A Study on the Course of Chinese for Science and Technology for International Students of Engineering at Technical Universities in China

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Abstract: With the increase of export of Chinese technical products and implementation of many engineering projects overseas, more and more international students choose to come to China to pursue engineering and technology degrees in the hope of finding good employment in their countries in the future. China has a long history and culture, and more and more international students are interested in Chinese culture. On the one hand, the current education of international students focuses on the Chinese language and culture; and on the other hand, the education of international students in technical universities blindly follows the trend and pay not enough attention to professional education, which will have a negative impact on the education of international students studying in China and international technical cooperation. In view of the problems existing in the current education of international engineering students in China, this study attempts to provide insights for the construction of a bridge course between general Chinese and professional Chinese (professional courses) for international students of science and engineering through the analysis of the current situation of our university's existing Chinese for science and technology course curriculum, the curricula of relevant domestic colleges and universities, and the study of relevant domestic teaching materials, so as to meet the needs of international students to smoothly join in professional courses learning delivered in Chinese after completing basic general Chinese language learning.

1.Introduction

With the export of a large number of technical products and the implementation of offshore projects, China's share in international economic and technological exchanges is becoming larger and larger. More and more international students come to China to pursue engineering and technology degrees for future employment. This also poses a challenge to the deepening of the education of international students in China.Due to the rise of China's international influence, more and more international students have a strong interest in Chinese culture. On the one hand, it leads to the tendency of the current education of international students to focus on Chinese language and culture. On the other hand, it also leads to the situation that the education of international students at technical and engineering universities blindly follows the trend and ignores professional education. This practice will have a negative impact on the education of international students in China and international technical cooperation.

2 Research background

In view of the problems existing in the current education of international students in science and engineering, this study attempts to provide a basis for the construction of a bridge course between general Chinese and professional Chinese (professional courses) for international students in science and engineering colleges by analyzing the current curriculum of "Chinese for science and technology" for international students in our university, the curricula of relevant domestic colleges and universities, and the research on relevant domestic teaching materials, so as to meet the needs of international students to smoothly join in professional learning after completing the general Chinese language learning.

This study intends to study the feasibility and operability of setting up a bridging course of "Chinese for science and technology" for international students majoring in engineering, and solve the problem of the connection between the general Chinese language course and the science and engineering courses in the teaching of the Chinese language to international students by drawing on the experience of the foreign language teaching reform of the whole country and our university. At present, the Chinese courses offered to our international students include Chinese culture, general Chinese language course, Chinese society (newspaper Chinese), etc. These courses focus on the Chinese life, the Chinese customs and culture. Although this curriculum is beneficial to the training of foreign students to adapt to Chinese life and learn Chinese culture, it has no significance for the acquisition of basic expressions of science and engineering in Chinese by international students majoring in science and engineering in our university. The direct result is that these international students who study engineering majors do not have basic mathematical knowledge of technical Chinese, and cannot understand the basic technical courses and professional courses instruction when they enter the later stage of studying the professional courses along with the Chinese students. As a result, they are tired of learning and play truant, and finally cannot complete the professional course learning and overall educational objectives.

3 Objectives and methods of curriculum reform

According to the curriculum standards of mathematics, physics and chemistry in domestic middle schools in China and the general mathematical knowledge foundation of engineering majors in our school, the syllabus, knowledge system and teaching materials of "Chinese for science and technology" for international students of science and engineering are compiled. On the basis of the existing Chinese language courses and Chinese social and cultural courses, the bridging course "Chinese for science and technology " is added to the curriculum to help international students to learn the Chinese vocabulary and expressions of scientific and mathematical knowledge as a special purpose Chinese course connecting to the professional courses. We comprehensively investigated the curriculum system of Chinese as a foreign language for international students from prestigious national science and technology universities, summarized effective experience, and sorted out the curriculum standards and knowledge system and contents of mathematics and physics courses in domestic middle schools, as well as compared and sorted out the basic science knowledge system of engineering majors in our university, in order to prepare the knowledge system, syllabus and teaching materials of the scientific and technological Chinese course offering suitable to the international students of science and technology at our university.

4. Preparation of syllabus for "Chinese for science and technology"

With reference to the syllabus of “Chinese for science and technology” for special purpose Chinese language teaching to international students from well-known domestic science and engineering universities such as Tongji University and Tianjin University, and the syllabus of mathematical Chinese for foundation education of international students in China, the syllabus of Chinese for science and technology for international students in China is prepared according to the actual level of the Chinese language of the international students at our university.

Chinese for science and technology is an advanced Chinese language course for international undergraduate students studying in China. The learners of this course are international undergraduates studying in China who have completed the basic stage of Chinese language learning. This course should be arranged at the early stage of undergraduate education, that is, after the international students have completed the basic courses of Chinese language and before they enter the stage of professional courses study. This course is a Chinese language application course, which is the follow-up improvement course and application practice course of intermediate Chinese course. This course is a bridging course, which mainly plays a transitional role between the Chinese skills course and the professional basic courses and professional courses taught in Chinese. The course makes up for the deficiency of the undergraduate students' listening, speaking, reading and writing skills in scientific and technological Chinese, and enables them to have the listening, speaking, reading and writing ability required to understand basic mathematical courses and basic professional courses. The course aims to cultivate and improve the listening, speaking, reading and writing skills of scientific and technological Chinese required by international students to learn basic mathematical courses and professional basic courses, help them master the necessary basic vocabulary, word

formation, expression methods and sentence patterns for learning basic mathematical courses and professional courses, and make them reach the language and knowledge level of scientific and technological Chinese that can enable them smoothly enter the later stages of studying the professional courses.

5. Analysis of the existing textbooks of scientific Chinese

In recent years, with the development of overseas students' education in China and the rapid growth of China's overseas engineering construction investment, more and more overseas students choose to enter China's engineering majors such as civil engineering, mining engineering, oil exploration and exploitation, energy engineering, road and bridge engineering, rail transit, mechanical engineering, etc. In order to lay the necessary mathematical foundation for overseas students and prepare for the special language for the relevant engineering courses, the domestic Chinese textbook publishing house for Chinese language teaching has organized teachers from engineering universities with rich scientific and technological Chinese teaching experience who have been engaged in scientific and technological Chinese teaching for overseas students majoring in science and engineering for a long time to compile and publish several sets of influential scientific and technological Chinese textbooks.

These textbooks can be roughly divided into three categories. The first category includes comprehensive teaching materials including listening, speaking, ,reading and writing, such as *Reading and Writing Course of Scientific and Technological Chinese* edited by Bai Xiaohong and others and *Listening and Speaking Course of Scientific and Technological Chinese* edited by Han Zhigang in the series of professional Chinese for science and technology published by Beijing Language and Culture University Press. The second is a simple Chinese textbook of reading materials. The third category is the mathematical basic knowledge Chinese applicable to the advanced preparatory stage and undergraduate foundation stage of international students studying engineering in China, such as *Mathematics Chinese* (Guo Fei), *Physics Chinese* (edited by Xiao Lifeng) and *Chemistry Chinese* (edited by Qin Xue) in the Chinese learning series for international students in China published by Beijing Language and culture University Press.

Conclusion

This research is aimed at implementing *The Specific Measures for Improving Quality of Higher Education for International Students in China(provisional)* issued by the Ministry of Education in 2018. The purpose is to solve the problem of poor connection between international students' general Chinese as a foreign language courses and professional courses. The innovations of this research are as follows: the research is guided by the second language acquisition theory at home and abroad, and draws on the reform and practice of college English teaching in our university; in view of the poor connection between international students' general Chinese as a foreign language courses and professional courses, this paper studies the mismatch between the knowledge base of general Chinese as a foreign language courses and the basic and professional courses of science and technology; it comprehensively sorts out the mathematics curriculum standards and teaching materials of middle schools in China, and compiles the teaching knowledge system and language syllabus of scientific Chinese; the knowledge system, syllabus and teaching materials of Chinese for science and technology facilitating the study of the basic courses of general education of engineering majors are prepared on the basis of the investigation and research of Chinese for science and technology course offered by our university to international students majoring in science and engineering, which also provides a theoretical basis for the course construction.

References

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