

# Research on Teaching Reform of Design-Oriented Majors in Colleges and Universities Based on Innovation and Entrepreneurship Education

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## ABSTRACT

This paper explored the connotation of the concept by analyzing the significance of teaching reform of design-oriented majors in universities under the background of innovation and entrepreneurship. In addition, according to the current teaching situation of these majors, it found problems from multiple perspectives, based on which the teaching reform strategy is proposed from the perspectives of curriculum system and teaching methods, by taking into consideration of the essential needs of innovation and entrepreneurship education. A construction method is proposed from the perspectives of education resources and practice resources, forming a complete set of teaching reform strategy system of innovation and entrepreneurship in college design-oriented majors.

**Keywords:** *teaching reform, innovation and entrepreneurship education, design-oriented major*

## 1. INTRODUCTION

Innovation and entrepreneurship education is set towards the entrepreneurial population in the whole society, with the aim of cultivating talents that possess entrepreneurial consciousness, innovative spirit, and innovative entrepreneurial ability. Innovation and entrepreneurship education has not been staying long after its introduction. There was not much attention on the innovation and entrepreneurship teaching concept until 2015 when the General Office of the State Council issued the *Implementation Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Institutions of Higher Learning*. However, due to the lack of in-depth knowledge and teaching experience, a systematic, complete and popularized teaching model of innovation and entrepreneurship education in universities has not yet been formed, resulting in a low success rate in practice, let alone the generation of teaching models for design-oriented majors. Therefore, there is still a long way to go for the innovation and entrepreneurship teaching reform in design-oriented majors.

## 2. SIGNIFICANCE OF THE TEACHING REFORM OF DESIGN-ORIENTED MAJORS IN COLLEGES AND UNIVERSITIES UNDER THE BACKGROUND OF INNOVATION AND ENTREPRENEURSHIP EDUCATION

### 2.1. Social Needs

According to the *Implementation Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Institutions of Higher Learning*, deepening the reform of innovation and entrepreneurship education in colleges and universities is an urgent need for the state to implement the innovation-driven development strategy and promote economic efficiency, quality and upgrading, and it acts as an important measure to stimulate the employment of college graduates with high efficiency and quality[1]. According to the relevant statistics of the Ministry of Education of the People's Republic of China, after the 21st century, the large-scale enrollment expansion of colleges and universities has led to a substantial increase of graduates. However, due to the lack of synchronous increase in employment posts, the average employment rate of ordinary college graduates is only about 70%. Facing the severe employment situation, carrying out innovation and entrepreneurship teaching reform in colleges and universities is conducive to providing new

driving force for employment development at the source, transforming human resources into human capital, alleviating the pressure of social employment through the adjustment of its structure and improving the quantity as well as the quality of social employment.

At the same time, with the advent of the era of globalization, it is urgent to cultivate high-quality talents with innovation and practical ability to enhance the comprehensive strength of the country. As the cradle of talent training, colleges and universities shoulder a huge mission. The implementation of innovation and entrepreneurship teaching reform in colleges and universities is beneficial to changing the current theoretical traditional teaching, and directly benchmarking the teaching objectives with the social needs, improving the practicability of personnel training, and facilitating the implementation of talent training strategy in innovative countries.

## ***2.2. Industry Demands***

The design industry takes advanced ideas, innovative thinking and cutting-edge technology as its core, through meeting the market demand and combining with the design concept to create value with the actual design products. The characteristics of the design industry determine that it has higher requirements for talents transported by colleges and universities, and the knowledge theory of talents must serve practice and connect with market demand. On the one hand, the implementation of innovation and entrepreneurship teaching reform is conducive to the delivery of talents with comprehensive practical ability to the design industry, on the other hand, it promotes the development of the industry by entrepreneurship, provides the possibility of multiple development directions for the industry, stimulates the development potential of the industry, and forms a virtuous circle of industry development.

## ***2.3. Personal Needs***

In today's society, college students in the pursuit of learning in colleges and universities are not only to learn knowledge, but how to become a person with comprehensive development and social value. Among them, students of design specialty, due to their professional characteristics, require more independence and innovative thinking than other majors. The implementation of innovation and entrepreneurship teaching reform is in line with the needs of students majoring in design. Through the innovation of ideas, we can emancipate the minds of students, establish the correct outlook on career choice and innovation spirit, stimulate students' personal potential, cultivate students' willingness to overcome difficulties and take responsibility, help students master the knowledge and skills related to innovation and entrepreneurship, and cultivate their practical ability of innovation and

entrepreneurship. As a concept of quality education, innovation and entrepreneurship education reform contribute to the sound development of students' personality, and it promotes the personalized development and comprehensive quality of college students, and meets the needs of individual value realization.

## **3. PROBLEMS IN THE TEACHING OF DESIGN-ORIENTED MAJORS IN COLLEGES AND UNIVERSITIES UNDER THE BACKGROUND OF INNOVATION AND ENTREPRENEURSHIP EDUCATION**

### ***3.1. Insufficient Understanding of Innovation and Entrepreneurship Teaching Concepts***

Although innovation and entrepreneurship teaching concept has been concerned by colleges and universities in recent years, however, due to the relatively conservative overall education concept of colleges and universities, most of the design professional teachers' understanding of its concept is still on the surface. Taking the cultivation method of students' innovative thinking ability in the teaching of design specialty in colleges and universities as an example, teachers in colleges and universities mostly help students develop their thinking through deduction, divergence, analogy and so on. This way seems to form the development of thinking, but it is still a kind of mode teaching, which has no substantive help to improve the quality of students' innovative thinking. In the aspect of cultivating students' entrepreneurial practical ability, most teachers are lack of entrepreneurial experience and do not really realize the importance of cultivating students' practical ability, so the practical teaching part is still on paper. In the stage of theoretical research, teachers' understanding is not profound, comprehensive, or paid attention to, which makes the whole teaching direction derailed, teaching methods deviate and theory is not implemented into practice, leading to poor teaching results.

### ***3.2. Unsound Curriculum Structure System***

From the current situation, the design of curriculum structure system of design specialty in colleges and universities is not perfect. In the aspect of theoretical curriculum design, there is no general curriculum specially designed for innovation and entrepreneurship education, which leads to students' insufficient understanding of innovation and entrepreneurship education. However, the setting of professional courses mostly imitates the curriculum system mode of foreign countries or directly copies from world-famous colleges and universities, and has no close connection with the demand for talents in the design industry under the current environment in China. The content richness of compulsory courses is not enough,

the connection with professional knowledge is not close enough, and the types of elective courses are less, so the personalized development direction of students in the future is not considered. In terms of practical curriculum design, colleges and universities do not pay enough attention to it, which leads to the lack of curriculum content, and most of the practical courses are arranged in one or two years before graduation, which causes the lack of timely application of theoretical knowledge.

### ***3.3. Single Teaching Mode***

At present, there are two common teaching modes for design specialty in colleges and universities: theoretical knowledge teaching mode systematically taught by teachers and based on teaching materials, and practical teaching mode with students' independent exploration as the main body and with teachers' guidance [2]. Among them, the practical teaching mode seems to pay attention to students' autonomous learning ability, but its mode is not combined with innovation and entrepreneurship education and it has not been deeply developed and subdivided. When it is implemented, it is still based on the classroom, and is still the continuation of the single teaching mode of isolated and closed colleges.

### ***3.4. Lack of Education and Practical Resources***

At present, most colleges and universities do not include innovation and entrepreneurship education in the overall planning, and the actual investment is not enough. In terms of educational resources, colleges and universities have not set up special teaching departments for innovation and entrepreneurship teaching, while the innovation and entrepreneurship teaching reform of design majors is still in the exploratory stage, and its professional teaching talent resources are scarce. Most of the teachers of design specialty in colleges and universities are young, and their practical experience is inherently insufficient. Some colleges and universities arrange too many courses, which leads to the lack of enough time for teachers to study practical teaching work, and also causes problems in the construction of teaching staff. In the aspect of practical resources, the construction of innovation and entrepreneurship practice base is not adequate, and the resource integration ability of cooperation platform is insufficient, which results in the loss of excellent cooperative enterprise resources.

## **4. TEACHING REFORM STRATEGY OF DESIGN-ORIENTED MAJORS IN COLLEGES AND UNIVERSITIES UNDER THE BACKGROUND OF INNOVATION AND ENTREPRENEURSHIP EDUCATION**

### ***4.1. Curriculum System Reform***

#### ***4.1.1. Course Goal Setting***

Under the background of innovation and entrepreneurship education, the focus of curriculum objectives of design-oriented specialty is to cultivate students' innovative thinking, entrepreneurship and ability, and its goal setting should be hierarchical and phased. Hierarchy means that the curriculum objectives should include cognition and skills, emotions and methods, process and methods, and analyze the curriculum objectives from the design market demand, the situation of colleges and universities, and the characteristics of design disciplines. Phase refers to that the curriculum objectives need to set different objectives according to the existing knowledge level and learning level of students at different stages, so as to ensure the operability and efficiency of the curriculum objectives [3].

#### ***4.1.2. Curriculum Structure Reform***

According to the curriculum objectives, design innovation and entrepreneurship courses can be divided into four categories: innovation and entrepreneurship theory courses, design professional basic courses, design practice courses and innovation and entrepreneurship training courses. Under the guidance of the concept of innovation and entrepreneurship, the design curriculum in colleges and universities should break the disciplinary barriers, highlight the cross integration of subject modules, build a comprehensive inter-academic, inter-professional and inter-disciplinary curriculum system, hence achieving the mutual penetration of theoretical courses and practical courses, compulsory courses and elective courses, professional courses and general courses, and make sure that the order of disciplines, teaching periods and quantity of class hours should be scientifically set, hence making the course structure complete and continuous.

#### ***4.1.3. Curriculum Evaluation System Reform***

In terms of the evaluation subject, it is necessary to take teacher evaluation as the leading, student evaluation as the main body, combined with the evaluation of entrepreneurial enterprises and other related groups to improve the multidimensional and objectivity of evaluation. In the aspect of evaluation objects, the

curriculum can be subdivided into curriculum plans, curriculum implementation processes, and curriculum implementation results. The evaluation efforts will be enhanced at different stages of the curriculum and the timeliness of evaluation should be emphasized. At the same time, the evaluation means and methods are enriched. In addition to the traditional homework and examination evaluation methods, it can also be combined with expert investigation and analysis methods, target evaluation methods and other methods to conduct summative, diagnostic, and formative evaluations of the curriculum to establish long-term and developmental curriculum evaluation system.

## **4.2. Teaching Model Reform**

### *4.2.1. Curriculum-oriented Innovation and Entrepreneurship Teaching Mode*

The innovation and entrepreneurship teaching mode, with curriculum as the leading factor, through setting a series of entrepreneurship courses in design majors, takes students as the main body and combines theory with practice, hence cultivating college students' entrepreneurial quality. According to the requirements of innovation and entrepreneurship, the characteristics of design specialty and the lack of subjective initiative of students in the design class of colleges and universities, curriculum-oriented teaching mode should combine excellent network resources, cooperate with field practice, simulation and other ways to break the fixed teaching mode in the classroom. On the one hand, through the form of flipped classroom, the teaching content and teaching links are designed within situations, so that students can master key knowledge points in advance with concise and rich teaching resources. In the centralized learning stage, students tend to project discussion, theoretical exchange and personal display [4], in this way, students can actively absorb innovation and entrepreneurship knowledge through discussion, communication and cooperation. On the other hand, the first classroom and the second classroom can be deeply integrated, and through the participation of professional teachers, the theoretical knowledge of the first classroom can be better applied to the practice of the second classroom.

### *4.2.2. Practice-oriented Innovation and Entrepreneurship Teaching Mode*

The practice-oriented innovation and entrepreneurship teaching mode relies on the practice activities or bases inside and outside the school. The main purpose of this kind of teaching mode is to foster students' innovative skills and practical ability. For example, in the teaching mode dominated by design competition practice, through the teacher's overall framework, students are guided to

carry out the integration process of inspiration collection, design conception, product design and finished product production according to the requirements of the competition, which conforms to the actual working steps of the enterprise, and cultivates students' innovative thinking, competitive consciousness and practical experience. The studio practice oriented teaching mode sets the total task by semester, and divides the teaching and homework time into specific and effective work. In terms of project selection, it focuses on social hot spots, guides students to find and solve problems, and actively learns through tasks. Meanwhile, it can help students to establish good working habits and processes to adapt to entrepreneurial activities in advance by referring to the studio management system for attendance and classroom performance assessment [5].

### *4.2.3. Practice-oriented Innovation and Entrepreneurship Teaching Mode*

Practice-oriented innovation and entrepreneurship teaching mode is carried out by simulating the real situation of entrepreneurship or providing real entrepreneurial opportunities for college students. This kind of teaching mode should take the student team or the student individual as the main body. According to the characteristics of design specialty, through the guidance of teachers, it selects entrepreneurial projects, researches preparation conditions and specific implementation methods, and writes research reports. Each student in the team can be responsible for one or more work links, including business plan writing, feasibility study of entrepreneurial projects, enterprise simulation operation, entrepreneurial practice, entrepreneurial achievement report exchange, etc. According to the characteristics of design specialty and the situation of college students, it can also use Internet channels to simulate Taobao and other e-commerce forms to create designer brand entrepreneurship projects. Through the entrepreneurial practice, students' entrepreneurial enthusiasm can be improved and their own level can be accurately positioned. The theory can be applied to practice by learning while doing, so that students can have real entrepreneurial experience and ability after leaving school [6].

## **4.3. Construction of Teaching Resources**

### *4.3.1. Construction of Teaching Staff*

In the construction of teacher resources, a standard model of teacher selection, training and management should be established. The selection criteria should not be limited to the theoretical knowledge and teaching ability of teachers, but also the practical experience and teaching research ability of teachers. The scope of selection should be focused on the outside of the school. The "double teacher

system” mode of the combination of full-time teachers of theoretical research and part-time teachers of enterprise practice should be built. In combination with the absorption of teachers’ resources outside the school, a team of full-time and part-time teachers with complementary theory, rich practical experience and high-quality is formed.

Due to the late start of innovation and entrepreneurship education, colleges and universities should strengthen the training of the teachers, improve the related knowledge and scientific research ability of design full-time teachers through symposiums, teacher workshops, case demonstration teaching meetings, etc., and promote the practical experience and ability of full-time teachers through enterprise visit and learning, cooperation and other activities. For the practical part-time teachers from enterprises, it can strengthen the teaching ability of enterprise personnel and their understanding of colleges and students through lectures, teacher exchange meetings, teaching and learning classes, so as to combine personal entrepreneurial experience with college teaching.

In terms of teacher management, it is necessary to establish a sound evaluation system for innovation and entrepreneurship teachers in colleges and universities, increase the performance evaluation mechanism with competition as the core, and focus on qualitative assessment, hence encouraging teachers to actively carry out valuable research on innovation and entrepreneurship education as well as academic innovation.

#### *4.3.2. Practice Resource Construction*

Innovation and entrepreneurship teaching practice resources related to design include on-campus training resources and off-campus practice resources. According to the characteristics of design specialty and the training requirements of innovation and entrepreneurship teaching, colleges and universities should first pay attention to the current situation of the industry, introduce practical and applicable professional design and practice teaching software, and build advanced and complete campus training rooms or design studios combined with various design specialties. In the construction of off-campus practice resources, colleges and universities are required to build a good cooperation platform based on cultivating high-quality innovative and entrepreneurial design talents, thus attracting the cooperation willingness of enterprises and social organizations. By the conditions of both sides, the appropriate cooperation mode should be selected according to the situation of enterprises, so as to establish a virtuous circle and provide better off-campus practice resources for teaching.

Taking Donghua University as an example, in view of the teaching mode of innovation and entrepreneurship, Donghua University has built an information interaction platform based on entrepreneurship consultation and guidance, a peer learning platform on innovation and entrepreneurship association, a simulated training platform for bidding for college students, and an entrepreneurship

incubation platform for campus cooperation with Putuo District and Changning District of Shanghai. Through the construction of practice resources of four platforms, Donghua University provides a material basis for students’ entrepreneurship practice and improves their entrepreneurial enthusiasm.

## **5. CONCLUSION**

The reform of innovation and entrepreneurship education in university design majors is of great significance to society, individuals and the whole design industry. At present, there are still some problems regarding the teaching of innovation and entrepreneurship in university design majors. For example, the teaching faculty lacks in-depth understanding of the concept; the curriculum structure system is incomplete with single teaching mode and inadequate teaching resources.

By reforming the curriculum system, setting hierarchical and phasic course objectives, and readjusting the course structure in combination with a more comprehensive course evaluation system, a more complete innovation and entrepreneurship course system can be formed, enabling students to master comprehensive professional knowledge and entrepreneurial skills. Through the reform of the curriculum, practice, and fieldwork, students can be comprehensively mobilized, thus improving the teaching efficiency and quality. The comprehensive construction of teaching resources will provide the material foundation and sound conditions for innovation and entrepreneurship teaching reform. This series of reform initiatives can promote the perfect integration of design teaching and innovation and entrepreneurship education, improve the overall quality of design teaching while providing students with a better platform to practice, and cultivate more innovative and entrepreneurial talents for China's design industry.

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