Research on Cultivating the Practice Ability for Future-Oriented Professional Master in Art and Design

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Abstract. Bauhaus, founded in 1919 laid the foundation for modern design education, now is the 100th anniversary of the birth of the Bauhaus school of design. After a century of social development process, the spirit of the Bauhaus and design education concept have become the symbol of pioneer and free exploration of design. However, in the era of rapid development of science and technology and the coexistence of diverse cultures, the education of art design must keep pace with the times. It is necessary to express reasonably the cultural value in the design practice and give consideration to the interdisciplinary characteristics of art design major. Therefore, it is imperative to set up a scientific and reasonable training system for postgraduates' practical ability and establish a corresponding system evaluation standard for postgraduates' education.

Introduction

The era of 5G is coming. The rapid development of Internet, big data, intelligence and other technologies has a profound impact on design, and artistic design has played a huge role in promoting social and economic development. Chinese design has related closely with the national strategy. It is booming and renaissance. And the domestic design education and the development of China’s design are synchronous. So far China has become the world's largest country in higher art design education. There are about more than 700 colleges and universities set up art and design major. Every year the number of graduates is over ten thousand. However, there is still a long way to go before it becomes a powerful country in art and design education. The problem is that Chinese design education attaches more importance to theoretical learning and lacks the cultivation of practical ability. The new era has put forward higher requirements for high-level talents majoring in art and design. Graduate students of this major should have higher comprehensive quality. Facing the challenge of high technology and market competition, high-level art and design talents want to be competent in the innovation work of design. They should not only have a solid theoretical foundation, but also have strong practical ability. There is no doubt that the practice ability is the basis of innovative design. Practical ability is a comprehensive quality. Only by learning forward-looking knowledge of science and technology and establishing a relatively complete theoretical knowledge system, theoretical knowledge will be organically combined with design practice, so as to do a good job in innovative design. The training of graduate students' practical ability is a systematic project, which can only be improved through the concerted efforts of government support, school education, design masters and enterprises. In the design practice, if science and art can be integrated, art and design professionals can better adapt to the rapid development of science and technology, take on the revitalization of national culture and national innovative industry development task.
Set Reasonable Training Objectives for Master of Art and Design

At present, the cultivation mode of master of art and design in China is immature. Compared with similar foreign universities, it is relatively weak in terms of content, form, means, methods and ultimate educational goals. The cultivation of graduate students major in art and design practice ability is outstanding, so must be comprehensively systematically to the cultivation of graduate students majoring in arts design scheme makes the corresponding adjustment, according to the characteristics of the design disciplines development, cultural development and the needs of the development of national industry, reference training scheme of similar colleges and universities at home and abroad, with its national conditions to develop a project of cultivating graduate students. Germany is not only a design power, but also a recognized leader in design education. Germany attaches great importance to the combination of practical ability and theoretical accomplishment in the cultivation of postgraduates majoring in art and design, which inherits Bauhaus' educational thought and combines school education with social production practice. The dual system allows students to spend one third of their postgraduate years in school and the rest in company. In recent years, in order to adapt to the situation of internationalization of education, Russia adopts the training mode of "teaching and production combination", which is similar to "dual system" and pays attention to the cultivation of practical application ability of postgraduates. The "sandwich" cultivation mode adopted in the UK, namely the "learning-practice-learning" work-study alternation mode, is characterized by the combination of teaching, learning and working, and attaches great importance to practical experience. First of all, the time that students spend on off-campus internship is long, accounting for 1/3 of the whole academic year. Secondly, students study in and out of school alternately, so as to cultivate strong practical ability of professional master, practical work experience. The mode is very popular in the United Kingdom and other European companies. The United States USES various forms of degree courses and research mechanisms to integrate sustainable design education into all levels and fields of higher art and design education. Japanese design practice is local culture and modern science and technology integration, so that Japanese products not only have the content of science and technology, but also rich in strong Oriental flavor. Design education in colleges and universities in our country's specific conditions, on the basis of reference to other countries of advanced education concept; put forward some theory and practice of the education mode of combining. Hunan University focuses on the national industrial development strategy such as intelligent manufacturing, Internet +, and cultural revitalization then create a training system for creative design talents emphasizing digitalization and internationalization. The "spiral promotion" training mode proposed by Nanjing University of Posts and Telecommunications is carried out by alternating students' study in school, practice in school and internship in enterprises. This mode highlights the cultivation of students' practical ability and emphasizes the combination of theoretical study in school and practice in enterprises. The design education in Tongji University has formed the characteristics of compatibility, leading the way of knowing and doing. In line with the open, flexible and diverse guiding ideology, focusing on cultivating students' innovative spirit and critical thinking, the training objectives of the master of art and design are divided into two major modules: theory and practice. Based on the above examples, the specific training objectives of master of arts are shown in figure 1.
Figure 1. Training Objectives of Master of Arts and Design.

**Overview of Art Design Education Modes at Home and Abroad**

In the teaching of art design major, it is necessary to highlight its characteristics of focusing on the practice of art design. It is also important to give consideration to the cultivation of theory, science and technology and humanistic quality. Richard levin, who was President of Yale University for 20 years, said, "true education is the ability to make a person qualified for a career in any field of study without imparting any knowledge or skill." The meaning of this sentence is: college and graduate education is not only to impart knowledge and skills, but more importantly to cultivate students' independent thinking and critical spirit, exercise students' learning and research ability, and improve students' practical ability. The overall optimization of art design education system is carried out from three aspects of teaching mode, teaching content and social practice.

Firstly, in the comprehensive university, it is inevitable to make full use of the discipline advantage of comprehensive university. To build integration interdisciplinary theory courses for postgraduates in order to give full play to national key laboratory of the mechanical institute in school of information, school of computer and the school of material. The graduate students were set up interdisciplinary design teams so that the art and design professional graduate students can take part in the practice in the laboratory of science. Thereby the students are able to apply the modern Internet +, large data, cloud computing and a series of new technology into design, as a result, new science and technology can be converged with art. To enable the students get inspiration to the innovation of the art design. The developed countries such as America, Britain, in order to realize the sustainable development design, train students' innovation ability, they usually integrate design and STEAM (science, technology, engineering, art and mathematics) education program. The aim is to optimize the knowledge structure of art design major students and enable students to master the basic knowledge of science, technology, engineering, art and mathematics, and lay a solid theoretical foundation for future design practice. Harvard University united school of engineering and school of design. The two schools are committed to breaking the disciplinary barriers, through the cooperation of training information technology, visual effects, aesthetic
thinking, and mathematical thinking as one of the compound talent. The students have become across disciplines genius. The MDE first-year program provides all the necessary skills, technologies and tools, as well as the background knowledge needed to support innovation and effective interdisciplinary collaboration to achieve transformative and integrated design; In the second year, students complete independent design projects. The two semesters will include a combination of lectures, seminars, case studies and classroom exercises covering topics such as design thinking, systems thinking, and patents. The overall optimization of art design education system should be carried out from three aspects, including content and social practice.

Secondly, it is possible to the combination of classroom teaching; skill training and design practice is adopted to improve design creativity and practical application skills. Kingston university has built integrates studio, workshop, office, exhibition hall, library and other functions. The school owns very strong teaching equipment and professional studios, which provide students with a lot of help. The students will have more opportunities to display their design ideas or make models in the studio, which truly combining theory with practice. The fashion major of Kingston University is the leading one in the UK and even the world. Students participate in the clothing design of local famous brands such as Jigsaw and Hobbs. The school of design puts forward the slogan of "Think through making". The college has set up strict rules and regulations to manage the practice workshop. In the workshop, there are all kinds of processing and manufacturing equipment, including all kinds of raw materials, as well as technicians to guide students to make design products. Students are encouraged to make design ideas by themselves, so as to improve their thinking ability and practice their design abilities.

Thirdly, it is necessary to increase the number of class hours and credits in practice. The implementation that carries out practice teaching practically, course teaching and major practice execute credit system. It needs study the course and teach practice link undertake examining according to teaching to requirement, examining cent is exam and check two kinds of means. Practice can take many forms. Taking the anniversary as an opportunity to create a platform for cultural innovation on campus, organize summer camps and international exhibition activities, encourage students to teach in remote areas and conduct social surveys, and use design skills to participate in targeted poverty alleviation activities.

Fourthly, it is necessary to create conditions for artistic design practice and establish practice bases in various forms. For example, Wuhan university of science and technology college of art and design and D + M means that industrial design town, Beijing flight design co., LTD., wave group co., LTD., ink valley integration design (Wuhan) co., LTD. have signed the agreement of the practice base. Several universities in Wuhan have jointly established the central China university business alliance. They have regularly organized seminars, inviting entrepreneurs and design share experiences, explore the design pattern of university-enterprise cooperation. British art schools take more cooperation between higher vocational colleges and the mode of running a school, local enterprises with close links to the colleges and universities, and colleges and universities part of the project is funded, art design major students in terms of product design and development, for the enterprise to form supply and demand, fostering applied technology development and design talent, promoting local economic development.

Take Effective Measures to Improve the Practical Ability of Postgraduates

Promoting the Tutor's Scientific Research Ability, and Effectively Lead the Graduate Students to Participate in the Design Practice

Pay attention to update the teacher's knowledge structure, to promote teacher's professional and technical level, it is more important to improve the scientific research ability of the supervisors of postgraduates. The tutor should effectively lead the graduate students to participate in scientific research and design practice. They should encourage and guide the graduate students to carry out art design practice. College can hire experts with practical experience in the field of art design to cooperate and guide the students. At the same time, students are guided to practice in enterprises or
companies to participate in design projects of enterprises and improve their design ability in design practice. When a tutor starts a new course or adjusts an existing course, he/she can first conduct a survey of the corresponding professional enterprises to ensure the relevance between the course content and industrial demand. Meanwhile the tutor should also urge the students to read relevant foreign literature, not rest on their laurels, to keep up with the pace of international academic development. The students should be encouraged to publish papers in important periodicals. That enables the graduate students to use advanced scientific theories to guide the design practice. It is to guide graduate students to pay attention to the social development, and to explore ways to solve practical problems. Graduate students can participate in the planning and preparation of various museums. The students are able to use museums as classrooms to improve their historical and cultural accomplishment and build a comprehensive knowledge structure system. Be sensitive to new ideas and things and be creative.

**Build an Educational Platform for Design Practice and Encourage Students to Actively Participate in Various Design Competitions**

The school should pay attention to the organic combination of classroom teaching, production practice and social practice, and actively encourage postgraduates to participate in innovation and practice. For example, it is a good method to join the Internet + entrepreneurship competition for college students. To make students form a group of different professionals, such as art design professional, management professional, mechanical professional, information professional students to form a team. The spirit of unity and cooperation can be cultivated in the process of a common research topic. The school should strengthen the cooperation between colleges and use of existing resources and seek new resources to build practice platform for graduate students. The university should also allocate funds reasonably, increase the investment in the construction of studios and laboratories, and provide excellent learning environment for postgraduates. Through participating in various design competitions, such as national college students advertising competition, red dot award, through the competitions, the postgraduate hands-on ability will be trained as well as improving their own artistic accomplishment and aesthetic ability, tempering their practical ability.

**Learn and Understand Traditional Culture, Inherit and Carry Forward the Spirit of Craftsman**

To study and experience the artistic charm of traditional culture through internship, students visited workshops for learning folk art, and made handicrafts such as Batik dyeing and Han Embroidery by themselves. That will increase the confidence of national culture and inherit and carry forward the spirit of craftsman. And think about how to use the digital technology to inherit and carry forward the traditional craft.

**Conduct Extensive International Exchanges and Broaden Horizons**

In the stage of postgraduate study, the university should actively organize academic exchange activities to create a strong academic atmosphere. Graduate students are encouraged to attend relevant academic conferences, especially international academic activities. By communicating and discussing with peers at home and abroad, postgraduates can understand domestic and foreign academic trends well only when they stand on the international academic frontier, so as to expand their knowledge, broaden their vision, improve their innovation consciousness and lay a good foundation for innovative design. There are many ways to cultivate practical ability. The main measures are listed in figure 2.
Formulate Scientific Evaluation Standards for Art Design Education

The scientific nature of the evaluation system, the rationality of the evaluation methods and the diversity of the supervision mechanism of art design education in the industrialized countries are worth of learning. David Schaeffer, professor of learning science in the department of educational psychology at the University of Wisconsin-Madison in the United States, has always believed that technology gives us the opportunity to understand deep learning in areas that were previously unexplored, and these countries value this aspect will be able to overtake the curve of educational development. There has to be an assessment that measures the learning objectives really matter that allows students to learn to think like engineers. Once it is found that the traditional test is difficult to evaluate whether students have the thinking mode of engineers, and this kind of thinking ability should really teach students, in fact, assessment tools can promote the change of learning. In order to promote social and educational change, we should devote ourselves to thinking and studying the most important and fundamental issues. The evaluation criteria include: whether students master the systematic theoretical knowledge and can apply it to the design practice; whether to have hands-on ability to design works produced; whether to have certain innovation ability; whether students can design works to meet the needs of users; whether students have certain humanistic quality. The evaluation system of art design education is shown in figure 3.

Conclusion

Anyhow, in the age of 5G, we must analyze systematically the social requirement of art design, teaching of design as a reflective, research-based teaching process so as to develop a reasonable training plan. Then the plan can have strict regulations to ensure the implementation of the training scheme and execution. The government formulates corresponding policies, actively support the standardization of the design education, provide a certain amount of money and take appropriate measures to construct the students' practical ability training platform. Education institutions should strengthen the combination with enterprises to achieve mutual benefit and common cultivating graduate students majoring in arts design. Let the student have the opportunities to participate in the actual project work, in the process of the project, their design ability will be exercised. Flexible and diverse teaching forms are adopted to fully mobilize students' learning enthusiasm. Meanwhile, evaluation standards for art design education are formulated. The talent’s practice ability can be truly raised.

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References


