

Research on Construction of General Education Curriculum System of College English in Universities of Science and Technology

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Abstract: College English teaching focuses on course knowledge and grade examination, with a serious shortage of humanistic education, whereas general education focusing on humanistic spirit can just make up for its deficiency. In order to improve the educational goal of humanistic personality accomplishment, by understanding the relationship between general education and college English teaching, the problems in college English teaching are found out and the direction and measures of college English reform put forward. With general education as a guide, general education curriculum system is improved, scientific college English examination and teaching evaluation systems are constructed, and humanistic education is strengthened, to promote the development of college English education in universities of science and technology.

Keywords: University of Science and Technology; College English Reform; General Education Curriculum System.

1. Introduction

In 1945, Harvard published the red book, General Education in a Free Society. In 1950, MIT established the School of Humanities, Arts, and Social Sciences and the School of Management to rival the historic schools of Science and Engineering. In 2003, Nanyang Technological University in Singapore proposed the 5C talent training standards, setting new goals for students in terms of character, communication, citizenship, ability and creativity. In 2016, Tokyo University of Technology implemented education reform to strengthen students' development in foreign language, humanistic literacy and health education.

In 2007, an article was published in English Education Weekly, entitled General Education "Double-edged sword" in Foreign Language Teaching, which brought general education in foreign language education in colleges and universities into people's vision. In 2010, National Summary of College English Informatization Teaching Reform and Conference on General Foreign Language Education and Curriculum put forward the view of general foreign language education in universities for the first time.

On June 12, 2017, Ministry of Education officially issued Guide to New Engineering Research and Practice Projects. With the arrival of a new round of scientific and technological revolution and industrial transformation, the cultivation of multi-disciplinary integration engineering talents has become the focus of current education [1]. College English Teaching Guide (2020 edition) issued by Ministry of Education emphasizes that college English, as a part of humanistic education in colleges and universities, college English should pay attention to the unity of humanity and instrumentality. In order to cultivate students' comprehensive ability to use English and meet the development needs of individual, school, society and country, this topic tries to build a general English curriculum system in universities of science and technology.

2. Advantages of Constructing General English Curriculum System in Universities of Science and Technology

Under the background of "new engineering", constructing general English curriculum system in universities of science and technology aims at cultivating interdisciplinary engineering talents who meet the requirements of "new engineering", so that students can not only read industrial English on the basis of mastering language knowledge, but also have a little understanding of Chinese and Western culture [2]. It is of significant theoretical value and realistic meaning to construct general English curriculum system in universities of science and technology.

2.1. Rich in Content and Wide in Coverage

In the two semesters of the first year, the accumulation of English language knowledge is focused on. In the first semester of the second year, English for non-ferrous industries will be taught, covering mining engineering, metallurgical engineering, material engineering, electrical engineering, mechanical and electrical engineering, telecommunication engineering, civil engineering, surveying and mapping engineering, as well as new liberal arts. In the second semester of the second year, extensive courses are taught, including New Integration English (IV), Translation between English and Chinese, Spoken English, Tourism English, Publish Speaking in English, Business English and Cross-cultural Communication.

2.2. Both with Application and Operation

The integration of English knowledge and professional subjects improves students' comprehensive ability to use professional English. Online and offline mixed teaching mode, together with computers, multimedia and other advanced science and technology, combined with charts, audio, video and other ways are applied to carry out teaching.

2.3. With Clear Teaching Objectives

General English fully takes into account the reality that some students have a weak foundation. Academic English and general English enable students who are able to learn the language to learn special skills, sharpen their thoughts, arm rationality, and improve their expression ability, which will certainly contribute to their future professional learning, which prepare sophomores' professional English learning with vocabulary, knowledge and skills, and carry forward the excellent traditional culture of the Chinese nation [3].

3. Construction of General English Curriculum System in Universities of Science and Technology

In universities of science and technology, English courses should be taken as the core general education course, to influence students' foreign language cultural literacy, emphasize individuality and difference of learners, and pay attention to learners' personal experience and independent development ability. The English curriculum system in universities of science and technology should emphasize the influence of social development on English teaching, pay attention to students' professional development and individual needs, and highlight teachers' expertise and the ability of independent curriculum development. How to design college English curriculum system under the background of general education according to the Requirements and college English teaching objectives of different universities [4]. To put it simply, universities of science and technology focus on basic language skills and cross-cultural communication skills, and then organically combine the actual situation with general education compulsory courses and elective courses, to establish a diversified college English curriculum system.

The general English course system in universities of science and technology should include general English courses, specialized English courses and cross-cultural communication courses.

3.1. General English Course

In the two semesters of the first grade, the consolidation and improvement of English language knowledge and skills are focused on, mainly with *New Integration College English* (book 1 & book 2) published by Higher Education Press and *New Horizon College English Viewing, Listening and Speaking* (ideological and political wisdom version) (book 1 & book 2) by Foreign Language Teaching and Research Press Higher English Education Publishing as teaching materials, *New Horizon College English Skimming and Scanning* (3rd version) (book 1 & book 2) published by Foreign Language Teaching and Research Press and *New General College English Reading Comprehension* (book 1 & book 2) published by Higher Education Press the auxiliary materials.

New Integration College English consists of 4 volumes, each of which has 8 units, including 7 parts. In lead-in part, 2-3 import questions are presented, followed by a listening material related to the topic. In active reading part, there is a detailed reading of the text as well as useful expressions, followed by questions related to the content of the text. In language focus part, there are vocabulary training and Chinese-English sentence translation. In Chinese & foreign culture introduction part, there are a passage translated from Chinese to English and a passage translated from English to

Chinese, introducing traditional Chinese culture and the Western culture. In academic reading part, cited articles are combined with the characteristics of featured majors in our university, including material engineering, metallurgy engineering and e-commerce engineering. In academic writing part, based on the characteristics and writing skills of academic English, students' written expression ability is developed, to write English abstracts, literature reviews, research reports and journal papers. In developing skill part, it is mainly for grammar training and writing training of different writing styles. Through the study of the two semesters in the first year, most of students' English knowledge reserve can meet the general requirements of *College English Course Teaching Requirements*, and reach the level required in *College English Test CET-4 Outline*.

New Horizon College English Viewing, Listening and Speaking (ideological and political wisdom edition) consists of four volumes, each of which has 8 units. There are five parts in each unit. In Opening up part, questions are proposed to trigger students to think and actively explore the topic, and thus improve their oral expression ability. In Listening to the world part, audio and video materials from BBC are selected and a variety of listening and speaking activities adopted to broaden students' global vision and improve their listening skills. In Speaking for communication part, activities such as voice imitation, role play and group discussion are included. In Further practice in listening part, short conversations, long conversation and two passages, with the content from easy to difficult, speech speed from slow to fast, length from short to long, are played to train students' listening comprehension of grasping the key points. In Wrapping up part, students are checked up how much they master the unit and provided with teaching reflection.

3.2. Combination of General Education and ESP Teaching

General education (Liberal Education) is the course of humanistic quality training, while Liberal Education for English refers to the integration of humanistic education into college English teaching, to improve students' humanistic quality, helping them develop a broader and profound understanding of the life style, thinking pattern and cultural heritage of other countries, have a critical view of western culture and core values, be familiar with the similarities and differences between Chinese and foreign cultures, and cultivate cross-cultural communication ability.[5] It is also pointed out that English teaching reform should take into account the connotation of English curriculum, changing from the simple structural framework reform to the curriculum content design reform, to increase the cultural connotation, so as to achieve goal of taking English as the language in class and General Education the main content of foreign language teaching.[6]

ESP, namely specialized English teaching, emphasizes the professional characteristics of English. It refers to the English courses related to a specific occupation or subject according to the specific purpose and needs of learners, aiming to cultivate students' communicative ability to use English in a certain working environment. Specifically, ESP can be divided into English for Academic Purpose and English for Occupational Purpose related to a professional field, such as legal English and business English. It was put forward that ESP teaching is oriented to learning language skills and cultivating students' professional listening, speaking, reading,

writing and academic communication skills, which not only meets the academic and professional needs of students, but also objectively connects the deficiencies of basic English teaching and bilingual teaching.[6] Although the academic community is still controversial about General Education and ESP teaching, Curriculum Requirements clearly states that college English course is not only a basic language course, but also a quality education course to expand knowledge and understand the world culture, both instrumental and humanistic, which clarifies the status and roles of General Education and ESP teaching in college English teaching. General Education increases students' humanistic knowledge reserve and improves their basic ability. ESP teaching takes English as a tool, emphasizes the specialty of English teaching and strengthens students' communication ability in the actual working environment. Therefore, the combination of the two should meet the needs of students and the society.

In the first semester in grade two, it aims to integrate professional knowledge and language knowledge and improve students' comprehensive ability of using English, mainly with series of English teaching materials in non-ferrous industry published by Central South University Press and *New Horizon College English Viewing, Listening and Speaking* (ideological and political wisdom edition, book 3) published by Foreign Language Teaching and Research Press as teaching materials, and *New Integration of College English Comprehensive Tutorial* (book 3) published by Higher Education Press, *New Horizon College English Skimming and Scanning* (book 3, 3rd edition) by Foreign Language Teaching and Research Press and *New General College English Reading Comprehension* (book 3) by Higher Education Press as auxiliary teaching materials.

To meet the English learning needs of students in different majors in different colleges, there are 9 textbooks published, including *Mining Engineering English*, *Materials Engineering English*, *Metallurgical Engineering English*, *Electrical Engineering English*, *Electromechanical Engineering English*, *Electronic Information Engineering English*, *Civil Engineering English*, *Surveying and Mapping Engineering English* and *New Liberal Arts Professional English*. Each textbook consists of 6 units and each unit includes 4 parts. In Text A part, there are 2-3 lead-in questions, listening practice, text reading and after-class exercises. In Text B part, there are also 2-3 lead-in questions, listening practice, text reading and after-class exercises. In Academic skills part, skills such as academic reading and writing are introduced, supplemented by practice. In Extended reading and translation part, there are C-E and E-C translation of passages related to the subject.

3.3. Intercultural Communication Courses

In the second semester in grade two, it mainly to cultivate students' sensitivity to cultural differences, in-depth understanding of heterogeneous cultures and cross-cultural communication skills. The expanded courses are divided into *New Integration College English* (book 4), *English-Chinese Translation*, *Oral English*, *Tourism English*, *Publish Speaking in English*, *Workplace English*, *Intercultural Communication* and other directions. Teaching materials include *New Integration College English* (book 4), *Practical Translation: English Translation into Chinese and Chinese Translation into English*, *Oral Communicative English Tutorial*, *Travel English* (2nd edition), *The Art of Speech* (10th edition) (Chinese edition), *Successful Workplace English*,

Intercultural Communication Skills--How to Work with Westerners (revised edition) and *New Horizon College English Viewing, Listening and Speaking* (ideological and political wisdom edition) (book 4). Auxiliary teaching materials include *New Integration College English Comprehensive Tutorial* (book 4), *New Horizon College English Skimming and Scanning* (book 4) (3rd edition) and *New General College English Reading Comprehension* (book 4).

New Integration College English (book 4) aims to strengthen the development of students' common language ability and meet the diversified and professional English learning needs. *Practical Translation: English Translation into Chinese and Chinese Translation into English* aims to improve students' ability of English-Chinese translation through English-Chinese reciprocity exercises. *Oral Communicative English Tutorial* mainly introduces the travel, housing, food, entertainment and other contents of tourism, with the practical use of oral English, focusing on cultivating students in daily life of listening, speaking, reading, practice ability. *The Art of Speech* (10th edition) (Chinese edition), written by E Lucas, the father of speech, aims to improve students' communication, independent learning and critical thinking skills. *Successful Workplace English*, selecting the communication topics in the real workplace environment, helps students master the English communication skills in workplace. *Intercultural Communication Skills--How to Work with Westerners* (revised edition), taking the common details and conflicts of the communication between Chinese English learners and Europeans and Americans as the starting point, combines the theoretical knowledge of cross-cultural communication, practical case analysis and language learning to explore the ways to get along well with westerners.

4. Key Issues Proposed to be Solved

College English general curriculum system in colleges and universities of science and technology, transferring from language knowledge and skills to "English + content", puts forward new requirements for college English teachers, namely cooperating with teachers in mining, metallurgy, materials, electrical, mechanical and electrical, electrical, telecommunications, civil engineering, surveying and mapping, horse, art and other professions, with a comprehensive understanding of students in colleges and universities of science and technology need for English learning, to jointly study and design college English courses that meet the needs of new engineering talents. Teachers of all schools work together to provide support for the teaching content of college general English courses, students' English learning needs related to their majors, and teaching effect evaluation.

The key point of constructing general English curriculum system in colleges and universities of science and technology is that it adopts the teaching mode of "English + content", taking both instrumentality and humanity into account. The innovation point of the curriculum system is that the construction of general English curriculum system in colleges and universities of science and technology under the background of "New Engineering" turns into reality the organic combination of EGP and ESP, to meet the needs of new engineering talents for professional English and humanity [7].

The research results of the subject can be applied to college English undergraduate teaching, or as reference materials for

English undergraduate teaching or science and technology English. The main way of promotion is to share the teaching resources through the Internet. Of course, it can also be through the site study, mutual communication to achieve the purpose of promotion and application.

The curriculum reconstruction of the "trinity" in college English is a way to deepen the curriculum reform. Academic English can be used as an integral part and supplement of college English courses, as an elective course for students to choose freely, focusing on cultivating academic skills to meet the academic needs of some students, and should not completely replace the original general English teaching. General English courses in addition to item skills training, in the depth and breadth to general English courses, construction in English language as a medium or carrier, based on the content of humanities general courses, provide students to know the world and the perspective of understanding the world, focus on cultivating students' innovative ideas and humanistic quality, enrich their concept system, improve the analytical ability and cognitive level, improve cross-cultural communication ability and foreign communication ability, finally realize the organic unity of instrumental and humanity. In the construction of college English curriculum system, we should not only strengthen the application function of English curriculum, but also ignore its cultural connotation and ideological construction, so as to make both teachers and students get substantial promotion and make their lifelong learning possible. In order to improve the quality of college English teaching, we should pay attention to it. No matter how to reform or what kind of courses are offered, all the relevant variables need to change together, so as to really affect the effect of teaching and learning [8]. The basic stage of college English teaching should be fully considered several: 1) The objectives of college English teaching in universities at different levels should be different. 2) The college English teaching objectives of universities should be different in the same level and different categories. Therefore, "harmony without uniformity" should be the direction of our new round of university education reform. The actual situation of colleges and universities determines that we do not need to completely copy and integrate with all aspects, which does not work in theory and is ineffective in practice. Only by combining the actual situation, selectively learning from the curriculum model of other schools, and giving full play to the advantages of the college English department of our university, can we explore a distinctive way of college English teaching, truly promote the development of college English teaching, and provide help for the improvement and development of students' ability.

5. Conclusion

The reform of the college English curriculum system itself is to meet the needs of the development of The Times. General education can meet the needs of the association, students and curriculum development. Its purpose is to

strengthen the foundation, improve the ability, focus on the application, and meet the English learning needs of students at all levels. English teaching based on the concept of general education has started late in China, and there is still a long way to go from the mature system of developed countries. Therefore, college English general education can learn from the successful experience of foreign countries, combine the actual situation of each school, learn from each other, and explore a way of college English general education with Chinese characteristics, in order to adapt to the rapidly changing development of The Times.

Conflicts of Interest

The authors declare no conflicts of interest.

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