focusing on the combination of theory and practice. It lays the foundation for students to work in the clothing and apparel industry (Chen,2014) .

2.1.2 Concept of pedagogical reform

Teaching reform is the process of removing the old and creating new teaching methods. "Teaching reform" is carried out under two objectives: first, to improve the quality of teaching, that is, to change the teaching methods that are not suitable for the overall development of students, and to create or choose the teaching methods that are suitable for the development of students, so that the basic qualities of each student are fully developed and their potential is developed and revealed; The second is to improve the efficiency of teaching, that is, to reduce or lower the teaching elements and their effects that are ineffective or inefficient for students' development per unit of time, to optimize the teaching conditions and teaching process so that they can maximize the role of promoting students' development in the specified time.

2.1.3 Learning input concept

The concept of academic engagement was first proposed by scholar Schaufeli, who considered it as an active and fulfilling state of mind associated with learning, including three dimensions energy, dedication, and concentration (Schaufeli,2022). With the passage of time and in-depth research on learning engagement, learning engagement is considered a multidimensional concept that mainly includes behavior, cognition, and emotion. In the current information-based teaching environment, students' behavioral engagement mainly refers to the

degree of active interaction between learners and the learning environment (Wu,2018), such as teacher-student interaction, peer interaction, and group cooperative learning participation. Cognitive input is the cognitive strategies used by the learning individual in learning, and the input of mental states (Ma,2017). Emotional input is an emotion, whether the student is interested in learning, whether he or she is enthusiastic about learning, etc.

2.2 Overview of research on curriculum and teaching reform

China's State Council issued the National Implementation Plan for Vocational Education Reform (China's ,2019), which proposes to place vocational education in a more prominent position in education reform and innovation. Guided by promoting employment and adapting to the needs of industrial development, it focuses on cultivating high-quality workers and technically skilled personnel. Wu (2011) mentioned in her paper "Research on the Methods of Cultivating Clothing Skills Based on Occupation Positioning: "At present, the theoretical knowledge and practical skills of clothing teaching in our country are out of touch. The neglect of abilities, the over-exaggeration of artistic quality, and the underestimation of engineering technology led to the poor hands-on ability of students, and it is difficult to transform the artistic ideas in their minds into realistic clothing products." Liu (2018) proposed in his research that the clothing accessories design course is the core course of the clothing design major, and its teaching reform should be based on the needs of the industry. Zhang (2017) argues that the focus of reform should be shifted from "teaching-oriented" to "learning-oriented", and teaching should meet the diverse and personalized learning needs of different students. Based on constructivist learning theory, humanistic education theory and Kurt Lewin's field theory as the scientific theory. According to the reform needs, several scholars have made studies on the teaching contents, teaching methods and methods, and evaluation system in the apparel accessories design course.

2.2.1 Teaching content

Most scholars agree that textbooks are slow to be updated, and the teaching content is outdated. In the background of the "Internet + education" era, teaching content knowledge can be supplemented and improved through online materials. (Zhang, 2017). Combining the curriculum teaching standards and focusing on industry needs, the teaching content is updated promptly. (Liu, 2018). Cui (2019) believes that integrating traditional cultural elements into the design of clothing accessories can effectively improve the quality of clothing accessories design, and at the same time has the significance of traditional culture inheritance in clothing accessories design education. Constructivists emphasize that students' brains are not empty before they enter the classroom, they already have their own emotional experiences and rich practical experiences in life learning, so teachers should not underestimate students' ability, but

take their already formed knowledge or experience as the growth point of new knowledge, and through their own good guidance, derive new knowledge and experience based on students' original knowledge and experience. Constructivist learning theory emphasizes the social context of learning, therefore, students' life experiences can be used as teaching contents, so that perceptible life experiences can be transformed into learning situations and the classroom can be filled with rich life atmosphere. (Lu,2017)

At present, there are more than 20 books related to the design of clothing items searched and investigated on various online platforms, which have theoretical knowledge combined with practical contents. Zhang Zufang's "Design and Production of Apparel Accessories" and Feng Sujie's "Design and Production of Apparel Accessories" focus relatively on practical operation. These textbooks provide good content support for the teaching of apparel product design course. However, there are many shortcomings, such as the learning content covers a wide and detailed, but the learning time is relatively limited. Students have a comprehensive but not in-depth understanding of the theoretical knowledge. The course of "Fashion Accessories Design" is out of line with the market in design methods, cases and concepts, and the content of teaching is not innovative and lacks market value. The content of the teaching material is out of touch with the current popular mainstream culture, and students are not interested in learning the content. There is a lack of reference cases that can be used as reference for the current fashion. In order to teach, some learning resources can only be collected through internet search to supplement the course content. However, the lack of authoritative materials makes it difficult to ensure the cutting-edge and relevance of the course content. Since each university has its own specificity in the operation of fashion and apparel design. For example, some schools focus on design, some focus on engineering, and the teachers who write the teaching materials have qualification requirements, and veteran teachers do not necessarily have deep industry experience. All these make it more difficult to write teaching materials. These many problems have affected the effectiveness of learning this course of apparel accessories.

2.2.2 Teaching Method

The operation steps of the demonstration are recorded in advance, and the key points and difficulties are played through the video in the teaching process, and then combined with the explanation, so that students can learn simultaneously according to the teacher's lecture rhythm, and the teacher can also adjust the lecture rhythm at any time according to the student's acceptance ability. The teaching effect is good, and the efficiency of the class is improved. In the teaching, modular training will be carried out in three parts: basic styles, creative styles, and market styles for single categories such as hats, bags, and shoes (Chen, 2014). The use of modern information technology in education and teaching has promoted the education and teaching reform of colleges and universities, and the online and offline hybrid learning mode is the trend of teaching reform. The combination of online independent learning and classroom

offline learning provides individual learning needs. Constructivist learning theory's emphasizes collaborative group learning, which enables each student to actively participate in group project tasks, communicate, collaborate, and share responsibility for each other in the process of completing project tasks together, thus achieving common goals and promoting the construction of meaning (Fu, 2011).

After the theoretical knowledge is explained in the classroom, students do not have more time to practice. (Wu Yan, 2011) mentions in her master's thesis on "Research on the vocational-oriented clothing skills training method": "At present, there is a disconnection between theoretical knowledge and practical skills in China's clothing teaching, with emphasis on theory rather than practice, one-sided emphasis on aesthetic ability and neglect of hands-on ability, over-exaggeration of artistry and underestimation of engineering technology, resulting in students' poor hands-on ability and difficulty in turning their mental As a result, students have poor hands-on skills, and it is difficult to transform the artistic ideas in their minds into realistic clothing products [3]". Fashion and apparel design education generally exists in professional independent colleges, comprehensive university art colleges, and higher vocational colleges. Higher vocational education is aimed at cultivating skilled talents with certain theoretical knowledge but with more emphasis on practical ability and a high degree of practicality. It has the commonality of higher education and the characteristics of vocational education. The course "Design and Production of Costume Accessories" is only taken as an elective course within the major in the College of Arts in comprehensive universities, and is usually 16 to 24 hours. The course content is mainly theoretical lectures, and the practice is mostly based on drawing and design. However, in higher vocational colleges and universities, the course "Designing Apparel Accessories" is usually set in the first semester of the second year, with 36 hours of class time. The total lesson time of this course in our school is 36 hours, 16 hours for theoretical lectures and 20 hours for practical production.

In the past teaching mode, it is difficult to adapt to the employment demand of the industry. The teaching is focused on theoretical explanation, and the teachers' teaching methods are too single and programmed, which is difficult to stimulate students' interest in learning and leads to students' low engagement in learning. Most of the teachers are highly educated people graduated from garment colleges and universities, and very few schools employ part-time teachers from enterprises. In the case of this course, the teacher's own cognitive experience and personal quality also determine the quality of the course. In order for the apparel design course to meet the market demand. Teachers should be aware of the current trends. They should have a deep understanding of the apparel industry so that they can guide their students in a more focused way. Cultivate students' creative thinking and motivate them to learn. To stimulate students' interest and learning potential. So this is a big challenge for teachers.

2.2.3 Teaching equipment

With the continuous development of education informatization, intelligent electronic informatization has become an important means to drive the modernization and intelligence of education and achieve leapfrog development of education. The construction and application of intelligent manufacturing classroom has changed for the presentation of teaching contents, the teaching method of teachers and the interaction between teachers and students. In the context of smart campus, building smart manufacturing classrooms and improving teaching environment is an inevitable choice to improve teaching quality. (Cao,2019) The research on intelligent learning environment represented by smart manufacturing classroom promotes the gradual transformation of classroom teaching from digital to intelligent. Smart manufacturing classrooms have important value in promoting classroom teaching reform in higher education institutions, which is manifested in more frequent teaching interactions and transformation of teaching mode in smart manufacturing classrooms. Smart manufacturing classrooms to promote teaching reform must also have two key conditions: First, teachers have the teaching concept and willingness to reform centered on student learning; second, teachers should have the ability to use smart manufacturing classrooms skillfully. (Lv,2019) The course "Dress Accessories Design" is a very practical course, which requires brain design and hands-on production, and the production of some dress accessories requires professional practical equipment to be realized. The course is taught from the perspectives of lecture-based teaching, demonstration-based teaching, classroom interaction and group collaboration, etc. In the smart manufacturing classroom, teachers use information-based teaching mode to teach and carry out teaching activities that are more personalized and more in line with students' learning development, thus improving teaching effectiveness and promoting teaching reform and innovation.

Traditional teaching teachers use the lecture method to explain in detail the historical development and popular design of apparel products such as bags, hats, jewelry and shoes, etc. Due to the imperfect equipment in the training room and the limitation of class time, for the practical production of apparel products, teachers can only briefly explain the process and principle of production, and do not have the conditions of very perfect demonstration operation demonstration. Since the number of students is relatively large, they can only work in groups to demonstrate the operation, and students' learning is also greatly restricted. Rogers' "non-directive teaching" requires the following characteristics: a receptive atmosphere in the classroom; development of individual and group goals; and a changing role for the teacher. It is clear that non-directive teaching is not the antithesis of traditional teaching, but rather emphasizes aspects of traditional teaching that are neglected but are beneficial to students' development, i.e., students should be given more space to control the teaching process. The non-directive teaching model changes the traditional teacher-student relationship and expands the perspective of teaching research.

"Apparel Accessories Design" course is a core course in the training program of clothing and apparel design. This course is a very practical course, which requires brain design, hands-on production, and hands-on process to find problems and then solve them. Some of the clothing accessories need professional training room equipment to be realized. Compared with the clothing and apparel design major, the school's investment in clothing design and production practical training room equipment is much greater than that of "Apparel Accessories Design".

Teachers are also restricted by the traditional teaching and training room equipment, in the course of teaching are along the old methods of the past. Cannot be well combined with the student-oriented teaching mode, the teacher's leading role cannot be very effective play. From Kurt Lewin's field theory that human behavior is influenced by its living space and individual psychological space factors, the two factors work together to promote human behavior occurs as teachers to reform teaching methods to enhance the learning ability of students. University teaching methods are relatively single and boring, basically lecture method is the main method, supplemented by a small amount of discussion method. And the quality of many discussion classes is not high, and they do not achieve the purpose of discussion classes as they should. The lecture method has an inherent advantage in teaching new lessons and systematically transmitting knowledge, but it is difficult to stimulate students' motivation because there is less interaction between teachers and students. Due to the lack of space for independent thinking, the lecture method also makes it difficult for students to improve their self-learning ability to a greater extent. As mentioned above, students' self-learning ability is also an important factor affecting students' interest in learning. Therefore, teaching methods should be reformed to focus on the improvement of students' learning ability. To make the interaction between teachers and students more effective, good teaching facilities conditions should be created in combination with the characteristics of the course. By combining advanced teaching equipment to drive students to learn independently and have better discussion and communication with the teacher.

2.3 Research Relevant

2.3.1 Literature analysis method

This study is based on the urgent desire to improve the teaching methods and approaches to achieve better teaching effect in the course of dress accessory design in teaching practice as the purpose of the study, and to obtain information by investigating the literature so as to get a comprehensive and correct understanding of the problems in the teaching of the course of dress accessory design. To know the history and current situation about the relevant theories and teaching reform issues to help define this study; to be able to form a general impression about the research object to help observation and interview; to get comparative information about

realistic information; to help understand the whole picture of things. By understanding the laws of student learning, constructivist learning theory, Kurt Lewin's field theory, and humanistic education theory are used as the theoretical basis. Based on the research to discover the factors in teaching that affects students' learning patterns and influences students' learning engagement, so that they can be applied to teaching and reform teaching methods and approaches.

2.3.2 Comparative case analysis method

The analytical method is a systematic and objective quantification, analysis and description of the research content. The analytical method is to make a clear clarification and generalization of the essential facts of the research object as well as the development trend, to reveal the deep information, generally in the form of classification, numerical representation of the results, and to sort out the analogous relationship between them. The deeper characteristics are revealed in order to make accurate factual judgments. In this study, through the analytical method: in the questionnaire survey, the contents of student questionnaires are systematically analyzed and categorized to summarize what factors affect students' interest and commitment to learning. The effect of teaching reform implementation is verified through questionnaire data analysis. The differences between classes are revealed by comparing the results of different teaching methods before and after the curriculum reform, and by comparing the final results of the same course with different teaching methods of the same teacher for different classes. In turn, we analyze the reasons for the gap and test whether the teaching reform has promoted the learning of this course.

2.3.3 Survey research method

Survey by questionnaire is a research method to collect information by asking questions in writing, i.e. the investigator prepares a form on the survey items, distributes or mails it to the people concerned, asks them to fill in the answers, and then recovers them for collation, statistics and research. This allows for a more intuitive understanding. In this paper, by distributing the Questionnaire on Classroom Engagement in Fashion Apparel Design to the classes of the experiment, the data collected back through the questionnaire is studied for comparative analysis. To test the effect of teaching reform. The questionnaire was based on the "College Student Learning Engagement Questionnaire" revised by Liao Youguo (Liao , 2011) and Zhang Yi's "Classroom Engagement Questionnaire for College Students in a Smart Classroom Environment", and was designed according to the characteristics of the apparel accessories design course. Classroom Engagement Questionnaire". The questionnaire was edited on the questionnaire star platform and distributed through WeChat and pinned learning groups. The data was collected through the Questionnaire Star platform and the reliability and validity of the questionnaire were calculated online using SPSSAU. The valid data will be analyzed and summarized.

2.4 Theoretical foundation

Theory comes from practice, guides practice, and is further tested in practice. The correct theory can actively promote the effective development of teaching reform. The theoretical basis of this study is including constructivist learning theory, humanistic education theory, and Kurt Lewin field theory on the scientific basis. The details are as follows.

2.4.1 Constructivist learning theory

The constructivist learning theory view of knowledge holds that knowledge is not an accurate representation of reality, it is only an interpretation, a hypothesis, and it is not the final answer to a question, therefore it is dynamic. The learning view is that learning is not a process of transferring knowledge from teachers to students, but a process of students constructing their own knowledge. Learning has active construction and social interaction, and learning should strengthen cooperation and interaction; learning has contextuality, and knowledge cannot exist in isolation from the activity context, and only through practical application activities can knowledge be truly understood. The constructivist view of students believes that the world of students' experiences is rich and different. The constructivist view of teaching believes that teaching should be contextualized and cooperative learning. Teaching should not ignore students' experiences and start a new kitchen to install knowledge from the outside, but should take students' existing knowledge experiences as the growth point of new knowledge and guide them to "grow" new knowledge experiences from their original ones. Teaching is not the transfer of knowledge, but the processing and transformation of knowledge. It is about promoting cooperation among students so that they can see perspectives that are different from theirs and thus facilitate learning. The teacher is a helper and facilitator of meaning construction, not a transmitter and instructor of knowledge. The student is the subject of information processing and the active constructor of meaning, not the passive recipient of external stimuli and the object of indoctrination. Students must become active constructors of meaning and subjects of learning. To become a helper in the construction of meaning, teachers are required to play a guiding role in the teaching process from the following aspects.

1. To stimulate students' interest in learning and help them develop motivation for learning.
2. Help students construct the meaning of what they are currently learning by creating contexts that meet the requirements of the content and by suggesting clues to the connections between old and new knowledge.
3. To make meaning construction more effective, teachers should organize collaborative learning (discussion and communication) whenever possible and guide the collaborative learning process in a direction that is conducive to meaning construction. The methods of guidance include: asking appropriate questions to stimulate students' thinking and discussion; trying to take the questions deeper in the discussion to deepen students' understanding of what

they have learned; and inspiring students to discover patterns, correct and add to their wrong or one-sided understanding.

2.4.2 Humanistic education theory

The humanistic learning theory proposed by C.R. Rogers, an American psychologist, in the 1960s emphasized "sexual goodness" and "student-centeredness," while dividing learning into "meaningful Learning" and "meaningless learning". Rogers' "good nature theory" believes that people have the tendency to cognize, create, and grow, and that this tendency manifests itself in the learner's innate interest in learning; Rogers' "student-centered theory" positions the teacher's role from that of "transmitter of knowledge" to that of "teacher. Rogers' "student-centeredness" shifts the role of the teacher from "transmitter of knowledge" to "facilitator of learning," emphasizing that teachers should understand the inner world of students and stimulate their interest in learning. In "meaningful learning," Rogers emphasizes that learning is an activity initiated by the learner on his or her own initiative, and that "initiative means that meaningful learning can be stimulated only when students are full of interest in learning. Rogers' humanistic learning theory shows that interest in learning plays a very important role in achieving learning goals and directly affects learning outcomes; in teaching, teachers should respond to learners' wishes and needs, stimulate students' interest in learning, motivate students to produce high levels of cognitive behavior, take the initiative to adopt higher quality learning modes, and achieve meaningful learning.

In Rogers' view, teaching and learning activities should place students in a central position. Rogers' "non-directive teaching" requires the following characteristics: creating a receptive atmosphere in the classroom; centering around the development of individual and group goals; and changing the role of the teacher. It is clear that non-directive teaching is not the antithesis of traditional teaching, but rather emphasizes aspects of traditional teaching that are ignored but are beneficial to students' development, i.e., students should be given more space to control the teaching process. The non-directive teaching model changes the traditional teacher-student relationship and expands the perspective of teaching and learning research. To play the role of a facilitator, teachers should manage the interpersonal relationship with students and are therefore required to pay attention to the following points: First, sincerity. Teachers must be open and honest with their students and speak their minds freely. Second, acceptance. Acceptance is sometimes called trust and reward, and teachers should share the pain and stress of students' problems and the joy and happiness of students' progress. Third, understanding. As a facilitator, teachers need to put themselves in their students' shoes and understand their inner feelings, rather than using teachers' standards to scrutinize everything they do.

2.4.3 Kurt Lewin's field theory

Kurt Lewin, a famous German psychologist, proposed the field theory as a psychological field dynamics model. This psychological field dynamics model involves two basic elements, one is the individual's psychological space and the other is the individual's living space. He drew on the concept of "field" in physics and proposed a non-physical "mental field". In his view, human behavior is influenced by the factors of one's living space and one's psychological space, and both factors work together to drive human behavior. On this basis, he proposed the basic formula of field theory function: $B=f(P.E)$. Where B represents human behavior, P represents the individual, and E represents the environmental space in which the person lives. From the perspective of individual (P), the learning purpose and learning ability of college students are two key elements that influence the lack of interest in learning.

1. College students' learning purpose is vague and the degree of professional interest is not high. According to Levin's field theory, college students' learning behaviors are determined by their learning needs, and the clearer the learning needs are, the stronger their learning behaviors will be.

2. College students' learning ability is lacking and their interest in learning is frustrated. The relationship between learning interest and learning ability is mutually promoting and complementary. The stronger the learning ability, the more interested in learning, and the greater the interest, the more effective the learning ability can be improved.

The cultivation of students' interest in learning is an important part of improving the quality of education and teaching, and students' inner individual and external environment are its important influencing factors, which are inherently compatible with the analytical framework of human behavior of Levin's psychological field theory. At present, the lack of interest in learning among college students in China not only manifests in the learning of professional knowledge, but also in the learning of a wide range of scientific and cultural knowledge. From the analysis of Levin's field theory, students' unclear learning goals, insufficient ability of independent learning, and the influence of negative aspects of campus environment are all important reasons for the lack of interest in learning among college students. Borrowing from the analytical framework of Levin's field theory, it is necessary to stimulate and cultivate students' interest in learning, to guide students' correct learning values, to enhance students' self-learning ability at the level of teaching reform, and to create a benign learning atmosphere and a good learning environment.

2.5 Conceptual Framework

This study is based on constructivist learning theory, humanistic education theory, and Kurt Lewin's field theory.

Constructivist learning theory assumes that learning unfolds under the guidance of the teacher and is learner-centered. Teachers should stimulate students' interest in learning and help them to develop motivation for learning. Students' learning can be driven by the support of peers and teachers. Based on this view, when designing the reform plan of the course "Apparel Accessories Design", the author takes students' learning interest as the starting point of the teaching content design, and the teaching methods such as classroom discussion, group cooperation and flipped class samples as the landing point of the teaching reform.

According to the humanistic education theory, the teaching activities put students in the central position and aim at individual and group development, and the teacher's role is changed from "knowledge imparter" to "learning facilitator". Based on this view, in the reform of Dress Accessory Design, I mainly put teachers in the position of supporters when reforming teachers, who help students to identify problems and let them learn independently. Compared with the traditional teaching methods, the reform focuses more on the forms of flipped classroom, group work, and independent completion of series design.

Kurt Lewin's field theory suggests that human behavior is influenced by the living space and the individual's heart space. According to this theory, the learning environment and learning atmosphere of students are the key elements that cannot be ignored in the reform of the course "Apparel Accessories Design". Therefore, in the process of reforming teaching, teachers should help students clarify learning goals, promote learning behavior, improve learning ability and promote learning interest from the perspective of students' psychology.

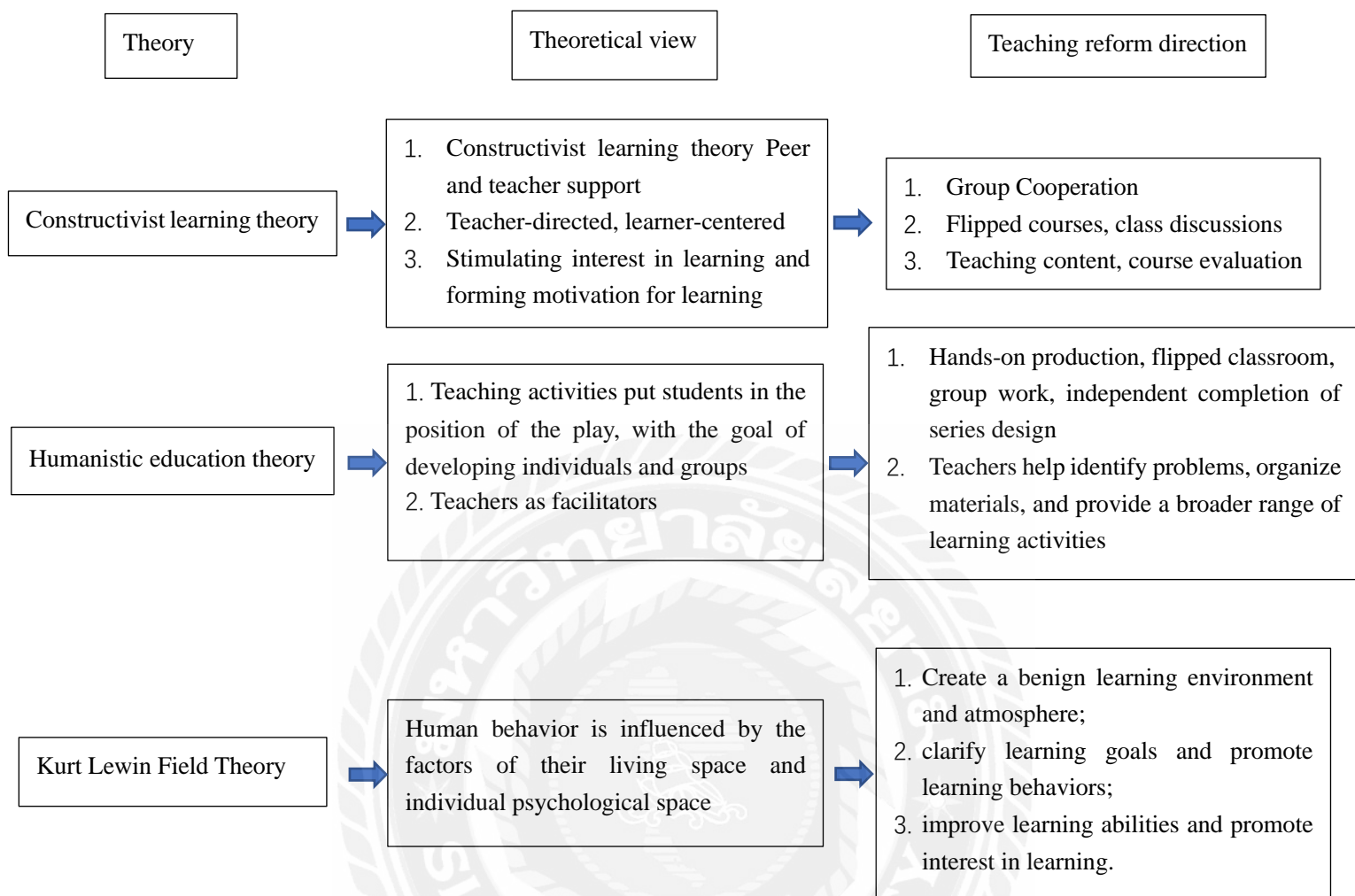


Figure 2.1 Conceptual Framework

2.6 Terms and Definition Used in This Study

2.6.1 The relationship between constructivist learning theory and teaching reform

The fit between constructivism and the teaching of "Dress Accessories Design" course. The learning of Apparel Accessories Design is the process of learners' active construction of meaning and the interaction between learners and the learning environment. Learning should be teacher-led, with students as the main body of learning and meaning construction as the ultimate goal. Teaching should change the traditional duck-fill model that takes the process of teaching to reinforcement to memorization, and teachers should teach people to fish and let students learn by solving problems so that they can learn to learn. Constructivist learning theory values learners' original experiences, mental structures and beliefs as the starting point of learning, which is what higher education teaching must practice. Constructivist learning theory emphasizes the active construction of learners in the teaching process, the creation of learning

contexts and cooperative learning, which is also consistent with the characteristics of the Apparel Accessories Design course and is beneficial to the cultivation of habits and professionalism. The rich network resources and multimedia technology have provided them with ideal cognitive tools, resources and skills as network natives, and made the interaction between teachers and students, and between learners and the learning environment more convenient and efficient. At the same time, online multimedia also enriches and improves the development and application of three-dimensional teaching materials. Thus, the four elements of constructivist teaching model, namely, students, teachers, teaching materials and teaching media, can be integrated on the network platform, and the practice of constructivist teaching concept will naturally come to fruition.

The constructivist learning theory view of teaching holds that the role of teaching does not lie in directly imparting knowledge to students, but in providing students with richer learning activities that enable them to master knowledge and skills through participation in activities and problem solving. The teacher is the guide and facilitator of students' meaning construction, effectively helping them to complete the corresponding learning tasks. Group work, flipped classrooms, and online learning all place greater demands on students' independent learning skills. Students are expected to set their own learning goals and plans, develop their own learning methods, and study course resources on their own. Teachers become helpers of students' learning, such as coordinating course progress, answering questions, giving support for learning, and following up and guiding students' learning. It reflects that students are the main body of learning.

2.6.2 The relationship between humanistic learning theory and teaching reform

Humanistic learning theory emphasizes "student-centeredness" and divides learning into "meaningful learning" and "meaningless learning. Rogers' "student-centeredness" emphasizes that teachers should understand students' inner world and stimulate their interest in learning. Only when students are interested in learning can they be motivated to learn in a meaningful way. Rogers' humanistic learning theory shows that interest in learning plays a very important role in achieving learning goals and directly affects learning outcomes; in teaching, teachers should respond to learners' wishes and needs, stimulate students' interest in learning, motivate students to produce high levels of cognitive behavior, take the initiative to adopt higher quality learning modes, and achieve meaningful learning. The author has reformed the teaching content in her teaching practice so that the content is in line with current trends and current aesthetics while incorporating traditional culture. As well as reforms in the assessment system can stimulate students' cognitive drive and keep them in their own interest and curiosity, so that they expect to constantly acquire new knowledge and enrich themselves.

Rogers defined the teacher as a "facilitator" who should not be the traditional controller, but rather should take on the role of "facilitator" and perform related tasks in the teaching and learning process. He sees the teacher's role as one of helping students to elicit and clarify questions; one of helping students to organize materials and helping to provide a wider range of learning activities; one of serving as a flexible resource for students; one of participating in activities as a participant in learning, such as a member of a group; and one of sharing their own feelings with group members.

2.6.3 The relationship between Kurt Lewin's field theory and teaching reform

From the analysis of Lewin's field theory, students' unclear learning goals, insufficient ability of self-learning, and the influence of negative aspects of campus environment are important reasons for the formation of lack of interest in learning among college students. Borrowing from the analytical framework of Lewin's field theory, it is necessary to stimulate and cultivate students' interest in learning, to guide students' correct learning values, to enhance students' self-learning ability at the level of teaching reform, and to create a benign learning atmosphere and a good learning environment. The author re-establishes teaching resources and designs teaching activities in teaching practice to provide competition resources and platforms. The school makes great efforts to purchase modern teaching equipment to cooperate with enterprises to train students, etc., which provides students with a good learning atmosphere and learning environment. Through a good learning environment students will actively want to improve their skills for their own career development.

From Lewin's field theory, weeding out various factors that currently affect college students' interest in learning, we should also start from two major aspects, such as individual students (psychological space) and the environment students live in (living space). Specifically, it includes three aspects such as the establishment of learning values in ideological education, the improvement of learning ability in the reform of teaching methods, and the creation of a benign learning atmosphere in campus culture.

Chapter 3 Research Methodology

3.1 Introduction

Combining the characteristics of the author's teaching practice, the author adopted a mixed research method. The specific approach is as follows: firstly, through the literature research method, I summarize and summarize the constructivist theory, humanistic education theory, Kurt Lewin's field theory and other related theories to understand the current research situation, so as to clarify the research questions and construct a framework diagram of the relationship between theories and the reform of the course of Dress Accessories Design; secondly, I adopt the comparative analysis method, and with the support of related theories, for the course of Dress Accessories Design Secondly, using the comparative analysis method, with the support of relevant theories, this study focuses on the reform of teaching contents, teaching methods and practical training equipment, and compares them with traditional teaching, and compares the teaching process of teachers before and after the teaching reform, and the analysis of students' final grades, summarizes the problems of teaching reform and proposes relevant measures. Whether there is a difference in students' learning effectiveness before and after the teaching reform. The details are shown in the figure.

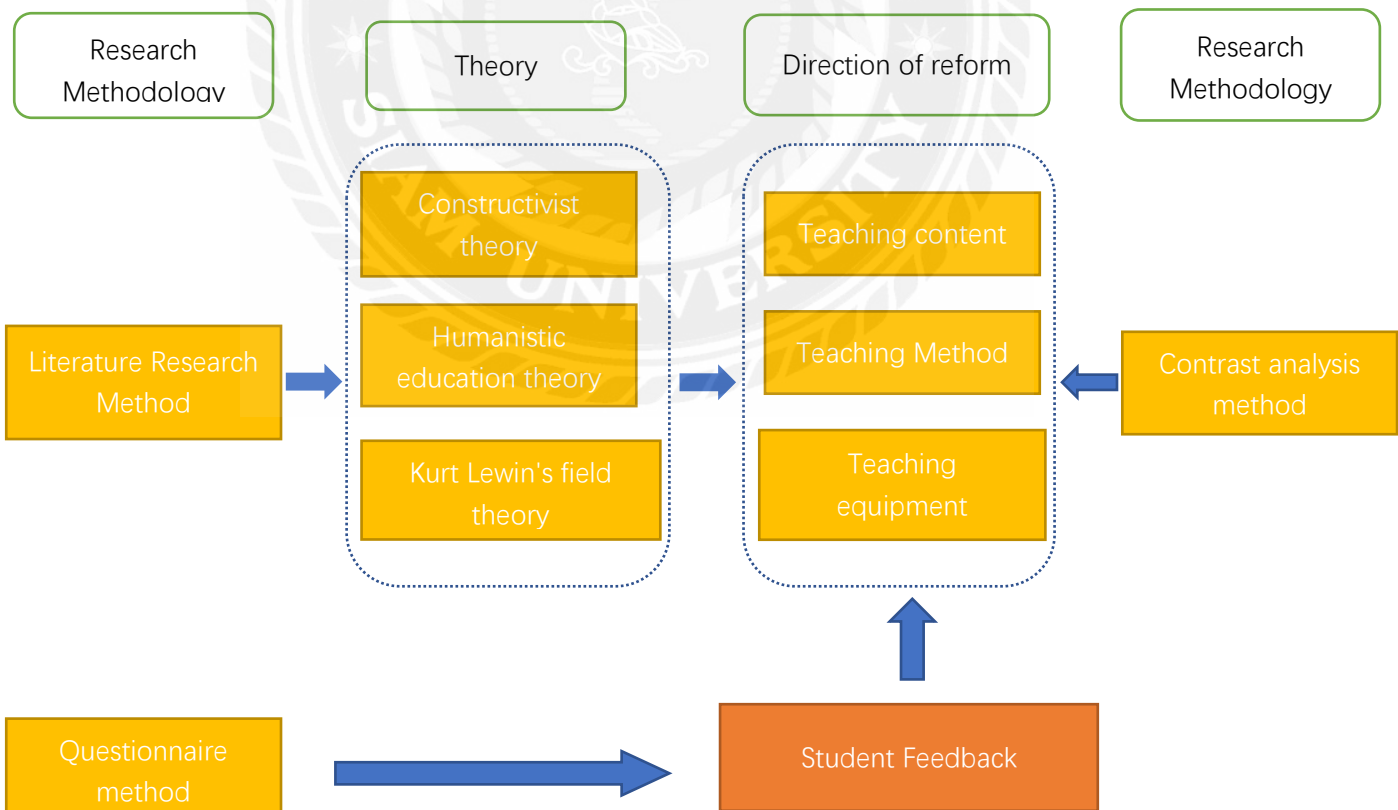


Figure 3.1 Framework diagram of the research methodology

3.2 Research hypotheses

To further the study, the research hypotheses of this paper are mainly as follows.

1. by comparing the final grades of students before and after the reform of the course "Apparel Accessory Design", the final grades of students after the reform are higher than the final grades of students with traditional teaching.

2. By comparing the behavioral engagement, cognitive engagement, and affective engagement of students before and after the teaching reform, the students' learning engagement in the reformed class was significantly higher than that of students in the traditional teaching.

3. For the course "Apparel Accessories Design", the reform of teaching content, teaching methods and teaching equipment can improve students' learning performance.

3.3 Research Design

3.3.1 Literature Research Method

The author uses literature research method to study the course "Apparel Accessory Design" involving relevant concepts and theoretical foundations, the problems in teaching and the countermeasures made to the problems. Through professional books, CNKI and other ways to query the literature and academic journals, to understand and study the industry background and the current situation of the research on the teaching reform of "Apparel Accessories Design", the study was determined based on the scientific theory of constructivist learning theory, humanistic education theory and Kurt Lewin field theory, combined with its own teaching process. Based on the in-depth analysis of these literatures, the direction of teaching reform for the course "Apparel Accessory Design" is derived and used in practice.

3.3.2 Reform content

Through the literature analysis method, the relevant educational theories are sorted out, and the reform is carried out in three aspects for the course of Apparel Accessory Design, including teaching contents, teaching methods and teaching equipment.

3.3.2.1 Change the teaching content

Based on the theoretical framework of the 13th Five-Year Plan textbook for higher education, the practical textbook and the popular information of the industry authority are selected as reference materials. At the same time, teachers compile their own practice guidebooks and practice lesson plans based on students' learning conditions. The teaching content is selected according to the industrial demand and industry trends, and the teaching content is in the form of loose-leaf. The content is innovative and in line with current trends, which also increases students' interest in learning, innovation and practical ability.

The course follows the syllabus to plan the teaching content as a whole, integrating the ten chapters of the textbook into six chapters, grouping basic embroidery, three-dimensional fabric pattern, ribbon embroidery and bead embroidery into embroidery chapters. As well as adding printing and dyeing processes in conjunction with the needs of subsequent courses. Embroidery, Chinese knotting and printing and dyeing are grouped into the first chapter on traditional techniques. In this way, chapters 1 to 6 of the traditional textbook are integrated into one chapter. It provides a basis for the decoration process and allows more practice time for the production of costume accessories in subsequent courses. The focus of the course will be on the design and production of complete accessories such as bags, hats, jewelry, etc. in the second, third, fourth and fifth chapters. At the same time, the traditional craft of the first chapter and the weaving craft of the tenth chapter are integrated into the design of the whole piece of jewelry. Popular processes that are not available in traditional textbooks but are currently emerging are added in this section, such as heat transfer technology and digital printing. The last part as the assessment of the series of works can choose to design a series of works around a theme, the category can be a free combination of accessories in the course; also can be designed around the theme of the clothing contest to series. This part can test the students' comprehensive ability of previous learning. This part can test the students' comprehensive ability of their previous study.

Traditional culture is a constant source of inspiration for clothing and costume design. The author incorporates the characteristics of Chinese costumes through the ages in her teaching and also combines local traditional cultural characteristics to guide students to innovate in their designs. For example, in the chapter of bag design, traditional crafts such as embroidery, tie-dye, printing, and preparation can be applied to the design of bag patterns. Through theoretical analysis, students are guided to be enthusiastic about the traditional costume culture of their own location, and improve their ability to refine inspirational materials and creative design through personal experience of their own surrounding culture, which accumulates innovative design consciousness and practical experience results show for future graduation work. As shown in Table 3.1 and Table 3.2

Table 3.1 Teaching content and class time allocation before reform

Chapter	Teaching Content	Theoretical Teaching	Extracurricular Training
Chapter 1	Overview	2	2
Chapter 2	Basic Embroidery Design and Production	2	2
Chapter 3	Three-dimensional Fabric Pattern	4	4

Chapter 4	Ribbon Embroidery Design and Production	4	4
Chapter 5	Bead Embroidery Design and Production	4	4
Chapter 6	Commoner Flower Design	4	4
Chapter 7	Design and Production of Chinese Knot design and production	4	4
Chapter 8	Fabric Bag Design and Production	4	4
Chapter 9	Fabric Hat Design and Production	4	4
Chapter 10	Design and Manufacture of Hand-knitted	4	4

Table 3.2 Teaching content and class hours after reform

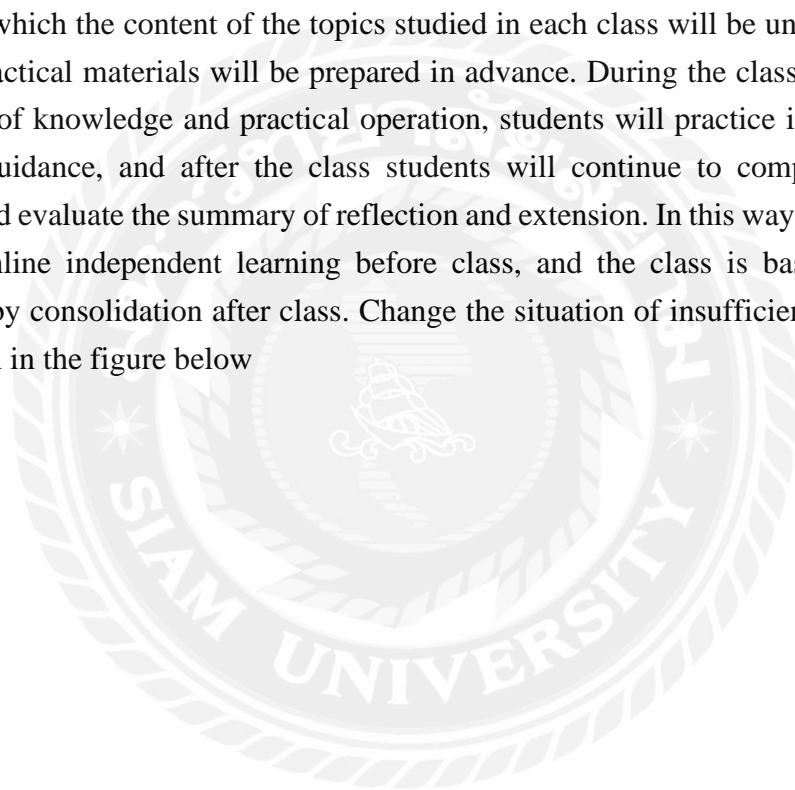
Chapter	Teaching Content		Online Theory	Offline Practice	Extracurricular Practice
Chapter1	Traditional Craft	Embroidery	2	4	2
		Chinese Knot		2	2
		Printing and dyeing		2	2
Chapter2	Bag Design and Production	Utilization of Traditional Crafts	2	4	4
Chapter3	Hat Design and Making	Use of Weaving Technology	2	4	4
Chapter4	Jewelry Design and Production	Comprehensive Creative Materials	2	4	4
Chapter5	Other Clothing Accessories	Shoes, Socks, Gloves, etc.	2	4	4
Chapter6	Series Design (Course Ending Assessment)	Based on the theme of the competition	2	8	4
		Free design			4
		Flipped class		4	

3.3.2.2 Change teaching method

3.3.2.2.1 Mixed teaching online and offline

In order to increase the proportion of practical class time, online and offline mixed teaching. Hybrid teaching is a trend of teaching reform nowadays, which takes students as the main body of learning and advocates the combination of independent learning and classroom

learning, which can enhance students' sense of autonomy and cultivate their self-inquiry and communication and coordination learning ability. This course increases 36 hours to 48 hours. 12 lessons are taught online before class, mainly based on theory. The 36 hours of practical classes are taught in the classroom, where the step-by-step production diagrams and videos can be presented to students in the form of multimedia. At the same time, you can learn through the theory and then come to the practice area for operation practice. The author established an online class in Learning Pass (Quanzhou Light Industry College online course platform), and released course materials such as course outline, courseware, course supporting case picture materials, and relevant supplementary practice video materials to the online learning platform, which facilitates students' personalized learning and review after class. A hybrid teaching model has been adopted to design the course as follows: online independent learning before class, through which the content of the topics studied in each class will be understood, theory quizzes and practical materials will be prepared in advance. During the class, the focus is on the key points of knowledge and practical operation, students will practice in class, teachers will provide guidance, and after the class students will continue to complete homework assignments and evaluate the summary of reflection and extension. In this way, the theory class is based on online independent learning before class, and the class is based on practice, supplemented by consolidation after class. Change the situation of insufficient practical class time. As shown in the figure below



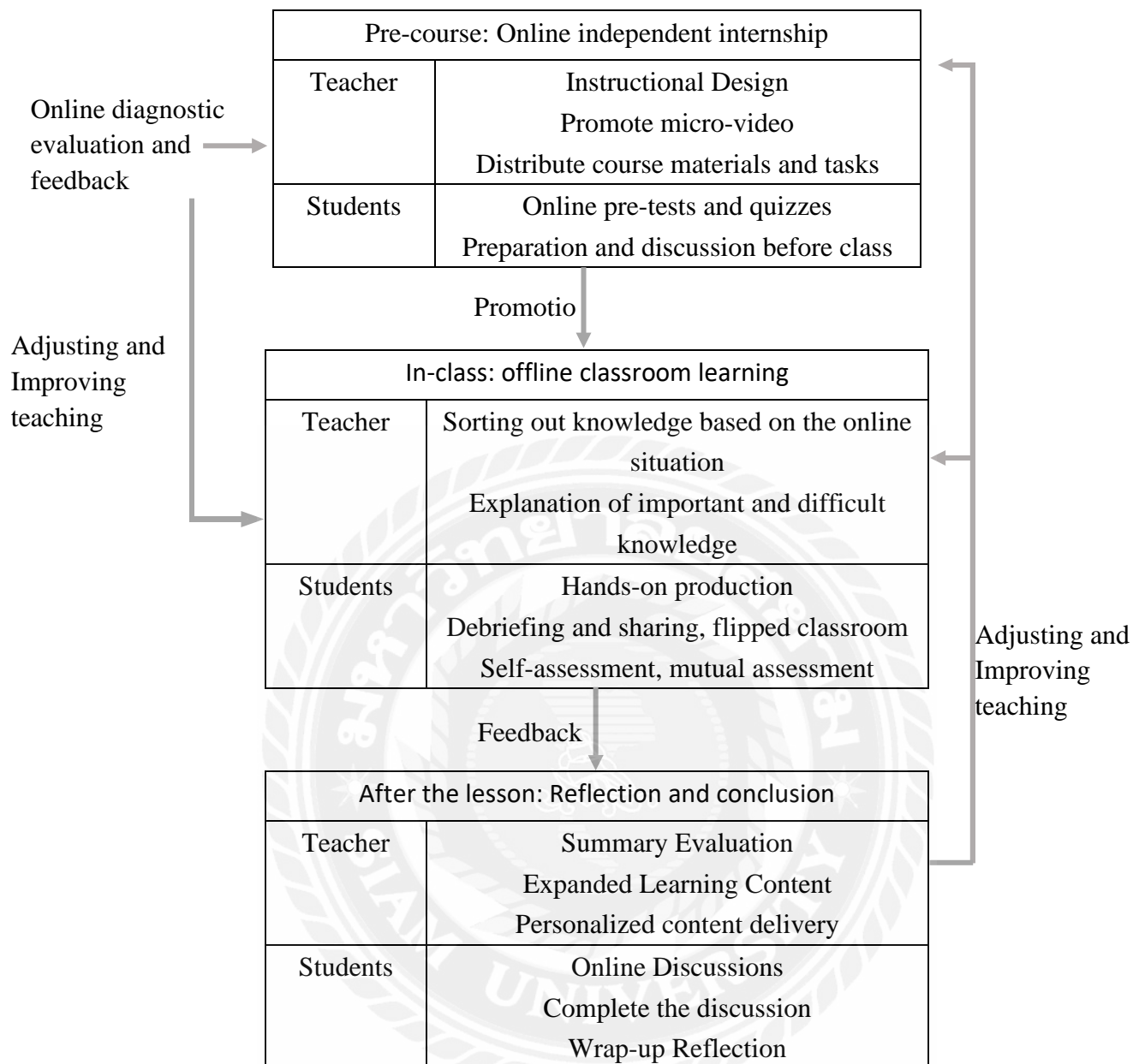


Figure 3.2 Online and offline learning flow chart

3.3.2.2.2 Group work, flipping the classroom

Group work, flipped classroom. This is a student-led, teacher-assisted instruction to work in groups to complete project tasks. Group work has the use of developing students' teamwork spirit. For example, in the reform of teaching there is a module is teamwork series design, requiring students to form a design team of three people, divide the work to complete a series of clothing products design and production, and then the work with the clothing with the shooting. Finally, the work from the source of inspiration to the finished product process into a program book, through the PPT for flipped classroom presentation. Through this one module students have to group teams, group discussion, division of labor within the group, and finally

the team leader assigns tasks to carry out the cooperation of the whole process of team design and production. Simulating the way of working in enterprises, they exercise the ability to communicate and coordinate with people in various positions in the workplace in the future. Through such teamwork learning, students have to take the initiative to go to market research, find information in the library, collect trend information online, and explore the whole process independently. In the process of learning together in a group, the exchange of different opinions, arguments and summaries among students help students construct a new and deeper understanding; in the discussion, the opposing views and different design ideas among students can better trigger students to disperse their thinking on apparel accessory design; distributing the task burden to individual members enables learners to accomplish complex tasks that are difficult for individual students to complete. Constructivist learning theory guides the project in the form of project groups, supplemented by the guidance and assistance of teachers or corporate mentors. Students work toward a common goal of completing a project, exchanging ideas, sharing opinions, debating effective methods, and gaining insight within the group. In particular, as each group solves the project problem, they alternate their roles and cooperate to form a learning community in which their individual abilities and talents are constantly discovered and developed. Each member learns from each other in the project team and complements each other's strengths, thus achieving a social learning effect. (Fu, 2011) promotes active learning through a task-driven approach. Flipped classroom debriefing increases the opportunity for students to self-represent and fully interpret their designs. Designers who can clearly express their design intentions are the ones who can adapt to the needs of the job.

The presentation of the flipped classroom's course debrief can develop students' expression skills, but it lacks breadth. Students can use creative bazaars, cultural fairs and art galleries as a platform to display their works after they finish their classes. Enhance students' sense of accomplishment and reflect the value of their works.

3.3.2.2.3 Promote teaching and learning through competition

Promote teaching and learning through competition. Students can be encouraged to participate in costume design competitions. Based on the competition, teachers can promote teaching and students' learning. Teachers can combine the competitions related to apparel design, such as Shanghai Student Craft Design Competition - Fashion/Accessory, "Snow Lotus Cup" Invitational Competition for Hand Knitting Creations, etc. Assign tasks through the theme of the competition. For example, in the module of hand-knitted accessories design, the students will design clothing accessories according to the theme of "Artistic Blossoming" of the Snow Lotus Cup Invitational Hand-Knitting Competition. The students were given a time limit to complete their work on the given theme. Through the competition, students were able

to understand the direction of the design, and they were able to design accessories with more purpose and strengthen their professional skills and creative abilities.

Traditional culture is a constant source of inspiration for clothing and costume design. The author incorporates the characteristics of Chinese costumes through the ages in her teaching and also combines local traditional cultural characteristics to guide students to innovate in their designs. For example, in the chapter of bag design, traditional crafts such as embroidery, tie-dye, printing, and preparation can be applied to the design of bag patterns. Through theoretical analysis, students are guided to be enthusiastic about the traditional costume culture of their own location, and improve their ability to refine inspirational materials and creative design through personal experience of their own surrounding culture, accumulating innovative design awareness and practical experience for future graduation work.

3.3.2.3 Change of teaching equipment

The school funded the renovation and upgrading of the school training room in the summer of 2020: VR apparel display reality experience, stencil machine, laser cutting machine, non-woven sewing machine, and intelligent hanging system. These equipment are of great help to the design and manufacture of apparel accessories. It also promotes the interest degree of students' learning. Improve the engagement of learning.

School-enterprise cooperation, dual-teacher teaching. Our school is located in Jinjiang, Fujian, which is the base of the footwear and garment industry. Anta Group is also one of the shareholders of the enterprises running our school. The school has school-enterprise cooperation with many local companies such as K-BOXING and LILANZ in the binary system and new apprenticeship system. This has created opportunities and bridges for teachers and students to practice in enterprises. The school allows teachers to go to companies regularly to practice and learn, providing opportunities for learning and further education. Invite enterprise instructors to come to the school to carry out teaching activities. Let teachers come from enterprises and go to enterprises. At the same time, schools can organize teachers to lead students to observe and learn and practice in enterprises. This will allow students to have the most direct contact with positions and understand them. Adapt to the employment needs. At the same time, teachers also understand the current needs of enterprises and the latest production equipment and can be more clear about the direction of student training. Not out of touch with the market. Through the above reforms put into teaching practice. The above reforms are put into practice to improve students' interest and engagement in learning.

3.3.3 Questionnaire survey method

A theoretical analysis and a practical investigation were carried out based on the research questions and the study's content. The factors influencing learning engagement are first drawn from relevant studies and guided by theory, in the form of questionnaires and rooted in

theoretical premises. Based on this, the content and teaching methods are improved and used in teaching practice. Based on the theoretical research and teaching practice of the course, we compiled the Questionnaire of Factors Influencing Learning Engagement in Apparel Accessories Course and the Questionnaire of Classroom Engagement in Apparel Design. The questionnaires were used to compare the students' learning engagement and learning interest under different teaching modes, so as to test the students' learning effect.

3.3.3.1 Pre-reform survey measurement

3.3.3.1.1 Pre-reform survey subjects

The pre-experimental questionnaire "Questionnaire on the Factors Influencing the Learning Input of Apparel Accessories Course" was based on the students who had already studied

The Apparel Accessories Design course and under the traditional teaching methods were issued to the students of 2017, 2018 and 2019 classes. The total number of students was 283. Among them, 92 were from the class of 2017, 93 from the class of 2018, and 98 from the class of 2019.

3.3.3.1.2 Pre-reform assessment questionnaire design

The questionnaire set multiple choice questions from internal personal factors of learning engagement and external peer factors, teacher factors, and school environment factors.

Before the teaching reform practice for grade 2020, the Questionnaire of Factors Influencing Learning Commitment in Dress Accessories Course was distributed to grade 2017, 2018 and 2019 who had studied this course in the past. Using the questionnaire method, the Questionnaire on Factors Influencing Learning Inputs in Apparel Accessories Course was adapted to the characteristics of this course based on the Questionnaire on Classroom Inputs and Influencing Factors of College Students by (Sun, 2020).

The questionnaire was based on the theories of constructivist learning theory, humanistic learning theory and Levin's field theory, etc. Multiple choice questions were set from internal personal factors and external peer factors, teacher factors, and school environment factors of students' learning engagement. The weighting of the options was used to analyze the situation of factors affecting students' learning engagement from the students' perspective. The questionnaire was also designed to collect the students' difficulties and confusions, as well as their innermost thoughts and suggestions on their engagement in this course. The questionnaires were distributed to students in the classes of 2017, 2018, and 2019 who had previously studied the Apparel Accessory Design course under traditional teaching methods. The content of the questionnaire was set with 4 options based on the personal factor, 4 options

on the teacher factor, 3 options on the peer factor, and 2 options on the school factor. There were 5 subjective expression questions.

Table 3.3 Questionnaire on factors influencing the learning input of apparel accessories courses

II. What do you think are the factors influencing the learning input to the apparel accessories course? (Multiple choice questions)

1. Personal factors

- Previous learning experience related to the course
- Self-interest in learning
- Identification with the program
- Personal learning strategies

2. Teacher factors

- Teaching style of the teacher
- Interestingness of the learning content
- Praise from the teacher
- Classroom learning atmosphere

3. Peer factor

- Learning status of peers
- Compliments and praise from peers
- Working in groups and exploring with peers to accomplish learning tasks

4. School Environment Factors

- Practical training facilities at school
- Skills competition organized by the school

III. Fill in the text part, express what you think about the difficulties and confusions you have put into this course, and what you really think, and also include your suggestions. (anonymously, no one's identity information will be left)

1. What kind of psychological journey have you gone through since you took the course on clothing accessories?

(e.g. started to like it, had passion and motivation to learn, slowly What changes have occurred psychologically and in action)?

Psychologically: _____

Action: : _____

2. What do you think happened to you that contributed to your liking/disliking the course? (The more specific and detailed the better)

3 . What are the current conditions or methods that you think are not suitable or reasonable

for you?

4. What would you like to see improved? (including learning conditions or teaching methods, etc.)

5. What do you think are the best ways to make yourself (or/and the people around you) love this course and love learning? (You can give suggestions from various aspects)

3.3.3.1.3 Pre-reform questionnaire reliability and validity analysis

Analyzing the Cronbach α coefficient, if this value is higher than 0.8, it means high reliability; if this value is between 0.7 and 0.8, it means good reliability; if this value is between 0.6 and 0.7, it means acceptable reliability; if this value is less than 0.6, it means poor reliability; the value of questionnaire reliability coefficient is 0.973, which is greater than 0.9, thus indicating high quality of research data reliability. It can be used to analyze

Table 3.4 Reliability Analysis of the Questionnaire on Factors Affecting Learning Inputs in Apparel Accessories Courses

Cronbach's Reliability Analysis - Simplified Format		
Number of items	Sample size	Cronbach α coefficient
13	279	0.973

The KMO value is used to determine the suitability of information extraction, the commonality value is used to exclude unreasonable research items, the variance interpretation rate value is used to indicate the level of information extraction, and the factor loading coefficient is used to measure the correspondence between factors (dimensions) and question items. the commonality values corresponding to the questionnaire items are higher than 0.4, which indicates that the information of research items can be extracted effectively. In addition, the KMO value is 0.769, which is greater than 0.6, and the data can be effectively extracted information. the variance explained values of the three factors are 35.666%,22.576%, and 16.859%, respectively, and the cumulative variance explained after rotation is 75.101%>50%. It means that the information of the study term can be extracted effectively.

Table 3.5 Validity Analysis of the Questionnaire on Factors Affecting Learning Inputs of Apparel Accessories Course

KMO and Bartlett's test		
KMO value		0.769
Bartlett sphericity test	Approximate cardinality	127.668
	df	28
	p value	0

3.3.3.1.4 Analysis of the pre-reform questionnaire

The weight of the options is analyzed to understand the situation of factors affecting students' learning engagement and students' feedback and opinions on learning the course from students' perspective, which is used to guide the teaching reform of the course.

3.3.3.2 Post-reform survey measurement

3.3.3.2.1 Post-reform survey objects

In the practice stage of teaching reform to "Apparel Accessories Design" course as an example, two classes of students in the Clothing and Apparel Design Major 2020 of China Quanzhou Institute of Light Industry were used as experimental subjects. Both were taught by the author. One class of 43 students used the traditional teaching method and the second class of 45 students used the reformed teaching method to conduct a comparative analysis of the different teaching effects before and after the teaching reform. The study was conducted to examine the effectiveness of this course reform in terms of classroom engagement.

3.3.3.2.2 Post-reform questionnaire design

Based on the revised "Learning Engagement Questionnaire for College Students" by Liao Youguo [14] (Liao, 2011) and Zhang Yi's "Classroom Engagement Questionnaire for College Students in a Smart Classroom Environment", we also designed the "Clothing and Apparel Design Classroom Engagement Questionnaire" according to the characteristics of the "Clothing Accessories Design" course. Design Classroom Engagement Questionnaire".

This study investigated the students' learning engagement after the teaching reform of the class of Apparel Design in the class of 2020, mainly from three dimensions of behavioral engagement, cognitive engagement and emotional engagement to examine the engagement of the class of 2020 to the Apparel Accessories Design course quiz. Behavioral engagement mainly set 7 questions, mainly designed from the perspective of classroom interaction and active learning; cognitive engagement mainly set 6 questions, mainly to investigate students' knowledge construction, self-reflection and knowledge transfer; emotional engagement mainly set 7 questions, aiming to analyze students' learning interest and self-efficacy. This questionnaire consists of 20 questions, mainly using a 5-point Likert scale.

Table 3.6 Classroom engagement questionnaire for apparel design

Behavioral input	1、 I will prepare the materials needed for the class in advance
	2、 I will think actively and listen carefully in class
	3、 I will ask questions and discuss with the teacher when I have difficulties in class
	4、 Enjoys working in groups and exploring with classmates to complete tasks
	5、 The class will record what knowledge has been mastered and what has not
	6、 Willing to spend more time to explore the knowledge related to the course in depth.
	7、 I will complete the homework assignments in a timely manner
Cognitive input	1、 I will develop an appropriate study plan
	2、 I will monitor compliance with the study plan
	3、 I carefully analyze, understand and apply the skills I learn
	4、 I think about what I need to know and understand in class
	5、 I will reflect, summarize and evaluate based on classroom learning and adjust learning strategies as appropriate
	6、 I will apply the knowledge and skills I have learned to design and produce
Emotional engagement	1、 I find the study very valuable and meaningful

2、 I am interested in what I am learning and it stimulates my desire to learn
3、 I experience joy when I concentrate on my studies
4、 When designing or producing, I can devote long hours to the point of forgetting myself
5、 Even if the progress is not smooth, I can energetically persevere
6、 I will be moved by the satisfaction of achieving good results after studying hard
7、 I believe I can master the skills of this course

3.3.3.2.3 Reliability analysis of the reformed questionnaire

The Questionnaire of Classroom Engagement in Fashion and Apparel Design is based on the revised "Student Learning Engagement Questionnaire" by Liao Youguo (Liao, 2011) and "Student Classroom Engagement Questionnaire in Smart Classroom Environment" by Zhang Yi, and combined with the characteristics of fashion and apparel courses. The questionnaire was designed with the characteristics of apparel courses. The questionnaire package consisted of 7 questions from the perspective of classroom interaction and active learning; 6 questions from the cognitive engagement questionnaire to examine students' knowledge construction, self-reflection and knowledge transfer; and 20 questions from the affective engagement questionnaire through students' learning interest and self-efficacy, using a 5-point Likert scale. The online SPSSAU platform was used to calculate the overall questionnaire reliability and validity analysis.

As shown in Table 5 below, the reliability coefficient value was 0.972, which was greater than 0.9, thus indicating the high quality of reliability of the study data. For the "alpha coefficient of deleted items", there is no significant increase in the reliability coefficient when any item is deleted, thus indicating that the item should not be deleted. For the "CITC values", the CITC values of the analyzed items are all greater than 0.4, which indicates that there is a good correlation between the analyzed items, and also indicates that the reliability level is good. In summary, the reliability coefficient values of the study data are higher than 0.9, which collectively indicates that the data are of high reliability quality and can be used for further analysis.

Table 3.7 Cronbach's reliability analysis

Name	Correction term total correlation	Item deleted α factor	Cronbach α factor
1、 I will prepare the materials needed for the class in advance	0.717	0.972	0.972
2、 I will think actively and listen carefully in class	0.856	0.97	
3、 I will ask questions and discuss with the teacher when I have difficulties in class	0.73	0.972	
4 、 Enjoys working in groups and exploring with classmates to complete tasks	0.692	0.972	
5、 The class will record what knowledge has been mastered and what has not	0.845	0.97	
6、 Willing to spend more time to explore the knowledge related to the course in depth.	0.841	0.97	
7、 I will complete the homework assignments in a timely manner	0.766	0.971	
1、 I will develop an appropriate study plan	0.866	0.97	
2、 I will monitor compliance with the study plan	0.823	0.971	
3、 I carefully analyze, understand and apply the skills I learn	0.846	0.97	
4、 I think about what I need to know and understand in class	0.808	0.971	
5、 I will reflect, summarize and evaluate based on classroom learning and adjust learning strategies as	0.814	0.971	

6、 I will apply the knowledge and skills I have learned to design and produce	0.862	0.97
1、 I find the study very valuable and meaningful	0.734	0.971
2、 I am interested in what I am learning and it stimulates my desire to learn	0.722	0.972
3、 I experience joy when I concentrate on my studies	0.752	0.971
4、 When designing or producing, I can devote long hours to the point of forgetting myself	0.792	0.971
5、 Even if the progress is not smooth, I can energetically persevere	0.812	0.971
6、 I will be moved by the satisfaction of achieving good results after studying hard	0.718	0.972
7、 I believe I can master the skills of this course	0.801	0.971

Validity analysis was used to investigate the rationality of the design of the quantitative data (especially the attitude scale questions), as can be seen from Table 6 below: the commonality values corresponding to all the study items are higher than 0.4, which indicates that the information of the study items can be extracted effectively. In addition, the KMO value is 0.926, which is greater than 0.6, and the data can be extracted information effectively. In addition, the variance explained values of the 2 factors were 43.848%,29.575% respectively, and the cumulative variance explained after rotation was 73.423%>50%. It means that the information of the study term can be extracted effectively.

Table 3.8 Results of validity analysis

Name	Factor loading factor		Commonality (common factor variance)
	Factor 1	Factor 2	
1、I will prepare the materials needed for the class in advance	0.651	0.376	0.565
2、 I will think actively and listen carefully in class	0.7	0.521	0.761
3、 I will ask questions and discuss with the teacher when I have difficulties in class	0.79	0.211	0.669
4、 Enjoys working in groups and exploring with classmates to complete tasks	0.69	0.283	0.556
5、 The class will record what knowledge has been mastered and what has not	0.8	0.37	0.777
6、 Willing to spend more time to explore the knowledge related to the course in depth.	0.736	0.451	0.745
7、 I will complete the homework assignments in a timely manner	0.607	0.504	0.623
1、 I will develop an appropriate study plan	0.823	0.376	0.818
2、 I will monitor compliance with the study plan	0.808	0.33	0.762
3、 I carefully analyze, understand and apply the skills I learn	0.788	0.395	0.776
4、 I think about what I need to know and understand in class	0.828	0.284	0.767
5、 I will reflect, summarize and evaluate based on classroom learning and adjust learning strategies as appropriate	0.766	0.376	0.728
6、 I will apply the knowledge and skills I have learned to design and produce	0.783	0.427	0.795

1、 I find the study very valuable and meaningful	0.379	0.755	0.714
2、 I am interested in what I am learning and it stimulates my desire to learn	0.265	0.887	0.858
3、 I experience joy when I concentrate on my studies	0.333	0.845	0.826
4、 When designing or producing, I can devote long hours to the point of forgetting myself	0.423	0.79	0.804
5、 Even if the progress is not smooth, I can energetically persevere	0.615	0.57	0.703
6、 I will be moved by the satisfaction of achieving good results after studying hard	0.316	0.811	0.757
7、 I believe I can master the skills of this course	0.621	0.542	0.679
Eigen root value (before rotation)	13.248	1.436	-
Variance explained % (before rotation)	66.242%	7.181%	-
Cumulative variance explained % (before rotation)	66.242%	73.423%	-
Eigen root value (after rotation)	8.77	5.915	-
Variance explained % (after rotation)	43.848%	29.575%	-
Cumulative variance explained % (after rotation)	43.848%	73.423%	-
KMO value	0.926		-
Barth Spherical Value	1797.234		-
df	190		-
p value	0		-

3.3.3.2.4 Post-reform questionnaire analysis

At the end of the course learning using the questionnaire star platform to two classes issued "clothing apparel design classroom input questionnaire", using the online spssau system for intelligent analysis, and the inverted exported data using Excel from the students' classroom input cognitive, behavioral, emotional three aspects of the input score statistical analysis, in order to compare the teaching effect after the teaching reform.

3.3.4 Case comparison and analysis method

Through the reform of teaching contents, teaching methods, and teaching equipment, and in the process of reform, the performance of classroom and online learning is integrated, and students' learning input and learning interest are observed and data of students' learning process and learning results are collected and analyzed. In the learning process, we mainly compare and analyze the online learning input and offline classroom learning input in terms of learning input. In terms of learning results, we analyze the results of online learning discussions and quizzes; we compare and analyze the offline classroom input in terms of students' learning input status, students' answers to questions and grades of regular assignments. Finally, the total results of the final assessment were analyzed from the total attendance rate of students, the average score of the usual homework grades, and the average score of the final assessment grades for comparison.

3.3.4.1 Comparative analysis of the learning process

The online process data is mainly handled through the analysis system in the backend of Learning Pass and the online discussion content coding table. According to the actual functions of the platform's backend system, the analysis is mainly conducted for the learning behaviors in the student discussion forum. This includes two aspects: the number of discussions and the content of discussions. First, the number of discussions is mainly analyzed from the number of student discussions to analyze students' learning behaviors. Second, the discussion content mainly delves into the specific content of student discussions. Specifically, the discussion content is divided into six aspects: no substance, insights exchange, asking questions, answering questions, expressing opinions, feedback and comments

Table 3.9 Online discussion coding table

Serial No.	Discussion Category	Specific meaning
1	No substance	The discussion is not substantive and not related to the course content
2	Exchange of ideas	Analysis of insights from the learning process

3	Ask a question	Questions about what you have learned in the learning process
4	Answer the question	Responses to questions from other students and faculty
5	Expressing Opinions	Express their meaning and opinion about a certain knowledge
6	Feedback and Comments	Provide feedback and comment on the views and ideas expressed by other students

3.3.4.2 Classroom Learning Engagement

The classroom learning inputs were collected and analyzed through teaching process records and teaching videos, and will be compared and analyzed from three aspects. Firstly, we will analyze the students' responses to the questions. We will analyze and compare the teachers' classroom question rate, the number of questions asked by teachers and the number of questions answered by students according to the six complete courses. Secondly, we analyzed the level of students' learning input in the classroom, by analyzing the level of students' learning input in the classroom learning process, to grasp the students' learning situation in time for comparison and analysis. Learning engagement can generally be divided into three dimensions: cognitive engagement, affective engagement and behavioral engagement. Among them, behavioral engagement is based on students' concentration and motivation in the learning process, etc. In this part, we observe students' behavioral engagement in the classroom. In this section, students' behavioral engagement in the classroom is divided into three levels: high engagement, moderate engagement, and no engagement. Statistical analysis was conducted by combining the classroom video and the classroom teacher-student behavior observation record sheet counted. Finally, a comparative analysis was conducted through the students' final completed learning grades on their usual assignments. The usual assignments consisted of four complete projects of practical modules by embroidery complete works, finished bags, finished hats, and finished jewelry. Analysis of each grade is compared with the overall average score.

Table 3.10 Reference table for analysis of students' level of engagement in classroom learning

Classification	Serial No.	Specific classification	Specific content
High input	1	Deep Focus	Focused listening posture, concentration Eyes on the teacher or PPT
	2	Unsolicited statements	Takes the initiative to answer questions after the teacher asks them
	3	Taking the initiative to answer questions	Taking the initiative to answer questions without being named
	4	Proactive questioning	Take the initiative to raise doubts
	5	Complete classroom tasks carefully	Conscientiously and actively complete the tasks assigned by the teacher in class
	6	Active participation in the discussion	Actively discuss with students around you to learn from your strengths and weaknesses
	7	Active note taking	Take the initiative to record key points and difficulties during the teacher's lecture or classmate's communication
	8	Additional answers	Add to responses after others have spoken
	1	General Focus	Listening without expression
	2	Passive question answering	Not volunteering to raise their hands to answer questions

Medium input	3	No active questioning	No doubtful questions raised
	4	Passive participation in group activities	Formal participation, mainly listening to the views of others, not actively expressing opinions
	5	Passive completion of classroom tasks	Not taking active notes, passive cashier tasks, etc.
No input	1	Not paying attention to lectures	Wandering, playing with cell phones, drifting off, sleeping
	2	Nonsense speech	Discussing non-classroom related topics with others
	3	Non-participation in the mission	Not participating in group activities and not taking notes
	4	Feel free to walk around	Leaving your seat to walk around the classroom and disturb others

3.3.4.3 Comparative analysis of learning results

The final grades of the two classes with different teaching methods were compared and analyzed at the end of the course. The results were entered into the software using the "General Test Paper Data Processing and Analysis System v6.5" to generate the results analysis forms. The validity of the scores was checked by generating regional values of reliability, validity and difficulty of the data. The teaching effectiveness of the two classes was compared by comparing the mean score, pass rate, merit rate, and distinction rate. As shown in Table 5 test paper analysis scheme.

The test reliability is greater than 0.7 and test validity is greater than 0.4 in the result analysis table; the difficulty is greater than 0.7 and less than 0.8. It indicates that the results are reasonably valid. It can be used for analysis.

Table 3.11 Test paper data analysis scheme

Indicators	Standard	Weighting factor	Achievement of standards	Not up to	Achievement Score	Score not met
Average score	$70 \leq \text{Scope} \leq 80$	0.1	1	0.30	0.100	0.030
Standard deviation	$7 \leq \text{Scope} \leq 10$	0.12	1	0.30	0.120	0.036
Excellent rate %	$20\% \leq \text{Scope} \leq 50\%$	0.1	1	0.30	0.100	0.030
Pass rate %	$80\% \leq \text{Scope} \leq 100\%$	0.1	1	0.30	0.100	0.030
Achievement statistics	The graph is low at both ends and high in	0.05	1	0.30	0.050	0.015
Distribution normality test	Positive or negative skew	0.1	1	0.30	0.100	0.030
Difficulty	$0.70 \leq \text{Scope} \leq 0.80$	0.04	1	0.30	0.040	0.012
Distinguishability	> 0.2	0.1	1	0.30	0.100	0.030
Test Reliability	> 0.7	0.12	1	0.30	0.120	0.036
Exam validity	> 0.4	0.12	1	0.30	0.120	0.036
Extreme values	$0 < \text{Lowest Score} < 70$, $90 < \text{Highest score} <$	0.05	1	0.30	0.050	0.015
Calculation	$\text{Quality Index} = \sum \text{Score I}$					
Evaluation	Quality Index: $0 < \text{Failure} < 0.6 \leq \text{Qualified} < 0.7 \leq \text{Good} < 0.85 < \text{Excellent}$					

The final grades of the two classes with different teaching methods were compared and analyzed at the end of the course. The results were entered into the software using the "General Paper Data Processing and Analysis System v6.5" to generate a performance analysis form. The reliability, validity, and difficulty of the generated data were checked against the regional values in "Table 4: Paper Data Analysis Scheme" to see if the results were valid. By comparing the mean score, pass rate, merit rate, and excellence rate, we can analyze the teaching effect of two classes with different teaching modes.

Chapter 4 Results of the Study

4.1 Introduction

This section focuses on the analysis of the results of the study, which will first be analyzed in terms of student learning engagement before the pedagogical reform. The main problem of teaching this course was identified from the teaching practice and previous studies, and the suggestions and opinions of students who had already studied this course were understood through a questionnaire survey of students who had studied this course in the past. Secondly, we will reform the teaching in response to the previous research and students' suggestions and use them in teaching practice. The teaching reform process will be analyzed in terms of online learning engagement, classroom engagement, grade comparison, and student learning engagement questionnaire analysis after the teaching reform.

The following is a detailed analysis of the specific stages

4.2 Analysis of students' learning before the teaching reform

In the literature review research status combining, summarized about the issues raised in the teaching reform will find that the factors affecting students' learning engagement include two major aspects: internal and external factors of students. Internal factors include students' learning motivation and self-efficacy of learning, while external factors include teachers' teaching, classroom content, peer influence, school practical training conditions, etc. Based on teaching practice and theoretical research to discover students' internal learning rules, the Questionnaire on Factors Influencing Learning Engagement in Apparel Accessories Course was prepared based on theoretical research and teaching practice, and 279 valid questionnaires were returned. The questionnaires were collected from the students who had already studied this course by traditional teaching methods, and it was found that the factors influencing the students' commitment to learning this course were high in the teacher and school factors, followed by personal and peer factors. The top three factors were 82.93% of the school's practical training equipment, 80.49% of the student's interesting content, and 73.66% of the teacher's teaching style. This indicates that there is an urgent need for pedagogical adjustment in the teaching content and teaching style.

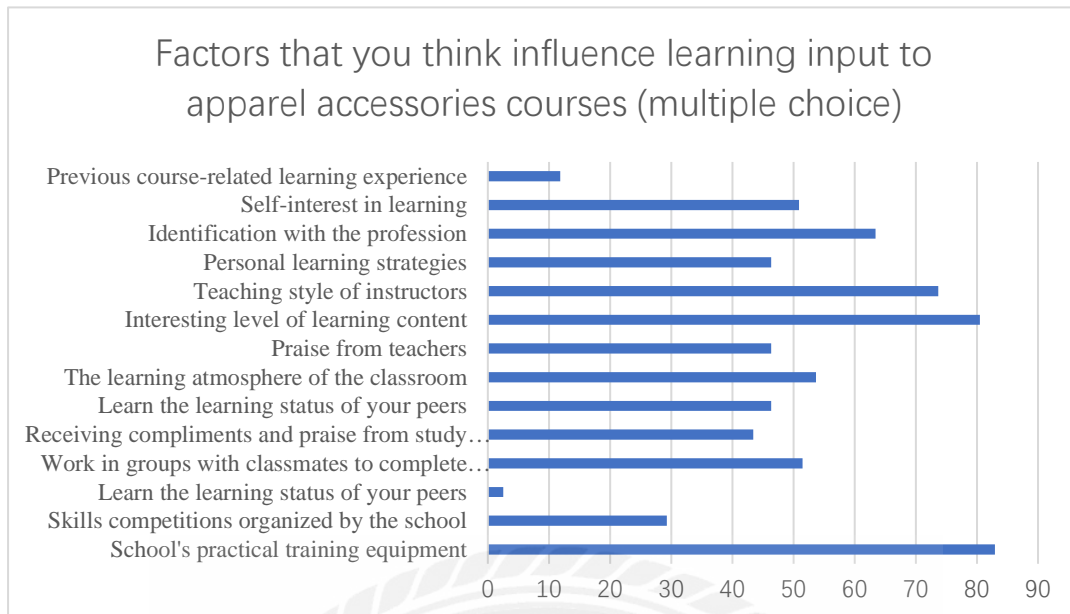


Figure 4.1 Learning input influence factor share chart

In the third question of the returned questionnaire about the course teaching opinions and suggestions: 286 suggestions about the improvement of the school's practical training equipment conditions, 268 suggestions about the teacher's teaching format, 256 suggestions about the reform of the teaching content and 231 teaching suggestions about the improvement of the students' learning interest.

The data collected by the questionnaire and the literature, theoretical and practical studies of teaching clarify the reform proposals on teaching contents and teaching methods about this course mentioned in the previous section. And it is used for teaching practice in the next year. The conclusions of the analysis were drawn by comparing the old and the new teaching to analyze the students' learning input.

4.3 Analysis of learning engagement in the process of teaching reform

The comparative analysis of the teaching reform process is conducted in terms of students' online learning engagement, classroom learning engagement, final grades, and the comparative analysis of questionnaires at the end of the course. The online learning input was analyzed by watching the learning discussion and the quiz results. The classroom learning engagement was analyzed in terms of the learning status, the frequency of answering questions and the usual homework grades. Finally, the teaching effectiveness was analyzed by comparing the total attendance rate, the average score of regular grades and the final assessment results. The end-of-course questionnaire was analyzed in terms of behavioral input, cognitive input, emotional input and overall input.

4.3.1 Analysis of online learning situation

4.3.1.1 Analysis of the basic online student profile

Online teaching includes the number of student discussions and discussion contents. By analyzing the online learning process data of 45 students who participated in online learning in Class 2, we analyzed the learning behavior and effectively grasped the students' learning situation. According to the back-end function of the Learning Pass platform, the discussions can be recorded. Therefore, this part mainly analyzes the number of discussions and the content of the discussions of students. According to the total length of students' study is 8 weeks, the statistics are divided into two sub-statistics from 1 to 4 weeks and 5 to 8 weeks respectively.

In weeks 1 to 4 students participated in a total of 96 online discussions, posting 39 discussion threads and replying to 67 threads. Based on the analysis of the number of discussions, a more in-depth analysis of the content of the student discussions was conducted. The online discussions were categorized according to the online discussion coding table. By counting the first 4 weeks in which there was no substantive content 11, insights were exchanged 16, questions were asked 39, questions were answered 13, opinions were expressed 9, and feedback and comments were given 8.

As can be seen from the chart below, the largest proportion is asking questions at 40.63%, followed by sharing of ideas at 16.17%. This indicates that most students mainly ask questions and share their learning experiences. The proportion of other aspects is relatively small. This indicates that they are not good at taking the initiative to answer questions and express their opinions in the learning process, and lack the meaning and ability to explore further.

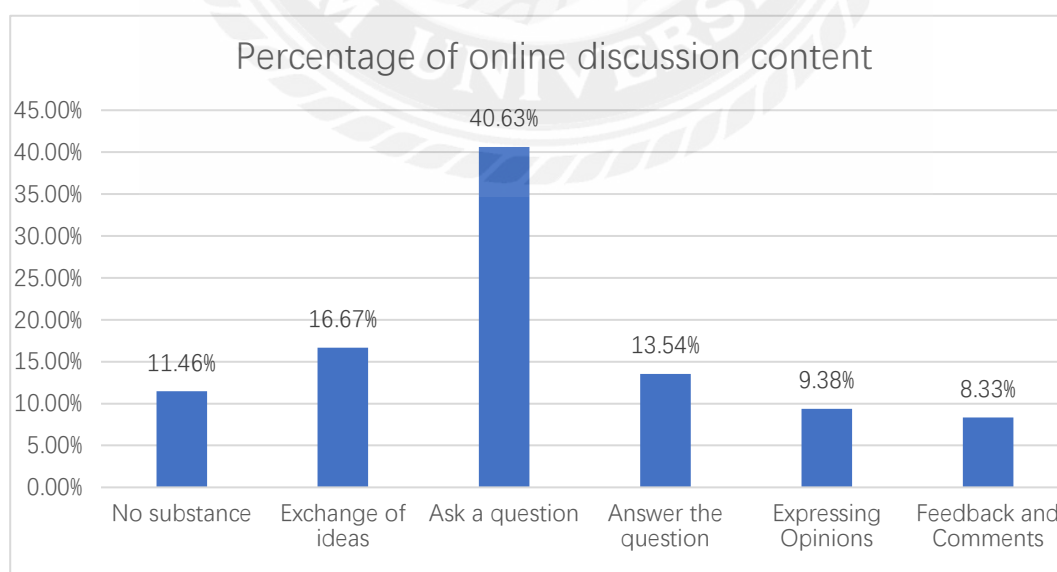


Figure 4.2 Percentage of online discussion content in weeks 1 to 4

Students' online discussions were analyzed in weeks 5 to 8. Students participated in 274 online discussions, posted 81 discussions, and responded to 193 discussions. the number of discussions increased compared to weeks 1 to 4. It can be seen that students' online participation is gradually increasing. From the analysis of the content of the discussion, the proportion of no substantive content, exchange of ideas, and raising questions decreased, while the proportion of answering questions, expressing opinions, and giving feedback and comments increased.

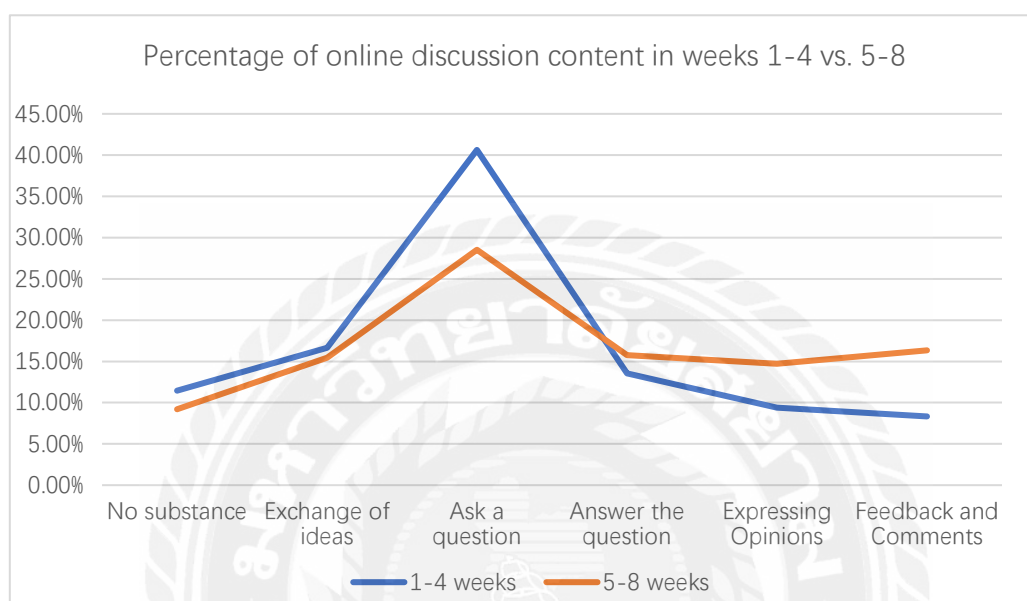


Figure 4.3 Percentage of online discussion content for weeks 5 to 8 of the January to April weekly language

4.3.1.2 Online learning input degree analysis

The online learning platform chosen for the course is the Learning Pass online teaching platform, where the author hangs various learning resources such as course syllabus, learning schedule, learning tasks, micro-lesson videos, electronic courseware, chapter test questions, etc. on the platform. Teachers set up learning classes and students study on the learning platform, watch micro-lesson videos of chapter contents according to the specified time, and complete basic knowledge learning and tests of corresponding chapters.

Online learning activities are carried out on the learning platform, which is a part of theoretical new knowledge. Mainly to achieve the goal of "knowledge and understanding", to complete the initial internalization of basic knowledge, learning content is mainly conceptual knowledge. Teachers upload learning video resources, learning documents, learning quizzes, and online discussions. Teachers monitor students' learning during the learning process. According to the actual functions of the Learning Platform, the content of monitoring mainly includes students' participation in discussions (such as the number of replies to discussions and the content of questions), and the situation of testing assignments.

4.3.1.3 Analysis of online learning quizzes

The online quiz scores are counted through the learning platform, as shown in the graph, the passing rate from week 1 to week 4 is 77.78%, and the excellent rate is 16.67%; the comprehensive score distribution from week 1 to week 8 is 80% passing rate, and the excellent rate is 76.19%. The distribution of the overall grades shows that the proportion of excellent rate increases. It means that students are not used to the blended learning mode at the beginning of the course, and the attendance rate of online learning is low at the beginning, but they gradually get used to it as the course progresses, and their commitment to online learning gradually increases. The high commitment to learning leads to higher scores on the quiz.

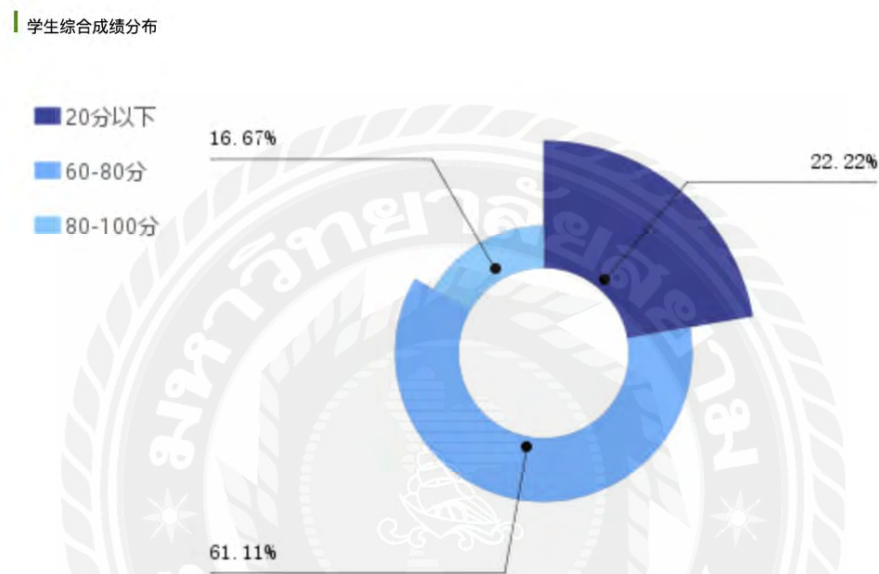


Figure 4.4 Distribution of students' overall scores on online tests from week 1 to 4

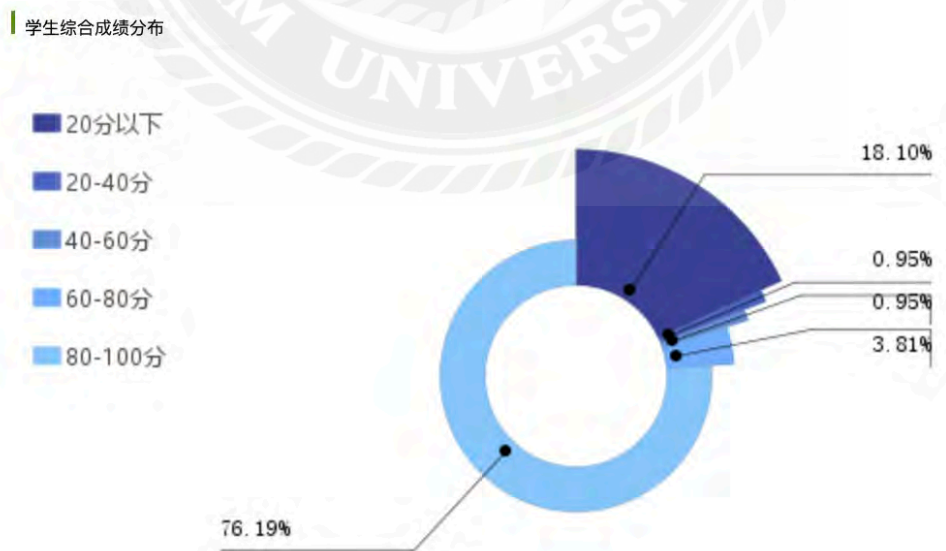


Figure 4.5 Distribution of students' overall scores on online tests from week 1 to 8

4.3.2 Analysis of offline learning

4.3.2.1 Analysis of offline classroom learning engagement

In the process of the study, the author mainly used the traditional teaching method and the mixed teaching method combining online and offline for the two classes, and focused more on the reform of the teaching content and teaching equipment of Dress Accessories Design in the mixed teaching method. Through a semester of teaching, all the data during the teaching period were collected and organized, and the following analysis was conducted.

4.3.2.2 Analysis of classroom communication and interaction

The classroom communication and interaction behavior is an important part of the classroom, and the classroom communication sessions mainly include teachers' questions, students' answers, students' questions and students' discussions. Teachers' questions are analyzed by the rate of teachers' classroom questions, the number of teachers' questions, and the number of students' answers. The number of teacher questions refers to the number of questions asked by teachers in the classroom, and each question is a complete question. The number of questions answered by students refers to the number of questions answered by students, i.e., a complete answer is given. Therefore, a question posed is often answered by more than one student, and the same student may answer multiple times. By counting, the following table shows the comparison of student classroom communication interactions for the complete six statistical sessions of the course. The table shows that the frequency of interaction in class 2 is higher than that in class 1. The gap in the frequency of interaction in the early part of the course is smaller. In the middle of the course interaction frequency gap pulled to, and later slowly see the effect. It shows that the new contents and techniques incorporated in the design and production of bags and jewelry have greatly aroused students' interest and commitment to learning.

Table 4.1 Faculty-student teaching-stream interaction

Serial No	Faculty classroom question rate	Number of teacher questions	Number of questions answered by students	
			Class 1	Class 2
1	20.78%	7	16	17
2	23.92%	9	20	21
3	27.69%	11	15	19
4	32.09%	14	16	26
5	30.78%	16	18	21
6	16.54%	5	12	17

4.3.2.3 Analysis of classroom learning engagement levels

Based on the classroom video and the classroom teacher-student behavior observation form, students' learning input in the classroom was counted. The number of students at each input level was calculated according to the "Reference Table for Analysis of Students' Classroom Learning Input Levels". The total number of students in class 1 was 43 and the total number of students in class 2 was 45. Since the numbers of students in the two classes were different, they were counted as a percentage of the number of students who were engaged. Students who were not in attendance were counted as having no input. This is shown in the table below.

Table 4.2 Classroom input statistics

Teaching content	Classes	Teaching Method	High input rate (%)	Medium input rate (%)	No input rate (%)
Traditional Craftsmanship	1	PPT presentation, hands-on	37.21	46.52	16.28
	2	Compare to modern new process technology	40.00	46.66	13.33
Bag design and production	1	Traditional Teaching	43.90	48.78	7.32
	2	Combination of traditional culture and modern technology New equipment: Non-woven Overlock Machine Laser cutting machine, stencil machine	44.44	48.89	6.67
Hat design and production	1	PPT presentation, hands-on	39.02	46.34	19.51
	2	Combination of traditional culture and modern style New equipment: Non-woven overlocking machine, Laser cutting machine, stencil machine	46.67	40.00	11.11

Jewelry design and production	1	PPT presentation, hands-on	46.34	43.90	9.76
	2	Incorporate popular modern and popular materials New materials: combining traditional crafts, soft pottery New equipment: 3D printing	55.56	37.78	6.67
Self-design and production making	1	PPT presentation, hands-on	41.46	43.90	14.63
	2	Group work, flipped classroom, competition to promote learning New equipment: VR live-action display	51, 11	40.00	8.89

From the total input comparison chart, it can be seen that the percentage of high input in class 2 is higher than that in class 1, and the percentage of medium input and no input is lower than that in class 1. From the specific learning content of each item the difference of high input in the first two is not large. In the later learning content input ratio gap is larger. The proportion of high input in bag design and production and jewelry design and production is higher in both classes. This indicates that students are more interested in these two learning contents. The summary of each lesson in the teaching observation form shows that the students' engagement is significantly higher when new techniques are incorporated and explained.

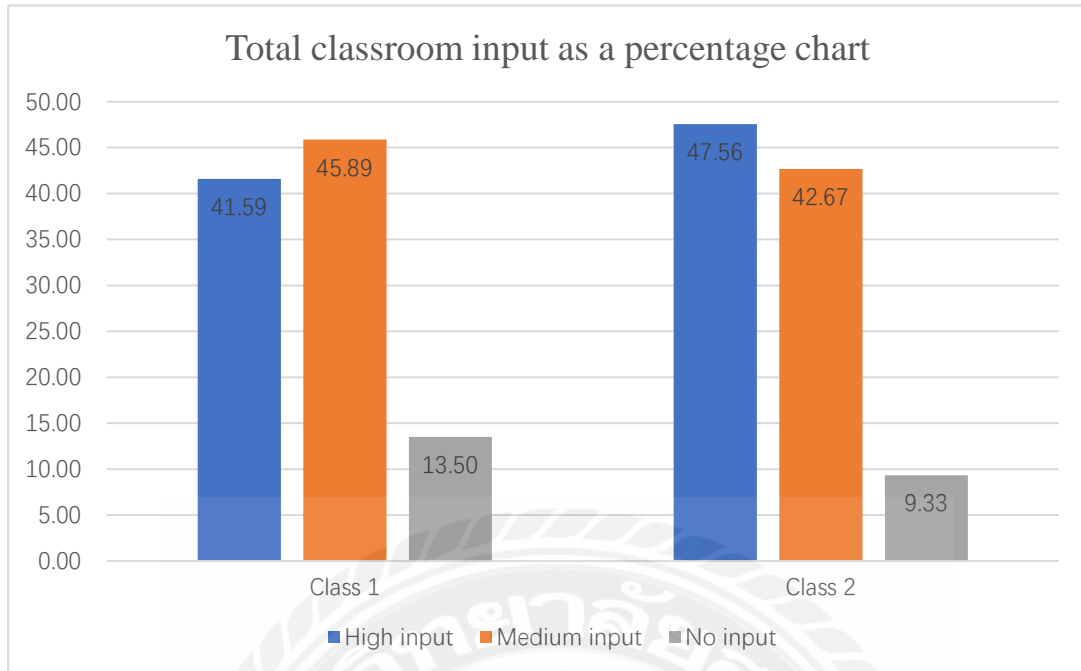


Figure 4.6 Chart of total classroom inputs as a percentage

4.3.2.4 Comparative Analysis of Classroom Assignment Performance

The students who scored 0 were removed from the statistics of the usual classroom homework. The mean scores of each item show that the teaching reform intervention has helped to improve the grades. The relatively high scores in bag design and jewelry design indicate that the integration of new materials and technologies has increased students' interest in learning, and that the reform has improved students' engagement in learning, and that high learning engagement will improve learning outcomes.

Table 4.3 Statistics of average scores of classroom assignments by class

Assignment content	Class 1	Class 2
Embroidery work	60.26	69.17
Finished bags	62.35	70.25
Finished hat	61.79	68.87
Finished jewelry	62.25	70.01
Overall average score	61.39	69.58

From the above, a comparative analysis of the classroom interaction, classroom learning engagement level and classroom assignment results shows that the students' learning engagement has increased under the intervention of reforming the teaching content and teaching methods compared to the traditional lecture classes, with high learning engagement and good learning results.

4.3.3 Comparative analysis of performance results

The final assessment score of students is composed of 10% for attendance, 40% for usual assignments, and 50% for final assessment. The attendance score is based on the student's attendance and the points are deducted according to the number of absences. The usual score consists of the quiz on theoretical knowledge points on the online platform and the score of the finished product of the usual after-class practice assignments. The final assessment is composed of the score of the students' finished products designed and produced according to the market positioning theme or the competition theme. The usual scores are evaluated by the students in combination with the teachers, and the final assessment is evaluated by the lecturers and enterprise instructors. The evaluation is multi-dimensional from theoretical knowledge, practical works and comprehensive ability. As shown in the table, the attendance rate of class 2 was significantly higher than that of class 1, and the scores of regular homework and final assessment were relatively higher in class 2. It shows that compared with traditional teaching, the change in teaching

Table 4.4 Average score of each item

Score Items	Class 1	Class 2
Attendance	84.34	92.14
Regular homework	61.39	69.58
Final examination	80.91	83.04

After the course, the final grades of the two classes with different teaching methods were compared and analyzed. The results were entered into the software using the "General Test Paper Data Processing and Analysis System v6.5" to generate a grade analysis form. According to the "Paper Data Analysis Program", the students who were absent from the exam were removed from the results, i.e., those who received a score of 0. The reliability of the test was greater than 0.7 and the validity of the test was greater than 0.4; the difficulty was greater than 0.7 and less than 0.8. This means that the results were reasonable and valid.

The statistical chart of the results showed a trend of low at both ends and high in the middle, and the average score was 76.83 for class 2 and 67.71 for class 1; the passing rate was 90.48% for class 2 and 81.39% for class 1; the excellent rate was 54.76% for class 2 and 25.58% for class 1; the excellent rate was 11.9% for class 2 and 2.33% for class 1; in summary, all the scores of class 2 were greater than class 1. It shows that compared with traditional teaching, the reformed teaching method has improved students' commitment to the course and their interest in the course, which has helped to improve their performance.

The reform of teaching contents, teaching methods and means, teaching mode and teaching environment under the guidance of constructivist learning theory, humanistic education theory and Kurt Lewin's field theory as the scientific theoretical basis has contributed to the improvement of students' learning interest and learning commitment by taking students as the center of learning in the teaching of apparel accessories design course and taking

students' learning interest and learning commitment as the starting point. Students can be motivated to learn and can increase their interest and commitment to the course. Through effective learning to master the skills required to meet the needs of the profession, to achieve the desired teaching effect.

Table 4.5 Class 1 course examination results analysis table

Classes:	Class 1	Course Name:	Apparel accessories design and production	Credit hours:	36		
Teacher:	CHENAIHUA	College and Faculty:	Smart Manufacturing Institute / Fashion and				
Exam Time:	January 5, 2022	Number of candidates:	43	Number of actual exams:	43		
Summary of the examination quality indicators testing table							
Highest score	90	Lowest Score	28	Average score	67.707	Standard deviation	7.03
Passing Rate	81.39%	Excellent rate	25.58%	Difficulty	0.783	Differentiation	0.2843
Credibility	0.737	Validity	0.621	Normality	The distribution of scores follows a normal distribution (P>0.05)		
Student Exam Results Distribution Statistics	Score band		Less than 60	60-69	70-79	80-89	90分
	Number of people		8	14	10	10	1
	Percentage(%)		18.60	32.55	23.26	23.26	2.33

Table 4.6 Class 2 course examination results analysis table

Classes:	Class 2	Course Name :	Apparel accessories design and production	Credit hours:	36																				
Teacher:	CHENAIHUA	College and Faculty:	Smart Manufacturing Institute / Fashion and Apparel Design																						
Exam Time:	January 5, 2022	Number of candidates:	45	Number of actual exams:	43																				
Summary of the examination quality indicators testing table																									
Highest score	92	Lowest Score	29	Average score	76.83	Standard deviation	7.14																		
Passing Rate	90.48%	Excellent rate	54.76%	Difficulty	0.7226	Differentiation	0.2575																		
Credibility	0.712	Validity	0 . 510	Normality	The distribution of scores follows a normal distribution (P>0.05)																				
Student Exam Results Distribution Statistics	Score band		Less than 60	60-69	70-79	80-89	90分																		
	Number of people		4	6	9	18	5																		
	Percentage(%)		9.52	14.29	21.43	42.86	11.90																		
<p style="text-align: center;">Exam Results Distribution Chart</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Score Band</th> <th>Number of Students</th> </tr> </thead> <tbody> <tr><td>30分以下</td><td>1</td></tr> <tr><td>30-39</td><td>0</td></tr> <tr><td>40-49</td><td>2</td></tr> <tr><td>50-59</td><td>1</td></tr> <tr><td>60-69</td><td>6</td></tr> <tr><td>70-79</td><td>9</td></tr> <tr><td>80-89</td><td>18</td></tr> <tr><td>90分以上</td><td>5</td></tr> </tbody> </table>								Score Band	Number of Students	30分以下	1	30-39	0	40-49	2	50-59	1	60-69	6	70-79	9	80-89	18	90分以上	5
Score Band	Number of Students																								
30分以下	1																								
30-39	0																								
40-49	2																								
50-59	1																								
60-69	6																								
70-79	9																								
80-89	18																								
90分以上	5																								

4.4 Questionnaire analysis of students' learning engagement after teaching reform

In this study, 88 questionnaires were distributed and 84 questionnaires were returned, of which 83 were valid, and one of them had a minimum score. Therefore, this questionnaire was deleted. The total effective rate was 94.31%. There were 41 students in Class I and 42 students in Class II.

4.4.1 Analysis of factors influencing students' learning engagement

From question 3 of Figure 4.7, "What do you think are the factors that affect the classroom learning input", 60.82% of the respondents chose the classroom learning atmosphere. In the course, the group cooperation can drive the poor students with good hands-on ability, and let the group members play their own strengths, reflect their own contribution value in the group, and let the reluctant students participate in learning more actively. Reflects peer support. The flipped classroom allows students to present and express their creative design ideas and thoughts as a speaker, making the course more informative. Students showed resistance and nervousness in the preparation and presentation process. Most of the students had a sense of unfinished business after they finished expressing themselves. They would like to have more opportunities to express themselves on stage. The teacher's guidance role was reflected. The integration of traditional culture in the classroom as well as the combination of intelligent and innovative practical training equipment also increased the students' interest in learning, their sense of innovation and practical skills. The importance of the learning environment is reflected. In the questionnaire interest options accounted for 76.29%. The behavioral engagement is high in the data of the three major dimensions of learning engagement, especially in the production segment, when students learn that the same fabric can be made into different clothing accessories through different processes, students are willing to use different materials to try to explore how to make them. Students are motivated to engage in learning through interesting teaching content. The teaching content is selected based on industry needs and industry trends, and a loose-leaf teaching content is used. The content is innovative and in line with current trends, while meeting the aesthetics of students. Increase learning interest.

3. Support and influence of classmates: 40.21%

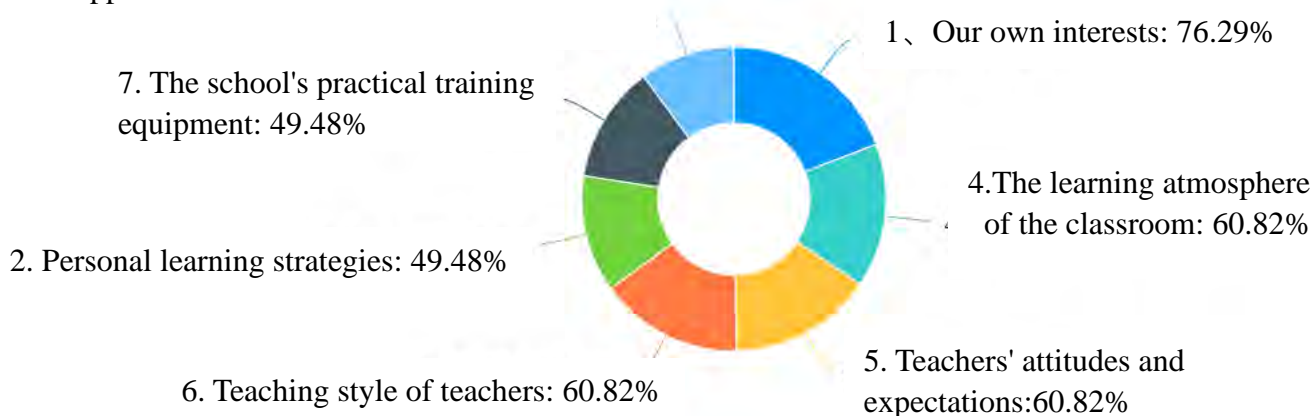


Figure 4.7 Percentage of factors influencing classroom learning inputs

4.4.2 Analysis of students' classroom engagement

The table shows that the mean of students' classroom engagement in all three dimensions is greater in class 2 than in class 1. The overall student engagement score for Class 2 was 4.0406, which was greater than the median of 4. This indicates that the reformed instructional approach improved student engagement in the classroom compared to traditional instruction. The three dimensions of affective engagement were the highest in class 2, the mean of behavioral and affective engagement were greater than the median of 4, and cognitive engagement was the lowest. From the data analysis, it is clear that the reformed teaching method has increased students' behavioral and emotional engagement compared to the traditional teaching.

Table 4.7 Student classroom engagement scores

	Class	N	Minimum value	Maximum value	Average value	Standard deviation	Median
Behavioral input	Class1	41	1.14	5.00	3.7793	0.8869	4
	Class2	42	1.86	5.00	4.0207	0.9201	4
Cognitive input	Class1	41	1.00	5.00	3.5022	0.8772	4
	Class2	42	1.00	5.00	3.8730	0.9367	4
Emotional engagement	Class1	41	1.00	5.00	3.9897	0.8794	4
	Class2	42	2.43	5.00	4.2041	0.7263	4
Overall input	Class1	41	1.05	5.00	3.7698	0.8814	4
	Class2	42	1.80	5.00	4.0406	0.8573	4

4.5 Summary of this chapter

From the above analysis, it can be found that the learning results of students who adopt the online and offline hybrid learning mode are significantly higher than the traditional learning mode, which indicates that the course "Apparel Accessories Design" can be taught by using the online and offline hybrid learning mode.

Through the online platform for theoretical knowledge points of the quiz, students can intuitively see their learning effect immediately, and students can bring their learning knowledge that they do not understand to the classroom to listen to the teacher's explanation or continue to communicate with the teacher, in order to increase students' interest in learning.

As a teacher in teaching this piece requires the teacher to understand the syllabus, course plan and teaching schedule and the important and difficult points of the course, to find the suitable teaching methods and methods for this course. For example, the course "Fashion Accessories Design" produces different teaching effects after taking different teaching methods, so as to achieve twice the result.

Therefore, the teaching reform should not ignore the training of teachers' business, teachers should often go to enterprises to learn in addition to comprehensive theoretical knowledge, and constantly update and understand the most cutting-edge technology and market demand of the profession, so as to better guide students and help them better adapt to their positions.

Chapter 5 Conclusion and Recommendation

This chapter summarizes this study in three main aspects, first, drawing conclusions based on the analysis of the study results, and analyzing the shortcomings and recommendations of this study, as well as the outlook for the future.

5.1 Conclusion

By taking students' learning interest and learning engagement as the starting point in teaching the course "Apparel Accessory Design", this study identifies the factors that affect students' learning engagement in class and the problems that exist in teaching with regard to the teaching contents, teaching methods and teaching equipment of the course, and draws the following research conclusions.

5.1.1 Teaching content should be in line with the current trend as a prerequisite

In terms of learning engagement, the classes after the curriculum teaching reform were higher than the traditional teaching classes in terms of the classroom students' attendance scores. The behavioral engagement in the classroom has increased, especially in the dress accessory making session, where students are willing to use different materials and different decorative techniques to try to explore how to make them, and the frequency of asking the teacher for advice has increased. This indicates that the reform of the teaching content had the internal motivation to stimulate students' learning. This can be seen in the data from the classroom engagement questionnaire. In terms of cognitive engagement, behavioral engagement, and affective engagement, the reformed teaching method can improve students' classroom engagement compared with traditional teaching. Students in the reformed classroom had the highest emotional engagement, followed by behavioral engagement, and the lowest cognitive engagement. The high emotional and behavioral engagement indicates that the content stimulates students' interest and internal motivation to learn. Therefore, the teaching content reform should incorporate the current popular trends.

5.1.2 Teaching methods should be student-centered

In terms of teaching effect, all the results of the reform experimental class are higher than those of the traditional teaching class. Compared with the traditional teaching students' attendance rate has improved, in the usual homework performance gap is not large, through the results, the teaching reform teaching class performance in the late gradually improve, from the final assessment using the reform teaching class tends to increase the number of students with high scores. From the overall work effect the completion and creativity of the usual homework work and final work are higher than the traditional teaching class. It indicates that the teaching

reform under the guidance of scientific theory has a facilitating effect on students' learning engagement, and students' interest in learning is stimulated, allowing them to be more autonomous in their learning. As a result, teaching and learning activities under the guidance of teachers are student-centered and aimed at developing individuals and groups. Teaching methods such as group work, flipped classroom and independent completion of series of work design in the course help students' learning enhancement by.

5.1.3 Teaching and learning equipment should aim to improve student learning outcomes

The school funded the renovation and upgrading of the school's practical training room in the summer of 2020: VR dress display reality experience, stencil machine, laser cutting machine, non-woven sewing machine, and intelligent hanging system. These equipment's are very helpful for both "Dress Accessories Design" and manufacturing, and also promote students' interest degree and improve their learning engagement. Such as non-woven sewing machine and laser cutting machine applied to bag design and production can reflect different effects, different from the traditional sewing method can mobilize students' curiosity. Different sewing methods can be used to show students' works. The intelligent hanging system in the teaching equipment can experience the intelligent flowing work of the enterprise and let the students experience the intelligent manufacturing of the enterprise. Simulation of enterprise production methods allows students to feel the application of learning. Improve the learning input and thus improve the learning effect. Therefore, the purchase of teaching equipment should be based on the premise of improving the learning learning effect.

5.2 Discussion

The results of this study achieved the objectives set for the study, but as the study progressed, my own understanding and thinking became more profound. Due to the limitations of time and human research level, these problems are first presented for more in-depth research and exploration in the future. In the process of the study, the following problems were found.

1. The analysis of the factors influencing classroom teaching is not comprehensive enough and is not explored more deeply through different perspectives.
2. Due to the limited time of the study, some patterns and conclusions need long-term tracking research and more in-depth analysis.
3. The data collected by the questionnaire in this study include process data and result data, and the data collected by the questionnaire can be enriched again.

5.3 Recommendation

Through the practical research on the teaching reform of the course "Designing Apparel Accessories". For teachers who take such a course or similar courses have the following suggestions.

1. For the course in the teaching content, it should be combined with the talent training program and curriculum standards, and at the same time to choose the teaching materials and teaching content based on the learning situation of students. For the limited class time and a wide range of teaching content, the teaching content should be reconstructed according to the characteristics of the course and industry needs and industry trends. Adopt a loose-leaf teaching content to adapt to different learning situations and changes in fashion trends.

2. In teaching methods, the use of online and offline hybrid teaching can make up for the lack of class time while also adapting to the trend of education informatization. Group cooperation can be applied in project teaching, which cultivates the spirit of active inquiry and teamwork among students. Incorporating traditional culture and competitions to promote learning can check the transfer of students' knowledge and cultivate innovative ability. Based on the fact that "Apparel Accessories Design" is a class of practical arts, the issue of teaching should be based on the actual market, to start with scientific coordination and overall planning, to find an effective teaching method suitable for students of this major, so that students can easily and happily learn the knowledge can also be used after learning in their future life and work. This multifaceted teaching methods to make students interested in learning, active learning, become the main body of learning.

3. In addition to the teaching equipment, the school should combine with the current production characteristics of enterprises to update the teaching equipment to meet the current popular clothing manufacturing. At the same time, it can be combined with the geographical characteristics of the school, so that teachers and students have more opportunities to cooperate with enterprises, close contact with the industry, and adapt to the changing career needs of the industry. Through the understanding of industry needs to force the reform and update of curriculum teaching, forming a virtuous cycle.

5.4 Further Study

In this era of rapid socio-economic development, the teaching reform of the course "Dress Accessory Design" should keep pace with the times. Although teaching reform is a long and arduous task, it can also maximize the learning effect of students with the support of multiple forces from society, schools, teachers and students. Through this study, it is suggested that future research on the teaching reform of Dress Accessory Design and Production can be carried out in an attempt to supplement the following aspects.

1. further expand the research population, which can be vocational colleges and undergraduate institutions that have taken this course. Or similar design courses.

2. A richer research sample could be used. The research sample used in this paper is limited, and I hope that future scholars can further improve in future studies.

3. Finally, we can try to compare between higher vocational colleges and universities or undergraduate colleges and universities to explore the differences and connections between different colleges and universities in terms of learning commitment for the teaching reform of the course "Apparel Accessories Design".



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Appendix

Classroom teacher and student behavior observation form

1. Basic information about the class			
Course Sections		Teacher	
Classes		Class time	
2. Teaching process			
3. Problems arising from the summary of students in the learning process			
4. The main problems of teachers in the teaching process			
5. Reflection and Suggestion			

Apparel Accessories Design and Production Classroom Learning

Engagement Questionnaire

Hello! Thank you very much for your participation in this survey. The purpose of this scale is to find out how engaged students in the classroom are in apparel design. The scale is anonymous, so you can fill it out according to your most realistic situation and opinions, and there is no right or wrong answer. The results are confidential and are intended for teaching and research purposes only, so please feel free to respond. Your input is invaluable to this study. Each of your choices and answers will affect the results of the survey, so please be sure to fill it out carefully. Thank you again for your cooperation and support!

I. Basic information

Question 1: Your gender (multiple choice)

A. Male. B. Female

Question 2: Your class (multiple choice)

A. Class 1 B. Class 2

Question 3: What do you think are the factors that affect your commitment to the apparel design course? (Multiple choice)

- 1、 Your interests
- 2、 Personal learning strategy
- 3、 The support and influence of classmates
- 4、 The learning atmosphere of the classroom
- 5、 Teacher's attitude and expectation
- 6、 Teaching style of teachers
- 7、 The school's practical training equipment

II. the learning engagement survey

Question 4: Behavioral Commitment (Matrix Single-Choice Questions)

1. I will prepare the materials needed for the class in advance

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

2、 I will actively think and listen carefully in class

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

3、 I will ask questions and discuss with the teacher when I encounter difficulties in the

classroom

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

4、 Like to cooperate and investigate with classmates in groups to complete tasks

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

5、 The class will record which knowledge has been mastered and which has not

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

6、 Willing to spend more time exploring course-related knowledge in depth.

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

7、 I will complete the homework tasks assigned by the teacher on time

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

Question 5: Cognitive input (matrix single-choice questions)

1、 I will draw up an appropriate study plan

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

2、 I will monitor compliance with the learning plan

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

3、 I will carefully analyze, understand and apply the skills learned

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

4、 I will think about which knowledge points must be mastered and understood during class

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

5、 I will reflect, summarize and evaluate according to classroom learning, and adjust my learning strategies appropriately

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

6、 I will make flexible use of the knowledge and skills learned in the design of the production

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

Question 6: Emotional engagement (matrix single-choice questions)

I feel that learning is valuable and meaningful

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

2、 I am interested in the learning content and stimulate my desire to know

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

3、 When I concentrate on my study, I experience happiness

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

4、 When designing or making, I can devote a long time to the realm of forgetfulness.

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

5、 Even if it doesn't go well, I can keep going with energy

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

6、 I will be moved to satisfaction when I get good grades after studying hard

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

7、 I believe I can master the skills of this course

A. Not at all B. More not C. Uncertain D. More consistent E. Fully compliant

