

The College English Course Targeted At to Boost the Development of New Engineering Discipline and the Plan of Excellent Engineer Cultivation 2.0

Li Cong

Foreign Languages School, Dalian Jiaotong University, Dalian, Liaoning, 116028, China

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Abstracts: This paper is based on the analysis of To Boost the Development of New Engineering Discipline and the Plan of Excellent Engineer Cultivation 2.0 launched by Ministry of Education of the People's Republic of China. The purpose and teaching application of College English Courses targeted at the Excellent Engineer are discussed to improve the effectiveness of English Teaching for engineering students. Current problems existing in the college foreign languages education are explored with some possible solutions.

1. Introduction

With China's international exchanges and economic development, as well as the entry of more industries into international market, the economic, trade, and technical contact between China and other countries have become more frequent. In the “Outline of the National Medium- and Long-Term Program for Education Reform and Development (2010-2020)” issued in 2010, it proposed to “expand education opening up, improve China's education internationalization level, and cultivate international talents.” In the “Outline for National Medium & Long-term Program for Talent Development (2010-2020)”, it also clearly states to “vigorously develop specialized talents urgently demanded by key areas of economic and social development, establish and complete internationally compatible engineers' certification and accreditation system and enhance engineering technical personnel's professionalism and internationalization”. “Opinions on Accelerating the Construction and Development of Excellent Engineers Education Training Plan 2.0” issued on October 2018 by the Ministry of Industry and Information Technology of the Ministry of Education clearly states to “take the initiative to respond to a new round of science and technology Challenges of revolution and industrial change facing the industry, the world, and the future, take the opportunity of joining the international engineering education “Washington Accord” organization, accelerate t cultivate excellent engineering and technological talents adapting and leading a new round of technological revolution and industrial change, create a world engineering innovation center and talent highland, and improve national hard power and international competitiveness. “At present, to satisfy national strategic development needs, how to cultivate excellent engineers targeting at industry, the world, and the future is a significantly important research issue in higher education.

2. Current Situation of Foreign Language Teaching in Engineering Talent Training

This paper reflects on the current foreign language courses in domestic engineering colleges based on the country's current development strategy. It is not difficult to find the following problems, which affect the quality of cultivating international engineering talents:

2.1 The Single Foreign Language in University Cannot Satisfy the Strategic Layout of the National Economy

Currently, colleges and universities provide foreign language curriculum for undergraduates. But the most majority only set up college English curriculum. Some colleges also set up minority language curriculum to non-English college entrance examination candidates as a supplement including Russian, Japanese, French, and German. In response to the national One Belt One Road

development strategy, aiming at the goal of cultivating engineering talents in line with the national One Belt One Road development, it can be found that there exists the problem of single language in current university foreign language teaching.

English as the largest target language of learning dominates the whole foreign language teaching. The languages in western developed countries are other supplements. At present, a lot of engineering project in China's Belt and Road Economic Belt are located in countries of Southeast Asia, Central Asia, and Western Asia. According to data released by the official website of the Belt and Road Economic and Cultural Development Center, "From January to July 2019, Chinese companies have directly invested 48 countries along the" Belt and Road "", with a total investment volume of US \$ 8.59 billion. The investment mainly flowed to Singapore, Indonesia, Laos, Russia, Kazakhstan, and Thailand. In terms of source of country, countries with high growth in foreign investment actually are Brunei, Israel, Saudi Arabia, Kazakhstan, and India. "It can be seen that Southeast Asian countries are the location along the way for engineering services and investment and financing, which means these regions will have increasing demand for engineering talents in China. However, very few colleges and universities provide minority foreign language courses in Asian countries. The sample survey of 11 engineering colleges in the three provinces show that most of the talent training plan published by provincial engineering colleges online have not reflected courses for minority languages in Asia and other regions.

According to the feedback from employers such as China Railway Engineering Corporation, due to the lack of corresponding language support, currently, most graduates from engineering colleges speak unskilled English and feel difficult to communicate with local engineering and technical personnel. Their language competence fails to satisfy the demand of actual work.

No offering of minority language curriculum is mainly attributed to three reasons as follows: first, the country neglected the necessity for minority language as general knowledge curriculum in the language strategic layout, leading to the lack of education in minority languages at universities. Second, there are no sufficient teachers. At present, the number of professional foreign language students cultivated by foreign language universities for Southeast Asian countries is few, and universities lack corresponding teachers. Finally, in terms of the size of students at the whole university, students have a small demand for minority language courses and courses are provided for freshman students and sophomore students who have no interest in learning minority languages due to lacking the understanding of employment-related information and expectations of their future career planning. According to the survey of three provincial universities in a province, the number of students selecting minority languages each year is less than 2%. In one of the universities, Russian language curriculum cannot satisfy the requirements for starting classes and teaching 30 students. It is often impossible to start course because very few students select the course. Without the awareness of language reserve, students cannot find the need for language skills in minority languages until the time for getting a job.

2.2 The Support of University English Curriculum for Enhancing Engineering Talents' Language Ability is Poor

Despite English plays a dominant role in the whole foreign language curriculum, its supporting role in cultivating international talents needs to be improved, and there are still many problems. At present, to achieve the goal of training international talents, some 985 and 211 universities mainly adopt the solution of setting up ESP courses. ESP (English for Specific Purposes) refers to English related to a certain discipline or occupation aiming at satisfying the specific needs and special purposes of learning objects (Hutchinson & Waters, 1987). However, some universities have tremendously compressed the credits and hours of basic general English, and some colleges even set 2-4 credits for general English. Students can skip the basic general English courses to start ESP English course. Xu Jinfen (2011) thinks that many colleges and universities in China, especially universities above 211 stay at basic general English education or completely abandon basic general English and directly enter ESP teaching, which are not appropriate. At present, the implementation of ESP in universities is not very satisfactory. Feng Yang & Sun Ling (2013) think that few

successful cases of ESP teaching can be found in China. ESP curriculum cannot fully support to achieve the goal of cultivating foreign language proficiency of engineering talents.

3. University English Curriculum Based on “Excellent Engineers Education Training Plan” 2.0

Zhuang Zhixiang (2011) thinks that international talents should have the following characteristics: (1) Good basic language skills. (2) Complete and reasonable professional knowledge structure. (3) Innovate thinking ability, problem analyzing and solving capabilities. (4) Own an international vision, thoroughly understand international rules, and have the ability to participate in international affairs and international competition. Liu Li (2014) believes that international talents should be qualified with seven qualities as follows: an extensive international vision and a strong consciousness of innovation; familiarity with and mastery of the international knowledge of this profession; familiarity with and mastery of international conventions; strong cross-cultural communication skills; independent international event organizing ability; strong information applying and processing capabilities; high-level political and ideological quality and healthy psychological quality, able to withstand multicultural impact, become an international talent without losing Chinese national character and national dignity. These descriptions of the characteristics of international talents analyze the composition of international talents' capabilities from different aspects and perspectives. “Excellent Engineers Education Training Plan” 2.0 further proposes specific requirements and training paths of “organizing students to participate in international exchanges, internships at overseas enterprises, broaden students' international vision, and improve students' global employability, promote Chinese standards of engineering education to become a world standard with international engineering project of Washington Accord as a platform, promote international mutual recognition of registered engineers, and enhance China's voice and decision-making power in world higher engineering education, support engineering education certification institutions to go global, adopt Chinese standards and Chinese experts, Chinese methods, Chinese technologies to evaluate and certify overseas universities and majors. To achieve these goals, it is necessary to set higher requirements for engineering talents and the corresponding college English curriculum objectives should also aim at the objective of personnel cultivation.

College English Course Guide (2017) clarifies that college English curriculum objective is “to cultivate the students' English application capability, strengthen the cross-cultural communication awareness and communicative skills, while developing autonomous learning capability and improving comprehensive cultural literacy to satisfy their needs in learning, life, social communication”. Aiming at the training objective of “Excellent Engineers Education Training Plan” 2.0, the goal should be further set as “students can obtain a broad international vision through curriculum learning and communicate and exchange effectively under cross-cultural background; the curriculum should enable students to know the international dynamics in the engineering field, conduct professional study such as searching for information on complex engineering issues and reading, provide English language support for English communication on engineering issues so that students can recognize the necessity for autonomous learning and lifelong learning in face of knowledge updating and technologies in the information society, possess autonomous learning ability and adapt to development. It is also necessary to cultivate students' national awareness, cultural identity and self-confidence.”

On the basis of engineering certification and OBE the concept of in the curriculum teaching, with goal-oriented and output-driven, it is necessary to clarify the quantitative description of university English curriculum goals and the supporting relationship for the university-based talent training goals of each university, retrodict the teaching content and teaching links with output-oriented concept, complete teaching objectives, lead the teaching content and teaching process, connect evaluation system with goals, and establish a complete teaching closed loop for the assessment of the teaching process and teaching effect.

College English curriculum is based on language acquisition theory. The curriculum can be

divided into different modules by ability output according to the characteristics of skill development and divided into different levels to cultivate language skills progressively so that students can obtain language skills supporting professional learning. Fundamental English plays an irreplaceable role in the whole university English system. University English curriculum should be a multi-level curriculum group rather than just a single course. It is necessary to pay attention to the relationship between foreign cultural input and the cultivation of Chinese students' sense of national identity, and pay attention to grasp the game between the two cultures in Chinese and Western cultures. It is necessary to focus on cultivating students to understand, comprehend, and respect the Western culture conveyed by English, but also necessary to enhance the response to cultural conflicts in cross-cultural communication, carry forward national culture, and integrate national culture into English learning, so that students can understand international rules, cultural psychology with English learning as a Chinese and Western cultures infusion, and students can obtain rational thoughts, correctly use strategies correctly for effective communication, and always own a strong awareness of Chinese cultural exchange and output.

To further achieve teaching goals of English curriculum at different levels, it is necessary to vigorously construct elective course system on the basis of compulsory curriculum, gradually develop curriculum for different training objectives in the curriculum system, conduct classified training, and strengthen output capacity, develop science and technology and professional English modules based on university English course skills foundation, develop with the goal of cultivating professional English services and professional development, train cross-cultural literacy as the core of cross-cultural English modules with the the goal of serving students' international communication and cultivating an international vision. The curriculum system should be combined with English modules for international communication to serve our talent training goals. It is necessary to strengthen process learning, focus on students, and focus on the whole process of students' learning. In particular, it is necessary to carry out the reform of evaluation method, and use specific ability as the indicator in each ability training objectives of English curriculum. Corresponding ability assessment and description should be included in the test and evaluation so that the evaluation results can reflect the students' ability and quantify language evaluation, strengthen reliability and effectiveness.

4. Conclusion

Opinions on “Excellent Engineers Education Training Plan” 2.0 have clearly clarified the educational strategic plan for engineering talents, focused on the construction requirements of “Belt and Road”, explored to establish a” Belt and Road “engineering college strategic alliance, built an international network of engineering education cooperation, and enhanced the supporting ability of engineering education's national strategy. The state should urge universities to attach importance to the construction of minority language courses, pay attention to the cultivation of minority language teachers, set up the language foundation for the Belt and Road University Alliance and student practice, and provide language and cultural support. At present, the engineering specialty of universities have been engaged in the international engineering certification one by one. OBE concept should be infused with college English curriculum. It is necessary to continue improving the construction and reform of college English curriculum so as to perfect curriculum design. At present, university English classroom teaching methods and learning process management models suitable for engineering talent cultivation still need to be improved through more in-depth teaching reflection, teaching researches and practice.

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