Problems and Countermeasures in Product Design Teaching

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Abstract. With the development of global economic, our country has a more and more frequent and close contact with other countries. It demands colleges and universities to cultivate more diversified talent, and students need to master more professional English language knowledge. Therefore, the state advocates bilingual teaching for some specialized courses in qualified institutions of higher learning. At present, bilingual teaching in colleges and universities in China is in the initial stage of theory and practice, and Bilingual education is conducted in different ways. Many colleges and universities have not set up a scientific and reasonable bilingual teaching quality evaluation mechanism, which is not conducive to the development and improvement of bilingual teaching. (Industrial Design “Ergonomics” bilingual teaching research of sharing courses) Bilingual teaching in colleges and universities in our country started relatively late compared with other developed countries, it still face a lot of contradictions and problems, we need to develop the bilingual teaching through our research and practice, and then broaden the direction of our academic development.

The Significance of Bilingual Teaching in Product Design

The Outline of the National Long-term Education Reform and Development Plan (2010-2020) defines the connotation of Chinese universities’ internationalization in such a way that the so-called internationalization of Chinese universities is aimed at cultivating international talents and promoting the internationalization of schools. With the activities of organization management, curriculum teaching, personnel mobility, and scientific research cooperation as the carrier, integrate the concept of communication, cooperation and internationalization into the process of school personnel training, scientific research, cultural heritage, and social services [2]. China’s policies reflected the rationality and significance of the existence of bilingual education in universities. Bilingual teaching is being actively carried out in colleges and universities, and the course Product Design needs such teaching forms to meet the needs of today’s students. First of all, due to the internationalization trend, the communication between People from all over the world become more and more wide, including the design, production and consumption of our products. Second, students are becoming more and more sensitive to international outstanding product design. It is urgent to understand and learn through such a medium of language. Thirdly, there are more and more international product design competitions. In order to cultivate students’ international competitiveness in the product design, this course must be offered, and our students cannot be left behind by the major forces for language reasons.

Bilingual teaching is more beneficial to the frontier teaching of product design. At the beginning of the 19th century, the establishment of Wiemar in Germany made industrial design swept the West and the United States and other Western countries and created great productivity. In China, industrial modeling design, i.e. product design, was gradually introduced until the 1980s, so it is a relatively young subject. The necessity of bilingual teaching in the product design course is that the relevant knowledge is more professional and advanced in foreign countries. Based on the comprehensive university of Hunan University of Science and Technology, from the perspective of disciplinary responsibility, we need to cultivate the international interdisciplinary talents that are needed by today's society, so as to truly connect with international standards. For example: Bilingual English and French teaching at the University of Ottawa, Canada, the University of
Leiden in the Netherlands, the University of Helsinki in Finland, etc. They are used the bilingual teaching, which fully demonstrates the importance of bilingual teaching in pursuit of frontier research.

**Problems in Bilingual Teaching of Product Design**

**The Lack of Bilingual Teachers**

The first and most important thing in Bilingual teaching in product design is the teaching faculty. The teacher's English level is the core of the entire teaching. To set up this course, teachers must have a solid foundation of professional English, profound professional knowledge, rich teaching experience, and fluent oral English. The teacher of product design major had better be the teacher that has studied abroad or study abroad experience. However, most colleges and universities lack such teachers. Most of the teachers are of artistic origin. Their English skills are generally not profound. Although English is only a medium for spreading knowledge, however, the failure to master this medium skillfully will weaken the quality and quantity impact to the teaching of these courses.

**The Varies of the Students’ Foreign Language Proficiency**

The writer knew the Chin’s exam-oriented education well, which is different from India, Singapore and other countries’ English learning, Chinese students don't have an English language environment to nurture, Therefore, most students cannot use English as a tool for practical use and communication. In the course of product design in colleges and universities, students generally respond that they cannot understand and learn English well. Therefore, students’ limited English proficiency is a very important factor.

**The Selection of the Textbooks**

Currently, there are only a few textbooks available for purchase in English for product design majors in China. Teachers in colleges and universities have very limited channels for selecting textbooks and the acquisition of teaching materials is also very limited. Moreover, it is very expensive for students to buy original foreign books, which undoubtedly causes a serious burden on students' study.

**The Problem of the Performance Assessment**

In terms of the previous curriculum arrangements, there are problems of how to design the examination method for performance assessment. Because it is product design professional English, we must make it clear that our focus is on assessing student product design, or on the assessment of professional English, and the teachers how to balance the relationship between the two. What is more, it is also necessary for teachers to consider carefully whether the assessment is conducted in the form of an exam paper or in a professional examination.

**The Problem of Integrate Bilingual Teaching into Design Practice**

How to integrate bilingual teaching into design practice is actually to use bilingualism make every design process work well. For example, how do we obtain foreign priority design resources, how to learn the world’s top design methods, and how to gain information from the world-class competitions are all ways in which our bilingual teaching can be incorporated into design practice.

**The Improving Measurements for Product Design’s Bilingual Teaching**

**External Introduction and Internal Training of Bilingual Teachers**

External introduction aims at recruiting excellent bilingual teaching teachers. Newly-educated teachers must have a high level of professionalism in product design and English teaching. The internal training aims to cultivate the English teaching ability. The task of bilingual teaching in
product design is arduous, and it is a new development and a new attempt in terms of preparing lessons, organizing classes, and assessing performance. Teachers are required to have professional knowledge, high-quality professional ethics and excellent professional qualities in this work. Therefore, in these two ways, we will train qualified professional bilingual teaching faculty and carry out the course of Product Design English smoothly.

**Improve the English Language Proficiency of Students**

To train students according to the teaching purpose of product design major and design the acceptable professional English education. Through the student groups survey, the motivation of students for product design students to learn English comes from the following aspects: (1) Students’ need for English when participating in international competitions of product design. For example, for IF competitions, all event documents are presented in English on the web page. There is no Chinese website for reference. (2) In the study of international outstanding works, all the students’ literature review are interpreted in English. If they do not have the ability to read and write professional English, they will not be able to obtain the essence of their works. (3) When students are designing, whether they are participating in the design competition or responding to the diversity needs of the design company, most of the design instructions are in both English and Chinese as design works. (4) Designers have a good foundation of English regardless of national borders, and designers at home and abroad can reach barrier-free exchanges. When students are looking for a job in the future, professional English ability is undoubtedly an important stepping stone. (5) Most of the design-related software is translated from English, many software excellent plug-ins because they do not have a Chinese version and can not effectively use the software, including many large-scale machines, such as 3D printers, glass engraving machine, laser engraving machine and so on, they are all presented in English.

Therefore, in the English curriculum, in addition to courses such as *College English 1* and *College English 2*, we should also set up English courses suitable for students according to their needs. Interest is the best teacher, Only mobilize the enthusiasm of the students for learning English, so as to realize the use of English learning. Do not put blindly emphasis on English level test, but to improve the practical significance of learning English. In this way, the professionalism and English proficiency of students can be upgraded at the same time in the context of product design professional English, and the teaching significance of setting up this course can be realized.

**The Use of Teaching Materials**

First of all, we should make clear the demand for the teaching materials of professional English for product design. The teaching materials are continuous, systematic, advanced, and normative, which realize the interaction of knowledge and the improvement of thinking. Hunan University of Science and Technology is a comprehensive university, so Product design students can choose Chinese foreign language textbooks with moderate difficulty. European and American institutions of higher learning have set up the comprehensive product design and development courses for students who major in the product design and development. This course aims to break the traditional boundaries between departments and professions and establish a teaching system which is intersectional and interdisciplinary. The textbook chosen for this course is “Product Design and Development” edited by Professor Karl of the Wharton school in University of Pennsylvania, and Professor Steven of the School of Management in Massachusetts Institute of Technology. The three aspects of marketing research, product design and manufacturing are organically integrated, which providing a clear and complete idea for product design and development, and each theory and method in the book has specific project examples to illustrate, so that the original boring theory has become vivid [3]. Also, according to the needs of the classroom and the students, some product design materials collected by the teacher may be distributed in the classroom, and the Chinese and English annotations may be added, in doing so, it is more conducive to students’ learning and absorption of the professional knowledge, and this learning materials also can be retained after class for students to review which can effectively improve students’ learning quality.
Diversification of Course Assessment

This thesis holds that the assessment method for professional English products should be considered to be diversified. The purpose of the teaching is to enable students to learn more professional knowledge through the medium of English. Therefore, we must use this medium to learn professional knowledge with full understanding. For example, you can set up classroom simulations and use English as an assessment method to elaborate and exchange professional knowledge. The teacher gives a design theme. After designing this product, the students will state their creative points and purpose in English and how to convince a businessman to purchase their own works after the completion. Design a complete analog communication platform. This assessment method is challenging, active, and practical. It avoids the teacher-led teaching and assessment model and the student's boring test mode. Students' specific English learning has become more specific.

The Method of Bilingual Teaching used in The Design

The bilingual support analysis for each design node, from the initial collection of data to the design flow of the final design results. For example: First, the product design market preliminary research, not only from the domestic market, but also through the use of foreign websites and books to obtain first-hand literature. Second, through the previous research work, we can produce bilingual PPT to achieve accessible communication. Third, in the process of designing drawings, software application accessibility will not stand still because of its version. Fourth, when product design reports, bilingual images and texts are also used to achieve better results. Fifth, in the foreign design competitions, learning and supplementing domestic design resources that cannot be obtained can also more intuitively understand the design concepts of others and achieve translation-free error so that when they invest in international competitions, they have a fair competition platform.

Conclusion

Product Design Professional English is a very unique course, and it is also a very practical course. Students can learn professional knowledge in different languages and improve their thinking ability. Bilingual teaching can break the conventional teaching model, Students' ability to re-create and flexibly change the language will activate their thinking mode. Of course, this is a road that needs to be explored, we are just starting. We need to know more about this course before we can meet the learning needs of contemporary students more effectively and timely.

References

