Problems and Countermeasures of International Cooperative Education in Industrial Design

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Abstract. The general trend of design globalization has given rise to profound education reform, which requires institutions of higher learning to promote international communication and cooperation in the process of discipline construction. International cooperative teaching & research project, setting of Chinese and foreign courses, international academic exchange and exchange student are the main forms of international cooperative education. The core of international cooperative education in industrial design is communication, cooperation, reciprocity and mutual benefit. It’s a reform which covers cross-cultural, global and applied courses and teaching activities. This paper introduces in detail problems existing in international cooperative education in industrial design, and proposes means of its reform in such aspects as resource integration, major reform, course setting, regional characteristic development and internal management mechanism.

I. Background for International Communication between Institutions of Higher Learning

For industrial design education, studying design competitiveness is of great significance to the design development of all countries. Having more complete design concepts and procedures than China, and attaching greater importance to user experience make them work out mature strategic goals and complete operation solutions. It offers a theoretical guidance on technological innovation and grasp of user demands. At present, China’s design is shifting from processing and manufacturing with low added value to an innovative and high added value industry. As China’s urbanization is accelerated, people’s demand for material and culture will rise, thus in urgent need for foreign experience. In the meantime, a reasonable industrial ecological chain cannot be formed due to lack of manufacturing industry in foreign universities. Hence, international communication is needed to activate entity industries through creativity and open up new markets.

Characteristic industrial clusters composed of different countries and enterprises join the intense market competition while economic globalization is strengthened. Industrial clusters which are formed by closely connected enterprises and institutions appear in the same region and relevant enterprises as a comprehensive entirety, just as Professor Michael Port from Harvard University pointed out, “The cluster factor governs today’s world economy. It’s a distinct feature of national economy, regional economy and even metropolitan economy in every country, which is true in both developed and developing countries”. Hence, industrial design higher education is required to seek its own characteristics in concrete development routes and education models after entering the public education stage.

II. Status Quo of International Communication Projects

Global industrial design exists as a broader humanistic concept whose unique charm can be felt in any part of the world. Different from traditional art design, industrial design major is cross-border and marginal education based on science theories. China’s prosperous economy and products deliver all kinds of information, which makes the society more deeply recognize the importance of design. China’s industrialization progress faces the impact of globalization, market economy and internet of things before it can be completed. Almost all enterprises begin realizing the importance of industrial
design for product marketing. Like brand, design has become the main reflection of innovative value of a product. The study and communication in spiritual culture and teaching model are the inevitable pursuit of Chinese higher education diversification strategy.

International cooperative education serves as an important means of exploring schooling systems and international education. Rapid enhancement of China’s manufacturing level has attracted the attention of many foreign enterprises. The world’s universities are embracing a rare opportunity for their cooperative education models which are forms of education reform and international innovation.

III. Problems Facing International Cooperative Education in Industrial Design
(I) Insufficient Communication and Cooperation

Universities should make greater efforts to promote international communication of students. Under the greater background that universities are proactively developing industrial design international communication projects, more and more students participate in such projects. However, due to limited economic development and openness of thinking, most local universities fail to carry out international communication in a profound way and create few opportunities for teachers to attend international academic exchanges. Besides, there are few resources of international communication in industrial design, thus being unable to provide opportunities for students to have face-to-face communication with foreign experts. Moreover, the number of exchange projects are limited and forms of communication are monotonous.

(II) Unsound International Communication Management and Service Mechanism

The study management and service mechanism for students to take part in international cooperative education projects should be improved. In Chinese universities, bilingual teaching in the undergraduate program is weak. Besides, industrial design is divided into two aspects: first, industrial design under the machinery discipline; second, product design under the discipline of art. It’s difficult for students to express and understand professional knowledge in a foreign language, which further restrains their academic and scientific research cooperation with foreign first-rate universities. In addition, when universities are promoting international cooperative education projects, they have to face problems caused by different project periods such as cohesion with previous courses, credit acknowledgement for different courses, confer of degree, tuition and scholarship. While each other’s experience is drawn upon, insufficient knowledge of detailed conditions in Chinese society may affect effective combination of internationalization and localization.

(III) Implicit Orientation and Characteristics

Exploration and utilization of own characteristics are not deep enough. “Made in China 2025” shows that China is turning to a manufacturing power from a large manufacturing country. Manufacturing industry is the foundation for economic development and the strategic foundation for guiding global economy out of dilemma. China’s manufacturing industry is under a weak situation after going through the rapid development stage. Taking the lead in new technological revolution and industrial reform determines its economic development speed and future guidelines. Only when innovation is regarded as the form of driving economic development can China seize the first chance in this round of technological revolution. China has been dedicated to setting up an international cooperation service platform for industrial design. So far, we haven’t had a sound science system to guide innovative development. Establishing and improving forms of innovative development have been the research topics of governments. It’s top priority to study how to give play to the innovation ability of local places, how to make scientific research institutions play a role in the innovation system, how to direct economic transformation using emerging technological industries, and how to strengthen international technological communication and build a sound training mechanism for innovative talents. Strengthening international collaborative development, optimizing the openness structure and relying on global cooperative industrial chain system to improve overseas innovation and processing trade capability are the main direction in the future.
IV. Countermeasures of International Cooperative Education in Industrial Design

(I) Internationalization of Talent Training

Universities should update education concepts, adopt open and interactive teaching models as well as diverse curriculum settings, and shift from traditional systematic and fundamental education concepts to diverse disciplines, vague borders between disciplines, and cross integration. Besides, they should uphold new pragmatic knowledge outlook and replace static and linear discipline theories with comprehensive and universal education. Foreign scholars define such education as “life-long education” which concentrates on learners’ subjectivity, adaptability and openness. Under this background, interdisciplinary construction and fusion of science and humanity will make it easier for learners to accept foreign teaching and establish international concepts.

In terms of faculty setting, three supervisors can be arranged. The first supervisor should be a professional advisor who pays regular attention to students’ status, spot checks and instructs their language and design; the second supervisor should come from enterprises so that students can learn about regional economy and authentic market demands, clarify advantageous disciplines and formulate the right career plan; the third supervisor should be a learning friend who can be seniors who have participated in international communication projects. They can help students better recognize foreign teaching model, lifestyle and mode of thinking, etc. and assist foreign students in getting familiar with industrial features of China and let them experience “life-long learning”. It should not be confined to academic knowledge only. Rather, it should stress high levels such as better social communication skills, ability to respond to crisis, emotional control in face of adverse situation and teamwork ability.

(II) Internationalization of Discipline Construction

First, jointly constructing research projects.

Universities should strengthen cooperation and communication in higher education research. Through foreign higher education research organizations, they can learn about superior disciplines of foreign universities and market demands. By combining their own resources, they can set up joint research projects or conduct joint studies for the sake of teaching reform, thus conducting pertinent introduction, absorption, reference and improvement. As for cooperative research projects, they can attract Chinese and foreign well-known enterprises using characteristics of industrial design, determine R&D intention and join hands with cooperative universities to complete the product R&D process.

Second, strengthening the construction of soft campus environment.

Self-training and personnel introduction can be conducted synchronously. On the one hand, excellent young teachers can be encouraged to participate in long-term or short-term foreign exchange and training, or international professional seminars for academic exchange, further study or degree acquisition. On the other hand, universities should introduce foreign outstanding faculties and hire the world’s renowned scholars to open WORKSHOP courses and lectures, and UN faculties to engage in teaching and scientific research cooperation. In addition, universities should set unique and distinct international courses, orient towards students’ future career fields and open auxiliary courses based on the global trend of industrial design development, job opportunities and further study. On the basis of required courses, they should provide public optional courses with international vision. Interdisciplinary study can train industrial design students’ business perspective, management competence and logical thinking capability, etc.

(III) Enterprise Globalization and Postgraduate Training Program for Innovative Disciplines

Over the years, international industrial design postgraduate programs mostly value theoretical teaching and underestimate practice and comprehension. Therefore, postgraduates trained according to national demands generally work as teachers or researchers. The gradual enhancement of global operation models has launched the debate in the international education circles. The monotonous training model of academic postgraduates is unable to meet with global enterprises’ demands for applied, high-level and international personnel. Today, in international communication and cooperation projects regarding industrial design, universities, international organizations and
transnational companies all regard global and international cooperative education as one of the development strategies. Resource transformation of enterprises have gone beyond the limitation of borders. The output of products, labor, technology and resource influences enterprises’ transnational operation level. More and more enterprises start aiming for global markets. Accordingly, high-level international management and design personnel will be urgently needed by such enterprises. Cross-cultural management and innovation are pushed to the cusp again. Cultural conflicts and fusion are inevitable in transnational operation. How to build unique corporate culture, optimize cooperation and communication under different social ideologies and improve comprehensive benefits will be the research direction of future innovative discipline postgraduate training.

V. Conclusion

International cooperative education in industrial design is a complex, long-term and systematic work. Universities should integrate regional quality resources and establish superior disciplines with international vision, mode of thinking and problem-solving approaches. Driven by the implementation of the “Made in China 2025” strategy, comprehensive reform of the industrial design major should be fully conducted to boost international communication and cooperation, and bolster lasting and stable development of international cooperative education in industrial design.

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