

# Analysis on the Construction and Management of the Practice Base for Product Design Major

Xiaoqin Lu

East China University of Technology, Nanchang 330013, China

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**Abstract.** Practice base is an important place for implementing theories into practice. Since product design is a practical major, strengthening practice base construction is a crucial link in industrial design teaching, guiding students to participate in society, testing, training and improving themselves. While constructing the practice base, product design major of various universities is facing a new problem of how to improve the management and make full use of the practice base. This paper mainly discusses the construction and management of the product design practice base in domestic universities.

## 1. Introduction

Practice teaching link is an important part of talent training program product design major, which is an effective measure to train students' practical ability and independent working ability. Practice base is an important place to carry out the practice teaching link, the stable practice base is important condition to train high-quality talent with high practice and innovation ability for product design major. It is an important means and way to realize the goal of talent training by making great efforts to construction and management of the practice base, providing students with good practice environment and conditions.

## 2. Importance of the Construction of Teaching Practice Base for Product Design Major

Product design is across-discipline subject which integrates art, technology, humanity society and other sciences, this subject attaches importance to practice and depends on the practice, and practice is the key to teaching, whose unique function cannot be replaced by any other teaching methods. Product design is a new major in our country, which was established in China after 1982. Coming into the 21st century, great changes have taken place in product design in our country. With the development and perfection of the socialist market economy, product design has received the unprecedented attention, on February 13, 2007, Premier Wen Jiabao China ordered an important response to "suggestions on the vigorously development of industrial design in China" submitted by China Industrial Design Association board chairman Zhu Tao, "should highly value product design" Both the country and the enterprise have a great improvement in the understanding of the meaning and function of product design. After more than 20 years of development, there is a rapid development for design education in our country, according to the latest statistics in 2007, nearly 500 colleges and universities have set product design major, how to train qualified design talents under the background of mass education, and meet the needs of the national product design development, which is one of the challenges for product design education. Product design major mainly trains the student to have the solid basic theoretical knowledge, basic skills, basic quality of product design, and train senior professional talents with design, management, scientific research or teaching work, which take product innovation as key. The ultimate goal should train product designers with professional thinking and behavior mode. Designer should be thinkers, who must satisfy the living needs, lead the formation of the design concept of lifestyle, designers need to grasp product and life actuality deeply and keenly, it is necessary for designers to participate in the practice, and acquire and cultivate method and ability to observe, understand, know, show objects in practice. In this sense, product design education requires practice teaching, which needs to explore the students' design

potential and train students' creative ability in the process of contact with production and life reality. The guiding subcommittee of higher school industrial design major of Ministry of Education formulated "research on development strategy of industrial design major (discussion draft)", and put forward four characteristics of the product design education: 1. creativity; 2. practicality; 3. integrity; 4. diversity. Among them, the practice feature points out that the product design itself is a subject with much practicality, and the system of education product design must reflect the characteristics of practice. Schools and enterprises pay special attention to the practice activities of college students in some western countries with developed education. As early as Bauhaus' teaching system, "learning by doing" teaching method was put forward, and develop students' ability to discover and solve problems through practice activities. UK stipulates that the training program for universities is a three-year undergraduate degree course and a one-year internship. In Canada, "cooperation education courses" is one education mode universally implemented by colleges and universities, this course requires students to must go to the enterprise and practice, credit can be obtained only pass the examination of both enterprise and school. On July 22, 2010, Ministry of Industry and Information Technology 11 ministry jointly issued "some guidance on promoting industrial design development", and specially emphasized: strengthen the subject construction of product design of higher school, enhance software and hardware support for the teaching, scientific research and experiment of product design major, improve the teachers', support the hire of product designers with practice experience to teach.. Encourage qualified enterprises to create product design training base. Encourage industry associations, higher school, scientific research institutes and enterprises to jointly conduct product design training. Statistics show that graduates who are widely engaged in social practice are not only more likely to find the right job, but also get a higher starting salary than average. it is clear that strengthen practice teaching, create practice base high-quality, stable specification, guide students to participate in social practice, test, exercise and improve self in practice, improving oneself is a crucial link in product design teaching, which has the very vital significance to improve students' practice ability, develop high quality applied talents popular with enterprise.

### **3. Construction Methods and Measures of the Practice Base**

Practice is an important measure to train students' practice ability and engage in vocational skills after graduation for product design major. And building quality of base is the key to ensure students' practice quality. Product design major practice base construction involves society, schools, enterprises, students and various problems, in order to ensure the quality of practice teaching, all aspects need to coordinate and operate, and puts forward concrete methods and measures.

#### **(1) Construction Ideas.**

In the construction of practice base, we should according to the requirements of training goal, break through old models which are limited to the perceptual knowledge, skills training, make it really become inside and outside class practice teaching base of comprehensive education and training. The general guidelines of the construction of practice base are: ensure the key, give consideration to the ordinary; highlight feature, integrate remake and construct, focus on efficiency; standardize management and improve quality. The innovation and improving practice application ability as the main line, strive to train the students' basic skills, engineering practice ability and innovation ability, make students receive exercises in a strong engineering atmosphere and practice environment. The schools keep close touch with enterprises; improve the benefit of joint running of schools. Strengthen the standardized management of practice teaching and improve the management level of practice base. Strengthen the teaching force of practice link, and form a practice teaching team with reasonable structure and high quality.

#### **(2) Construction Methods and Measures.**

1. Strengthen leadership and overall planning. The teaching and research office should according to the enrollment situation and development plan, the corresponding practice base construction plan is put forward, formulate and improve the teaching plan and the teaching outline. The college according to the plan of each teaching and research office, coordinate, arrange and implement.

Practice teaching is continuous, the general requirements are specific. To carry out the relevant policies of the school in the construction of the practice base, strive for more financial support, arouse the enthusiasm of the practice teaching base, and improve the practice teaching quality. The most notable feature of "product design" is innovation and practicality, and we propose a practice teaching system characterized by "orient issue and project". This system takes cultivation of students' innovative thinking and engineering consciousness as the goal, through a series of project design in simple terms, project operation, causes the student to understand step by step, master the design principles and skills, integrate related course knowledge in the design practice, learn to "design" and understand "design".

2. Deeply investigate and survey market, choose the enterprises with right major, more advanced technology and equipment, strong technology force, high management level and more sufficient production task as practice base outside school, thus ensuring substantial practice content and good effect. The establishment practice base outside school, according to the principle of reciprocity and mutual benefit, university and practice base unit are responsible for talent training and use and it has a symbiosis, and the cooperation will win. Make full use of the school of technology advantage, training talents for the enterprise, assist enterprises to develop new product, if conditional, they can participate in the technology and management work of enterprise, do more practical work for the enterprise, strive for the support of enterprise to practice work, school maintain close ties with enterprise, jointly build a relatively stable base for production, study and research.

3. Establish working contact systems with the practice base, perfect the practice quality monitoring system, and do a good job in the investigation, evaluation and analysis of the comprehensive abilities of each trainee. Schools specifically arrange and fit with experienced teachers, regularly guide the practice students, and jointly agree on the practice plan with the employing units, evaluate practice results and practice effect. In this way, a scientific practice evaluation system is gradually established, practical evaluation criteria are formulated, and we should be do planned, organized, guided and practical evaluation means.

4. Strengthen the contact and communication with the practice base. Regularly invite the leaders of the practice base to jointly study the management problems of the base construction and practice teaching, and do work summary well. Jointly Run schools with multi-channel, the design education class are extended to the design studio and workshop of teachers and enterprises, and make students can understand the actual process of product design and production. We should strengthen cooperation and exchanges with our fraternal departments, learn from experience, and make full use of our advantages to build a good practice teaching base. Taking the practice of our school major as an example, we took the product design major in grade 08 students to Beijing for practice this year. Students visited the Beijing-Hyundai Auto, Beijing product design promotion center DRC base and LKK Design Company, survey process of design process and design sales, and communicate with teachers and students of product design major in Tsinghua University. Through the visit, investigation and discussion of the product market, the students master the first-hand product information, have a preliminary understanding of the whole process from design, manufacturing, processing and sales of a kind of products; understand the product market positioning, price positioning, consumer level positioning; know the promotion means of this product. We ask students to record the process and feelings of practice, submit professional investigation reports and conduct seminars. Through this course, students can observe shortcoming of their design ability, consciously improve their design practice ability, and better adapt to the social demand for product design professionals.

#### **4. Management of Practice Base**

Practice teaching want to achieve results, the practice base construction is external condition, the key also lies in the school standard, strengthens the practice teaching management. We should be in accordance with the requirements for talent training scheme of product design major, cultivate students' independent learning ability and ability to solve actual problems as the management goal,

and build "the problem as center, the society as basis, the practice as means" new heuristic practice teaching management modes.

(1) Proposal of Problems.

1. The practice teaching management is not in place, the duty of practice base is not clear. Because the school practice teaching management is not in place, quite a few schools and practice bases have no agreement or have unclear verbal agreement. The teaching activity of practice base lacks scientific design, and the activity of practice base is arbitrary, which makes the teaching activity of practice base difficult to achieve teaching effect.

2. The role of the teachers is limited. The teachers of practice base are not only the organizer of practice activities, but also the instructor of practice activities. High-quality teachers should have fairly professional theory knowledge and rich practice experience, who guide students according to the theory of professional course, connect the reality and explore new ideas, enhance the students' ability to solve practical problems. However, although some practice base teachers have rich practice experience, they lack the corresponding professional theoretical level, so it is not good to explain the application of theory in practice. However, many professional teachers lack the knowledge and practice experience of market and engineering, and knowledge is single.

3. The design achievements of students who major in product design are far from the requirements of the enterprise. The main reason is that the current design education practice course system is not perfect, and the design thought and expression method cannot meet the social needs. There is a big gap between theory and practice, proportion of practice teaching is improper, quality and level of practice teaching is not high, lack practice link with a clear practical purpose, practice process lack normalization, practicability of practice contents is weak and do not conform to the requirements of society.

(2) Strengthen Scientific and Standardized Management of Practical Teaching Base

1. Clear the responsibilities of the teaching management department and the enterprise. Organize the school practice teaching management team, this team is responsible for the practice base selection, practice teaching system formulation, practice teaching plan review, practice teaching activity supervision and management and coordination of other links. Strengthen the standardized management of the practice base, clear the job responsibilities of the practice base; and the practice base must have staff responsible for practice work. The relevant documents of teaching management must have and put into practice. Cooperating with the assessment and evaluation of the school's practice base, and evaluation promote the correction and construction.

2. Attach importance to the construction of practice teaching staff. The practice teacher plays a leading role in the teaching process, and should take effective measures to improve the guidance level of the teachers in the unit of base. At the same time, we should emphasize the cultivation and training of the practice teaching skills of young teachers. With the development of modern science and technology, new instrument and equipment are emerging, technology means is more and more advanced, which objectively requires experiment; practice teachers should constantly update knowledge, master new technology as soon as possible. "Double abilities" teachers, who have both theoretical teaching ability and skill training ability, should occupy a considerable proportion in the teaching staff.

3. Perfect the curriculum system of education practice. The first is to formulate practice teaching plan, practice teaching plan must according to enterprise' requirements for talent quality structure, or the relevant industry standards, which is jointly formulated by industry experts, industry consultants and relevant colleges. The second is teaching materials construction, teaching materials of teaching practice base should reflect the development and progress of science, technology and industry in time, and carry out "leaflet teaching material". On the one hand, the operational practice of instance is paid attention to, on the other hand, the concept and technology are updated timely; and new technologies and knowledge are added to the teaching at any time. The third is teaching evaluation; effective evaluation is an integral part of the practice teaching system. The school regularly organizes the experts to conduct the examination of the practice condition, through on-site inspection, hold a

student symposium, issue and recover the questionnaire and so on, and monitor and evaluate practice quality.

## **5. Conclusion**

In the current fierce market competition, enterprises are in urgent need of design talents, especially product design talents, innovative design professionals with theory and practice ability are in urgent need. To improve the practice ability training of students majoring in product design, the path of close integration of school education, enterprises and markets has been recognized by the product design major of universities. But how to find the good joint point is the problem that practice teaching has been exploring.

## **6. References**

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