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Research on the Training Mode of Professional Talents Facing the Demand of Textile Science and Technology Talents in the Future

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Abstract: With the further advancement of the national supply side reform and the continuous development and scientific and technological progress of the global textile industry, the transformation of the traditional low-end textile industry has become an inevitable trend. People's demand for textile products also goes beyond the scope of covering the body and keeping out the cold. New requirements are constantly put forward for future textile scientific and technological talents in the fields of medical and health care, national defense and military industry, aerospace and high-end sports. As the core of creative talent output, the design education system should have insight into the industry, lay out the future in advance, and cross integrate new textile materials, environmental protection, intelligent wearable technology, big data and informatization, in order to combine design art, realize the education mode of interdisciplinary talent training based on new ideas, new models and new contents, and cultivate high-quality compound talents with interdisciplinary integration characteristics urgently needed by the future textile industry.

Keywords: Textile Technology; Interdisciplinary; Inter-disciplinary Talent; Future Textile

1. Introduction

The talent training mode of interdisciplinary integration is the inevitable choice of modern education and social progress. At present, universities in various countries attach great importance to the construction of interdisciplinary. For example, the media teaching and research department of MIT integrates multiple disciplines of science and technology, media, science, art and design, and has made remarkable achievements in emerging interdisciplinary and forward-looking innovative research. With the continuous deepening of scientific development, many complex problems cannot be solved in a single subject field, but need multi-disciplinary collaborative research. Academician Lu Yongxiang, former president of the Chinese academy of sciences, once pointed out that the intersection of different disciplines is often the development point of advantageous disciplines, the growth point of emerging disciplines, the breakthrough point of major innovation and the commanding point of talent training.

2. Thoughts on curriculum construction

Focusing on the cutting-edge trend of international education, we should build a characteristic course of the integration of fiber, fabric and textile art and technology, and the cross integration education of "art" and "science and technology" runs through the teaching of textile specialty by the innovation of teaching ideas, teaching methods and teaching contents, break the barriers between disciplines, so as to cultivate an international perspective for the realization of "created in China" high end textile design talents with interdisciplinary foundation and creative innovation ability.

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3. Purpose of curriculum construction

Through interdisciplinary teachers' teaching and scientific research team and interdisciplinary students' comprehensive design and research and d evelopment team, we can realize the organic combination of science and technology and art, and promote the innovation and reform of professional talent training mode. On the basis of practice teaching, combining the future textile industry change new requirements for talents knowledge, ability and quality as a starting point, we can break the barrier of the disciplines and specialties, and explore the cross-disciplinary talent training teaching mode driven by the demand of textile science and technology talents in the future, in order to cultivate interdisciplinary talents who can solve new and complex engineering problems in the future reform of textile industry, and provide high-quality talents for China's strategic transformation from a "textile power" to a "textile power".

4. Exploration and practice of curriculum construction

At the same time of the curriculum reform, we should fully explore the "ideological and political elements" contained in the curriculum itself, promote the ideological and political construction of specialized courses, so as to achieve full coverage of curriculum ideological and political, and build a new pattern of collaborative education of various courses. Meanwhile, it focuses on the reform in the construction of cross-curriculum system, teaching staff, practical ability training, sustainable improvement and international training, in order to cultivate outstanding interdisciplinary textile talents with innovative ability, cross-border integration ability and high quality, and serve the strategic needs of high-end textile development of the country.

5. Achievements of talent training

Generally, textile fiber, as the raw material of textiles, is a scientific problem, and less attention is paid to its artistic aesthetics. Therefore, its artistic charm is explored. Through this practice, a new innovation point is explored in the talent training mode. Through the collaborative training of production, learning, research and application,a new multi-dimensional practical teaching mode is created, which solves the problems of decoupling of practical teaching content from industrial demand and weak engineering practical ability of students in the current talent training process.

Through the reasonable intersection of disciplines and the organic integration of specialties, the problem of lack of talents restricting the coordinated development of the textile industry chain has been solved, and the transformation and upgrading of the textile industry has been promoted. Based on the combination of art and industry, we should increase the professional knowledge related to future advanced technology, and break through the problems existing in the current multi-disciplinary and cross product development. That is, there are insurmountable disciplinary barriers in different majors to solve the actual needs of talent training in the textile industry in the future, and expand the connotation and construction focus of traditional textile education by building a modular professional curriculum group.

It solves the single and stiff problem of combining technology with most functional & intelligent wearable textile design at present. Adding artistic design elements to the existing function & intelligent wearable technology, it can improve the comfort and artistic beauty of wearable function & intelligent textiles. We should explore the best way to integrate the related professional courses of physics, chemistry, materials, biology, medicine, aesthetics, clothing and design with textile technology and art design courses, realize the construction of innovative courses from the complete knowledge chain of performance-material-design, and cultivate the future functional & intelligent textile integrated design talents.

6. Construction of interdisciplinary characteristic courses with textiles as the carrier

6.1 Optimization and integration of teaching scheme of interdisciplinary course direction of textile design

According to the expansion of social demand for comprehensive abilities such as design ability and technical ability of textile talents, the teaching contents in the syllabus of art, design and technology courses are readjusted and revised. The series of courses will take the basic design and development process of textile design as the main line, rely on the technical implementation means of several major textile technology categories such as printing, dyeing, weaving and embroidery, and the knowledge points run through the textile design creativity to realize the design and development path of end products. Reintegrate and divide different course modules to avoid isolated stacking of knowledge points, so

that students can establish a textile design cognitive system with overall awareness through more effective professional learning.

6.2 Course construction of function & intelligent textile design

Relying on the school of materials design and engineering of the secondary college, on the basis of the intersection of disciplines such as "polymer materials and engineering", "textile dyeing and finishing" and "textile design", integrate relevant scientific knowledge such as "information technology", "flexible electronics", "artificial intelligence", "biomedicine", "functional nano materials", "colorology" and "art appreciation", we should focus on the key technologies involved in the design and development of wearable intelligent textiles in the future, create a new interdisciplinary theory and practice curriculum system based on artistic beauty, ergonomics, color and shape design, cultivate students' innovative thinking ability, so as to cultivate talents for the design and development of wearable intelligent textiles in the future.

6.3 Establishing an interdisciplinary, interdisciplinary and international design classroom

Through classroom reform, we can establish international design thinking methods and students' ability to actually solve design problems, so that students can better understand technical principles, position their own design role, and use design thinking methods to expand their ability to output creative solutions and solve problems. We should also cultivate students to understand the characteristics and principles of different materials and processes, comprehensively screen and consider materials and processes based on design themes and their service objects, so as to cultivate high-end design talents with interdisciplinary, interdisciplinary, international vision and the ability to think about design problems with comprehensive skills.

6.4 Building a knowledge curriculum system with professional characteristics based on the professional culture of art and science and technology as the core and under the guidance of interdisciplinary integration

Through the construction of advanced professional courses, we can create art and humanities, basic courses, core courses, professional expansion courses and students' key learning through participating in various course groups, and strengthen their understanding of the cutting-edge development of the industry, in order to improve students' design cutting-edge and practical innovation, and effectively realize the teaching concept of interdisciplinary integration. Based on advanced practical projects, we can break the single education mode, connect students' theoretical cognition and practical skills, and improve their vision and ability in an all-round way.

6.5 Building a team of teachers from two aspects: the cultivation of teachers' own ability and the construction of team knowledge structure

We should build a differentiated interdisciplinary team, introduce interdisciplinary and diversified teaching and research talents, and actively explore various ways to improve the level of teachers, such as domestic and foreign exchange and research, scientific research cooperation, school enterprise cooperation, interdisciplinary teaching reform and so on. We should also establish a high-level teacher enterprise practice training base with enterprises to conduct systematic learning and practice for teachers in front-line industries. The "leaders" who introduce new ideas and ideas of industrial reform adopt the methods of "going out" and "bringing in" to enhance the internationalization of teachers, so as to improve the cultivation of students' international vision.

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