

Teaching Reform and Practice of Art Courses in Colleges and Universities

Taking the Clothing Materials Course as an Example*

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Abstract—According to the requirements for the teaching reform and innovation of art courses in colleges and universities in China, this paper takes the "Clothing Materials" course of fashion design major as an example to establish an application-oriented teaching system of "theory learning plus market research plus fabric analysis and innovation re-engineering" centering on the cultivation of students' practical ability and innovative ability with the market demand as orientation through integrating the curriculum structure, adjusting teaching methods, and reforming teaching content and evaluation system.

Keywords—*clothing materials; teaching reform; application-oriented; teaching system*

I. INTRODUCTION

"Clothing Materials" is a compulsory basic course for the fashion design major, as well as a guiding course for other professional courses such as "Basic Apparel Design", "Clothing Drawing and Technique", "Three-dimensional Cutting", "Fashion Design", etc. It is one of the three major factors of clothing design and the primary factor in people's purchase of clothing. The "Clothing Materials" course has played a connecting role and is a very important part of the teaching of fashion design. After understanding and mastering the basic knowledge of the clothing materials course, students can correctly select the clothing materials and carry out the clothing design. However, at present, there are still a series of problems in the theoretical explanation and innovative application of Clothing Materials course in colleges and universities, making this course gradually become a boring theoretical class. Therefore, researching and reforming the curriculum structure, teaching content, teaching methods and means, evaluation system and practice development of "Clothing Materials" are of great significance to improving students' professional skills and innovation and entrepreneurship.

II. ANALYSIS OF THE TEACHING STATUS OF "CLOTHING MATERIALS" COURSE IN COLLEGES AND UNIVERSITIES

A. *The Knowledge of Curriculum Design Is Extensive and the Amount of Knowledge and Information Is Large*

"Clothing Materials" is a professional basic course for the fashion design of our school. The course mainly focuses on the design and production of textiles, the variety and characteristics of fabrics, the choice of fabrics, and accessories and comprehensive evaluation of performance, and systematically introduces the knowledge of type, composition, structure, performance and style of common clothing material such as fibers, yarns, woven fabrics, knitted fabrics, non-woven fabrics, fur and leather, and accessories, as well as clothing suitability, after treatment characteristics and maintenance methods of common apparel fabric, with abstract, boring, esoteric and complicated curriculum content system. At the same time, the Clothing Materials course is also a relatively new professional discipline, which began in the 1980s and covers a wide range of subject areas such as fashion design, textile engineering, clothing aesthetics, clothing psychology, hygiene, physics, and chemistry. It is a comprehensive professional foundation course [1]. It covers different interdisciplinary content and has a large amount of knowledge. Compared with the illustrated content such as clothing-painting techniques and three-dimensional cutting, large amount of theoretical knowledge and related principles makes it easy for students to lose interest and have resistance psychology.

B. *Single Teaching Methods, Tedious Explanation Link, the Lack in Practice Link, and Weak Learning Enthusiasm of the Students*

During most of the class hours of "Clothing Materials", teachers teach theory on the blackboard and students record the key points in the notebook, which is the teaching method of teacher-led infusion. For the characteristics and application of specific fabrics, there are very few teachers who guide or lead students to go out of the classroom, enter the textile city or fabric market, and touch, compare, observe and investigate the fibrous materials, tissue types, price, style characteristics, after treatment, application and development

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of most popular and latest fabric on the market. In fact, this link is very important in accordance with the goal of cultivating talents from academic type to applied undergraduate students in China. The study of theoretical knowledge is inseparable from the development of the market, and the two are closely related. Students can understand fabrics more deeply and intuitively by going to the fabric market for field research and combining with the theoretical knowledge in the classroom. At the same time, they can improve their interest and initiative in learning, accurately grasp market trends, and expand their horizons and design ideas so that they can quickly find the right position in the process of graduation design and employment in the future, choose the right fabrics, and lay the foundation for making fashion clothing. Teachers should deep the understanding of "Material Materials" in teaching, not just a general theoretical explanation. The single teaching method is not conducive to students' understanding of fabrics and performance in all aspects.

C. The Distribution of Teaching Content Is Not Targeted, the Subject Span Is Relatively Large, the Teaching Content Puts More Emphasis on the Direction of Engineering, Which Is Relatively Abstract, Complex, Boring and Esoteric

The Clothing Materials course mainly faces two majors of fashion design and clothing engineering. The students of the two majors have different natures. The former is the art student while the latter is the science student. The key arrangements for teaching should be appropriately adjusted according to the teaching objects. For example, the school's Clothing Materials course is mainly for the students of fashion design, and the curriculum design should focus on the redesign of fabric, not just the analysis of fabric performance.

D. There Is a Lack of Modern Experimental Equipment in Hardware

When students learn the properties of various fibers, adding modern experimental equipment will be more intuitive and stereoscopic for understanding the knowledge points. "Clothing Materials" is a professional foundation course for students of clothing major. To improve the quality of the teaching of the Clothing Materials course, it is necessary to have teachers' guidance, students' active cooperation and the support of the school hardware conditions. For example, when teachers explain the appearance characteristics of fibers, the simple language explanation is difficult for students to understand the real characteristics. If the test instrument is used, the shape and arrangement of the fibers can be directly seen, which is convenient for memory and deepen understanding. Only the combination of software and hardware can improve the quality of teaching, cultivate innovative talents that are more comprehensive, more excellent and more competitive in the market, and inject new vitality into the clothing market.

III. METHODS AND STRATEGIES OF TEACHING REFORM OF "CLOTHING MATERIALS" COURSE

The teaching reform of the clothing materials course is closely integrated with the actual market. Firstly, it analyzes and discusses the series of problems encountered in the teaching of the "Clothing Materials" in the previous period, including the disconnection between the theoretical teaching and the needs of clothing industry and major, and disconnection between practical teaching and the cultivation of students' applied ability. On this basis, it is required to focus on the application-oriented teaching reform measures, including rationalizing and updating the curriculum teaching concept, and constructing an applied teaching system of "theory learning + market research + fabric analysis and innovation re-engineering".

A. Reforming the Curriculum Structure and Improving the Curriculum Knowledge System

The knowledge of Clothing Materials is extensive, with large amount of knowledge and information. It is necessary to reform the teaching structure of this curriculum to break the previous teaching mode based on theoretical teaching. It emphasizes the deep thinking of fabric selection and the combining application of creativity and applicability of fabrics in design practice works. Starting from cultivating students' practical and innovative abilities, we should expand the curriculum structure vertically. The original theoretical modules of the course are retained, and the market research, fabric analysis and re-creation practice are added. The professional theory courses, professional design courses and professional practice courses are integrated to form an effective connection of the knowledge system. It is suggested to construct a diversified teaching model of theoretical teaching, market research, fabric analysis and re-engineering application design from the curriculum structure to promote the organic transformation between students' theoretical knowledge and innovative design ability. The reformed curriculum consists of two modules, namely theoretical study and practical application. The course focuses on improving students' understanding of apparel fabrics and innovative re-engineering, optimizing and integrating curriculum content, and unifying theoretical knowledge with market trends to achieve the reform goal of closely combining and effectively connecting the curriculum and clothing market.

B. Reforming the Content of the Course to Highlight the Scientificity, Innovativeness and Comprehensiveness of Curriculum

The most outstanding performance in the innovative design of clothing is the innovation of clothing materials. There are two aspects to the innovation of clothing materials. One is the development of new clothing materials, and the other is the redesign of existing clothing materials [2]. According to the requirements of innovative design of clothing, we should reform the teaching content, construct an application-oriented teaching system of "theory learning + market research + fabric analysis and innovation re-engineering", retain the original theoretical modules of the

curriculum, and increase market research and fabric analysis and reengineering.

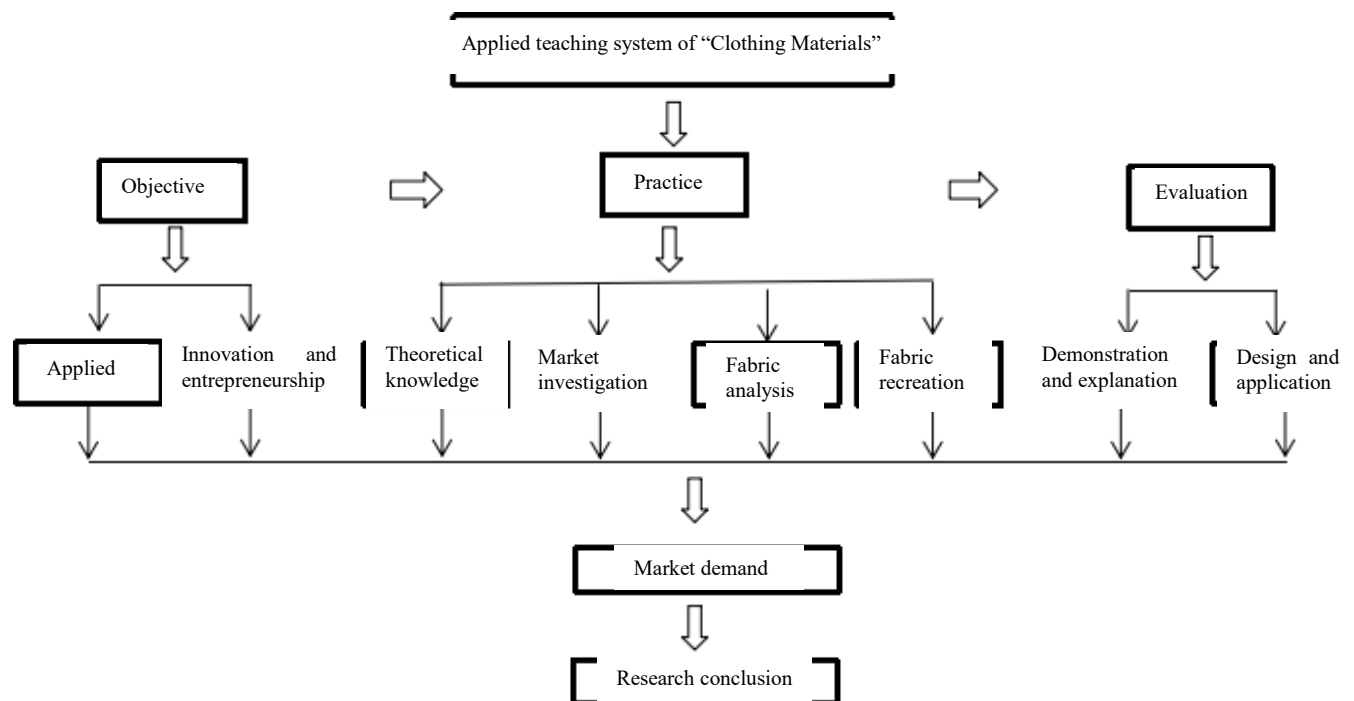


Fig. 1. Applied teaching system of Clothing Materials.

According to the teaching plan in "Fig. 1", the "Clothing Materials" course includes a total class time of 48 hours, so we can reform the course content and adjust the class time allocation. 20 hours are used for theory teaching, 8 hours for market research, and 20 hours for fabric analysis and reconstruction. In the early stage of teaching, teachers should give theoretical lectures, and pay attention to the update of theoretical knowledge content and the development of market trends in the process of teaching. With the development of today's social science and technology and the progress of related disciplines, new types of textile fiber materials and new style fabrics are emerging, but some contents in the textbooks are relatively old, and the teaching content has not been updated in time. [3] It is decomposed into two parts in the process of teaching theoretical knowledge. The first part is the basic knowledge, which mainly includes six theoretical chapters of clothing fiber, clothing yarn, and woven garment fabric, knitted fabric, garment accessories and fabric after treatment. The second part is popular information, which is the new link. It adds the chapters about new materials, new technologies and their development, following the fashion trends in the fabric market, and learning new technologies and materials. In the middle of the teaching, it is necessary to make full use of the resources of the teacher's fabric library, combine with the chapter content to show some representative fabric samples to the students, and let students understand the differences between different raw materials, organizational structures and special craft fabrics through the method of hand feeling and physical perception, so that they can grasp the variety and style characteristics of common clothing fabrics, which gives students an intuitive and figurative perception. Through observation and learning, they can recognize the

characteristics and maintenance applications of clothing and fabrics in their lives. In the middle and late stages of teaching, students are organized to conduct market research in Guangzhou Zhongda International Textile City. Under the guidance of teachers, the students can investigate the organizational structure, design features and sales prices of high, medium and low-grade apparel fabrics at the current stage, collect the samples of different styles of fabric, and write a graphic and research report by searching the information on the internet. It is necessary to encourage students to actively participate in fabric exhibitions and clothing fairs, strengthen students' ability to independently select fabrics and garments, and fully enhance students' intuitive understanding of fabric style. According to the knowledge points learned in the classroom, students can also go to the enterprise to visit and learn in addition to making the market research, understand the fabric manufacturing process, after treatment processing, application and garment production process, and record relevant video materials for post-class research understanding. In the later stage of teaching, students are organized to observe and master the natural attributes such as "texture, quality, and feel" of materials in the hands (collected in the middle and late stages of teaching), so as to be able to flexibly apply the aesthetic principles and the artistic principles of three major construction learned in the basic courses to the redesign of fabric. Based on clothing materials, combining with other comprehensive materials, students should do the small homework of making recreation for four pieces of textile, and the big homework of design sketch of costume designing. The homework needs to reflect the style and characteristics of fabric, and the different inspirations of the designers.

1) *Organizing students to conduct market research:*

Market research is based on the application-oriented talent training program. Students can walk out of the classroom during the learning process, go into the society, learn to understand and deepen what they have learned, keep pace with the times, and truly integrate with the market. It is also necessary to organize students to go to Guangzhou Zhongda International Textile City to conduct market research and write a report with pictures. Content requirements: (1) Collecting no less than 10 kinds of fabric samples, including cotton, wool, silk, fiber, chemical fiber, fur, leather, knitting, weaving, etc. (2) Analyzing fabric composition, organization (plain, twill, satin weave, etc.), fabric category (machine, knitting, non-woven), fabric specifications, name, price, post-processing category (dye, printing, calendaring, gigning and other products, or specially treated products), material style characteristics (using style comments), material functionality (warmness, moisture absorption, strength, etc.), applicability, and examples of typical fabrics for each fabric domain scope. Students can make theoretical knowledge be verified in the research process and improve the understanding of the fabric structure by going to the fabric market to conduct research. Students can learn from working and work in learning, making the course open and effective and injecting innovative connotations into the curriculum.

2) *Increasing fabric recreation:* At present, most of the textbooks on clothing materials are mainly written for engineering students, and few textbooks are designed for clothing design majors. According to the professional characteristics of our students, we can reasonably adjust and supplement the teaching content and increase the fabric recreation. Fabric recreation is about the second time design of fabrics. It is a common artistic thinking method and the basis for learning costume design. [4] It is suggested to explain the method of fabric recreation and require students to use the four fabric recreation forms including addition processing, reduction processing, crochet processing, and comprehensive treatment of fabric forms, mainly with clothing materials and other comprehensive materials to make 4 small work of fabric recreation and one big work of the costume designing sketch of the fabric, and display the outcomes. The second time design of the fabric is a teaching focus. According to the latest fashion trends, the original fabrics are reorganized by using different recreation techniques and fashion design is carried out. Starting from the actual teaching situation, combined with the characteristics of students, it focuses on stimulating students' enthusiasm and creativity.

Clothing Materials mainly faces sophomore students who have more spare time, more enthusiasm for learning and a fresh sense of professionalism. It can guide students to establish research groups to carry out small-scale project creation and research by using open resources such as fabric library and clothing craft room in their spare time, and participate in college students' innovation and

entrepreneurship projects, Internet + projects, etc. The content and form are not limited, so as to train students to comprehensively utilize various knowledges, solve practical problems, and cultivate innovative ability.

C. *Reforming the Teaching Methods of the Curriculum and Means of Implementation*

It is necessary to reform the teaching methods of the curriculum, change the indoctrinating teaching methods based on theory in the past, and promote a new model focusing on physical perception. In the teaching process, according to the characteristics of the chapters, students are provided with fabrics of different organizational forms. In the process of contacting these fabrics, students learn to understand the fabric style characteristics and distinguish them one by one by hand touch and burning fibers. The physical fabric replaces the abstract description of the text. From the analysis of the physical samples to the clothing that they wear, they analyze the fabric of the organization and the after treatment process, discuss with each other and strengthen the interaction. It can break the boring classroom atmosphere, create better interaction between teachers and students, and allow students to see and touch these fabrics of different materials and styles more intuitively. The teaching mode of physical perception method not only allows students to learn and exchange ideas and understanding in discussion, which enhances the classroom learning atmosphere, but also enhances students' overall understanding of apparel fabrics and improve students' comprehensive ability.

IV. THE SIGNIFICANCE OF THE CURRICULUM REFORM OF "CLOTHING MATERIALS"

Today, many fashion designers pay more attention to the use of fabrics and even transform their own fabrics in the design process. They change the overall visual effect of clothing through the innovation of fabrics, emphasizing the aesthetic and fun of fabrics in fashion design. Clothing materials play a vital role in the shape, style, performance, processing, maintenance, use and cost of clothing, affecting the artistry, technicality, practicality, economy and popularity of clothing [5]. The teaching reform of the material materials course is to meet the designer's innovative demand for fabrics and the market development. According to the system of innovative talent training, it is closely related to the fashionable trend of garment as an important measure that combines market demand. Combining the goal of innovation ability training, we put forward the reform goal of curriculum design, update the course teaching content, teaching methods, learning methods and evaluation methods, and adopt certain effective reform strategies. While cultivating students' innovative thinking ability, we emphasize school-enterprise cooperation and improve practical hands-on ability. It is necessary to increase the three teaching links of market research, fabric analysis, and fabric recreation, making the content of the course interlock and mutually influence. It is crucial to the cultivation of students' comprehensive creative capacity to study the links before and after the course, effectively link the curriculum knowledge system, deepen the relevant content research of

the previous courses, and promote the cross-border combined innovation of fashion design, clothing technology and other courses to effectively form a perfect professional knowledge chain and design theory system.

V. CONCLUSION

Apparel materials not only serve as the dominant features of the fabric itself, but also determine the overall performance and comfort of the garment. The ultimate goal of learning garment materials is to learn to choose the right materials to express and help the designer to complete the design. Therefore, the clothing materials course of colleges and universities is a very important basic part. The teaching reform and practice of art courses in colleges and universities, taking the course "Clothing Materials" as an example is the innovation and practice from the teaching structure, teaching content, teaching methods and implementation methods, and teaching evaluation system as a whole, which plays a guiding role in profound understanding of the performance and application of clothing materials for students. The construction of the application-oriented teaching system of "theoretical learning + market research + fabric analysis and innovation recreation" is an exploration of the transformation and development of colleges and universities, and provides methods and strategies for the reform of college art courses.

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