

# Research on the Training Mode of Industrial Design Talents Based on the Spirit of Craftsman\*

Yan Gu

Jiangsu University of Science and Technology  
Zhenjiang, China 212000

**Abstract**—"Craftsman spirit" is a kind of professional attitude, the spirit of keeping improving, and a kind of professional ability and value orientation of university design talents. It is the need of the development of education in China, the need of the social survival of industrial design talents, and the need of improving the design ability and quality of design talents. Colleges and universities should integrate all kinds of educational resources, pay attention to the improvement of design talents, and pursue perfect design quality and professional character.

**Keywords**—"craftsman spirit"; industrial design talents; education and training mode

## I. INTRODUCTION

In 2016, Chinese Premier Li Keqiang of the State Council mentioned in the report on the work of the government that "we should cultivate the craftsman spirit of keeping improving". In 2017, Chinese President Xi Jinping put forward the idea of "promoting the spirit of model workers and craftsmen" in his "nineteen major reports". From the government's attention to the people's active pursuit, a deeper social perspective shows that the proposal and reconstruction of "craftsman spirit" is a strong demand for the rejuvenation of the Chinese dream, and the rejuvenation of great China requires "craftsman spirit". The "craftsman spirit" provides practical ethical value preparation and cultural and ideological ideal letter for the ongoing "13th five year plan" construction of China's social construction. Therefore, it is very important to cultivate the craftsman spirit of contemporary college students. "Craftsman spirit" is a highly valued craftsman and an ideal value for occupation and society. "Craftsman spirit" essentially shows the working spirit and professional spirit of Chinese craftsmen, and shows the working virtues and professional ethics of the working people of the Chinese nation. "Craftsman spirit" has been passed down to now and has become the humanistic wisdom for the great rejuvenation of Chinese culture. In the current situation of the vigorous development of higher education in China, improving the quality of industrial design education has become an urgent and important issue for the development of the times. It is more necessary for teachers to shape the craftsman spirit of students' professional learning. Industrial design students should

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inherit and carry forward the craftsman spirit, and become the founder of the great rejuvenation dream of the new era. Industrial design education is an important part of higher education. Therefore, to explore the training mode of industrial design professionals, to meet the needs of China's economic and social development, and to cultivate qualified talents for China's economic development, has become a problem that must be considered by those engaged in higher industrial design education.

The connotation and "craftsman spirit" of craftsman spirit are the traditional virtues of Chinese traditional working people since ancient times. The core of craftsmanship is the skills of traditional crafts. In today's society, it is necessary to carry on the modern inheritance of the disappearing traditional crafts. The soul of "craftsman spirit" is that the craftsman focuses on and pursues the perfect quality of creation, which is also the most lacking of designers and practitioners in the impetuous society. Chinese traditional "craftsman spirit" will play a key role in promoting modern product design and future industrial design talents to a higher cultural level.

## II. CONNOTATION AND HISTORICAL ORIGIN OF CRAFTSMAN SPIRIT

### A. Connotation of "Craftsman Spirit"

There is no clear definition of the connotation of "craftsman spirit" in the academic circle. The "craftsman spirit" belongs to the category of professional spirit. The core of "craftsman spirit" is the exquisite craftsmanship of traditional crafts. The soul of "craftsman spirit" is that the craftsman focuses on and pursues the perfect quality of creation.

1) *Keeping improving*: In the eyes of ordinary people, craftsman often means stubborn, slow, small amount of work, but behind it lies the "craftsman spirit" of concentration, skill and pursuit of perfection. The persistence and pursuit of the works, the spirit of repeated improvement and constant attempts are the qualities that most of the University designers and designers lack at present. This is also the fundamental reason why the level of industrial design in China needs to be improved.

2) *Being patient, attentive and rigorous*: At present, China is in the period of economic transformation, designers

generally have the idea of quick success, opportunism and lack of patience and concentration in design. The cultivation of "craftsman spirit" conforms to the requirements of the times, and cultivates the designers to be cautious and meticulous in the design process, to work hard at the most subtle points, to ensure the quality of each part and to abide by strict inspection standards.

#### *B. Historical Origin of "Craftsman Spirit"*

No matter in China, Japan or western society, the spirit of "craftsman" embodies the spirit of striving for perfection and the pursuit of perfect creation quality. The brilliant achievements of ancient Chinese technological civilization are closely related to the inheritance, promotion and practice of "craftsman spirit" by ancient craftsmen. Words such as uncanny craftsmanship, superb craftsmanship, and ingenious craftsmanship are the description and recognition of the excellent craftsmanship of craftsmen. The teaching of traditional Chinese apprenticeship is not only the teaching of technology and craftsmanship, but also the inheritance of personal quality and values. The traditional "craftsman spirit" has been practiced and carried forward, in the process of teaching skills of serving as teachers and apprentices from generation to generation. "Craftsman spirit" was once neglected in contemporary China. Because China is in the critical period of design transformation and upgrading, how to improve the quality and brand of industrial products has become a top priority. Therefore, the call for the design industry to regain "craftsman spirit" is increasingly strong.

### III. THE NECESSITY OF CULTIVATING INDUSTRIAL DESIGN TALENTS AND ADVOCATING "CRAFTSMAN SPIRIT"

#### *A. "Craftsman Spirit" Is the Need of China's Education Development*

Paying attention to the cultivation and inheritance of "craftsman spirit" is an important reason for the success of the international manufacturing power. Throughout Japan, Germany, the United States and other developed countries, their products are generally exquisite workmanship, the reason is that the enterprise's concept of quality products and the attitude of meticulous designers in pursuit of perfection. Designers in these countries link the degree of completion of their work with personal honor and disgrace, and strive for perfection even in a very humble work. In fact, this is due to the fact that these countries instilled a strong "craftsman spirit" in the education and training of design talents. Germany and Japan are not only powerful manufacturing countries, but also powerful education countries. They realize the importance of "craftsman spirit", and take it as an important professional spirit into the scope of education, shape and cultivate the "craftsman spirit" of design talents, and inherit and develop this spirit in the future work and Practice. The high attention to ingenuity and quality makes Germany and Japan stand in the international competition by virtue of their manufacturing industry and become a real manufacturing power. For the current situation of China's manufacturing industry, most people think that China is a big manufacturing country, while most of China's SMEs have

not yet reached the capacity of independent manufacturing. We have introduced a complete set of production lines, molds, drawings, etc. from abroad for processing, and won with relatively cheap labor resources. And the quality of the product is not flattering, even in the international left extensive quality label. How to improve the production quality of industrial products and train design talents is the first consideration of education in China. At present, the education of industrial design talents has been paid attention to in China, which is actually caused by the pressure of transformation and upgrading of industrial structure to high-end manufacturing industry.

#### *B. "Craftsman Spirit" Is the Guarantee of Enterprise Development*

According to relevant data, there are 5586 enterprises in the world over 200 years, including 3146 in Japan, 37 in Germany, 222 in the Netherlands and 196 in France. The reason why longevity enterprises cluster in these countries is that they all inherit a spirit - "craftsman spirit". "Craftsman spirit" is one of the secrets of German family business after a hundred years. It is also a sharp tool for Japanese brands to stand on the top of the world. Its core value lies in the pursuit of excellence, the persistence and pursuit of ingenuity and quality. "Craftsman spirit" also has the important enlightenment to the enterprise interior designer. Nowadays, many enterprises in China pursue immediate benefits. The main reason for neglecting the quality of products lies in the lack of "craftsman spirit" of designers and practitioners, and the impetuous way of product design, research and development, and manufacturing. And "craftsman spirit" will undoubtedly become the most precious spiritual wealth of this era, and it is also the magic weapon for enterprises to stand in an invincible position in the international competition.

#### *C. "Craftsman Spirit" Is the Need of Industrial Design Personnel Training*

As a kind of professional spirit and design quality, the cultivation of "craftsman spirit" is very important to the designer's career. A designer with good professionalism can prove his competitiveness and stand out in the future career. In the process of shaping students' spiritual quality, if educators can pay attention to the cultivation of craftsman spirit, they will greatly improve the ability of designers, which is conducive to the employment and future career development of industrial design students.

### IV. INDUSTRIAL DESIGN PERSONNEL TRAINING MODE BASED ON "CRAFTSMAN SPIRIT"

#### *A. Studio System and Tutor System*

Studio system and tutor system are the best choice for the training of "craftsman spirit" design talents. The concept of studio originated from Bauhaus design institute in the early 20th century. Bauhaus design education thought advocates art education based on technological practice activities, training compound talents with high artistic theory accomplishment and mastering technological skills, and

building and improving professional teaching work room is the basis of training design talents. The studio education system is different from the traditional closed teaching mechanism with class as the unit. It has clear professional direction and teaching characteristics. The education and teaching environment is open. Teachers and students have more autonomy and options in the studio than in the traditional teaching. The best way of the traditional "craftsman spirit" Education — tutorial system originated from Oxford University and Cambridge University in England, and was later imitated by many universities in many countries. At Oxford and Cambridge, after each freshman reported, the college appointed him a mentor. The tutor is usually a teacher of the major chosen by the students, who is responsible for guiding the students' studies and conduct, similar to the traditional apprenticeship system in China. The most remarkable feature of the tutor system lies in the heart to body teaching. Both teachers and students need to understand each other. This mode is conducive to the in-depth development of students in a certain direction according to their personal preferences, avoiding the blindness and one sidedness of students' independent development. The attitude and spiritual quality of the tutor towards the design specialty will also deeply affect the development of students. The joint implementation of tutor system and studio system is conducive to the cultivation and establishment of college design talents in professional basic skills and professionalism.

#### *B. Collaborative Innovation Based on Production, Learning and Research*

Industry university research cooperation refers to the two-way cooperation process in which universities and enterprises belong to different fields and produce synergy through mutual influence, so as to enhance their development potential. In the whole process, both of them give full play to their respective advantages, form a powerful advanced system integrating research, development and production, and show comprehensive advantages in the operation process, so as to provide opportunities for students to shape the "craftsman spirit". In the cooperation between universities and enterprises, students can attach importance to technical teaching and practical training in the process of designing projects, emphasize students' practical ability, let students learn in practice, which is conducive to students' absorption of standardized management mode of enterprises and the requirements of enterprises for quality, and to the molding of "craftsman spirit".

#### *C. Providing Practical Opportunities for the Cultivation of "Craftsman Spirit"*

In addition to docking with enterprises, colleges and universities should take part in product R & D innovation and market operation by closely combining with science and technology parks and creative parks, so as to effectively promote the cultivation of "craftsman spirit" talents. The innovation and entrepreneurship of colleges and universities are supported by enterprises. The support object is the newly founded company of college students. It provides business and technical support channels through its own professional

technology and public resource network. It is equivalent to the entrepreneurship service center in the collaborative innovation of production, learning and research. As a platform for cultivating independent innovation enterprises and entrepreneurs, enterprise support is an important channel for the industrialization of innovation achievements in Colleges and universities. For students, this training mode can put students' design works into practice through market operation. In this process, both the modeling and internal structure of design works need to be modified and experimented according to the actual situation for many times. In this process, students can also find the gap between the design works and commodities that fall on the paper, which is conducive to students to avoid talking on paper. Thus in practice, it is possible to cultivate the spirit of craftsman.

#### V. CONCLUSION

Nowadays, the rapid development of the times has brought not only challenges but also opportunities to the cultivation of industrial design professionals in China's higher education. In order to cultivate the higher industrial design talents with craftsman spirit and innovation, teachers must constantly improve the training methods in the industrial design course teaching, actively urge students to participate in industrial design practice activities, and provide professional practice opportunities for students to receive the craftsman spirit education. "Craftsman spirit" as a professional attitude and the spirit of excellence, in the training of industrial design talents reflects more and more important significance. The industrial design specialty can integrate various educational resources, adopt the way of combination of studio system and tutor system which are more popular in Colleges and universities at home and abroad, let students improve their understanding of "craftsman spirit" through design practice, optimize existing education and teaching methods, pay attention to the cultivation of "craftsman spirit" of students, and improve the ability of industrial design students. Only through social practice can the industrial design students really integrate into the society. The education of "craftsman spirit" of industrial design is very important in the practical education of cultivating high-quality professionals. It is necessary to link the cultivation of "craftsman spirit" of industrial design specialty with national construction, train students' practical ability and ability to accept knowledge through all aspects of education, and train design talents with craftsman spirit who have a sense of social responsibility.

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