

Exploration of International Curriculum Construction for New Engineering Standards

Weijie Ren, Lanyong Zhang, Shiquan Zhao, Peng Li*

College of Intelligent Systems Science and Engineering, Harbin Engineering University, Harbin, Heilongjiang, China

**Corresponding Author*

Abstract: With the rapid development of science and economy, the world urgently needs a large number of international talents. Therefore, the internationalization of education and the creation of international courses have received widespread attention. The core of competition in the world cultural context is actually the competition for talent quality. At present, the construction of international courses in our country is in initial stage and still requires continuous exploration. This article explores the construction of international courses under the new engineering discipline, analyzes the problems in current international course teaching, and proposes corresponding measures.

Keywords: Internationalization Of Education; Internationalization of Curriculum; Higher Education; Curriculum Reform

1 Introduction

Against the backdrop of deepening the reform of world-class discipline education, how to utilize the internationalization process of education to promote the cultivation of high-level composite talents in scientific control disciplines is increasingly receiving high attention from educational scholars today. In order to meet the challenges of a new round of scientific and technological revolution and industrial transformation, actively serve the national innovation driven development and the implementation of major strategies such as the "the Belt and Road", "Made in China 2025", and "Internet plus", accelerate the reform and innovation of engineering education, cultivate a large number of diversified and innovative outstanding engineering science and technology talents,

and support the transformation and upgrading of the industry, the Ministry of Education issued the Notice on Conducting New Engineering Research and Practice. The new engineering discipline is proposed based on the new needs of national strategic development, the new situation of international competition, and the new requirements of moral education and talent cultivation. Its connotation is to respond to changes and shape the future as the construction concept, emphasizing the practicality and intersection of disciplines, and using inheritance and innovation, intersection and integration, coordination and sharing as the main means to cultivate future diversified and innovative outstanding engineering talents. [1-4]

The theoretical development of electronic drive and control discipline is closely related to the national concept of "New Engineering" engineering education. One important aspect of the reform of engineering education in the "New Engineering" field is the internationalization of education. In these contents of "New Engineering", clear requirements are put forward for the internationalization of engineering education, requiring higher education to strengthen international exchanges and cooperation, inject "Chinese philosophy" and "Chinese standards" into "international philosophy" and "international standards", and expand China's discourse and decision-making power in world higher education. Higher education is no longer limited to a single school, region, or country, it has developed completely globalized. In the context of international education, it is necessary to cultivate talents with an international perspective. Cultivating innovative engineering talents with an international perspective is not only necessary to adapt to the internationalization of higher education, but also to enhance the

comprehensive strength of higher education institutions themselves. Therefore, from the perspective of internationalization of undergraduate courses, accelerating the construction of new engineering disciplines and reforming talent training models is the trend.

2 The Current Situation of International Curriculum Construction in The New Engineering Field

International teaching is a global research topic, and Sino foreign cooperative education is a manifestation of cross-border higher education in China. Faced with the new form of internationalization of higher education, some countries have actively adjusted the structure of higher education, developed cutting-edge disciplines, and released strategic reports on engineering education reform. Under the background of new engineering disciplines, the talent cultivation model of higher education institutions not only requires an international perspective, but also needs to combine professional training with localization, in order to cultivate versatile talents for Sino foreign cooperative education projects and society. The construction of a national curriculum system should be based on the advantages and characteristics of the school itself, and then combined with the excellent teaching resources and teaching methods of foreign cooperative universities, adjust the professional curriculum reasonably, appropriately, and appropriately, so as to integrate the international curriculum system into the local teaching process and achieve the internationalization of teaching models.

Compared with the old engineering disciplines, the new engineering disciplines emphasize more on the practicality, intersection, and comprehensiveness of the disciplines. As an important part of the construction of new engineering disciplines, interdisciplinary education has received widespread attention. Wu Aihua, Deputy Director of the College Student Department of the Ministry of Education, and others pointed out that the construction of "New Engineering" should explore a talent cultivation model that integrates multiple disciplines, including offering interdisciplinary courses, forming interdisciplinary teaching teams, interdisciplinary project platforms, and

promoting interdisciplinary collaborative learning. Starting from the Massachusetts Institute of Technology's "New Engineering Education Transformation" plan, Liu Jin and others from the School of Humanities and Social Sciences at Beijing Institute of Technology pointed out that new technologies require interdisciplinary knowledge beyond traditional engineering fields. The existing discipline based training model has become a constraint, and engineering education courses should place more emphasis on interdisciplinary learning. Academician Takamatsu, former president of South China University of Technology and current president of Sun Yat-sen University, proposed to implement the "New Engineering Construction F Plan" at South China University of Technology, promote interdisciplinary integration, build interdisciplinary courses, high-quality interdisciplinary projects, and interdisciplinary majors. Zeng Yong, President of the University of Electronic Science and Technology of China, proposed to implement the "NewE3" new engineering construction plan and establish an interdisciplinary project curriculum system at the university.

2.1 Existing Problems

Students have limited international perspectives: With the deepening of international exchanges, the high-level talents cultivated by higher education institutions should not be limited to mastering basic professional and vocational skills, but also need to cultivate their international abilities, namely international innovative thinking and vision, international communication and practical ability, international diverse knowledge structure, and international cultural literacy, so that students can cope with the challenges of international development. Therefore, one of the key issues to be addressed is how to improve teaching methods to enable students to adapt to the rapid development of the international community and respond to the challenges brought about by future technological advancements.

Interdisciplinary teaching should be implemented: Real-world problems are rarely defined within narrow disciplinary boundaries, and undergraduate students should benefit from the interactions between disciplines

hidden within these problems. Interdisciplinary teaching can benefit students in terms of learning motivation, quality and confidence cultivation. Therefore, the professional curriculum fully reflects the characteristics of the profession, carries out high-level and distinctive teaching content, and introduces the latest research results into teaching, emphasizing the coherence of the curriculum before and after, and achieving integration.

Students need to cultivate comprehensive abilities: In the context of new engineering, the diversity of social demands is high and the speed of change is fast. Future engineering talents will need to apply technologies that have not yet emerged to solve problems that have not yet emerged. This means that the ability and literacy of future engineering students will be far more important than knowledge. Therefore, the cultivation of students' abilities is the core issue of teaching. This study will explore how to cultivate students' self-learning ability, scientific research and innovation ability, and engineering practice ability.

3 Reform Measures

International Innovation Talent Training: Firstly, integrate international teaching concepts and change the single teaching process and evaluation methods. The teaching process is divided into three parts: pre class, in class, and post class. Each part is designed with targeted teaching modes and resources, and rich teaching methods are used to improve teaching effectiveness. The course evaluation is divided into process assessment, stage evaluation, and final evaluation, avoiding the use of final exam scores as the only evaluation method, and emphasizing process assessment and stage evaluation. Secondly, establish an international teaching team and enhance the internationalization level of teachers through teaching seminars, international exchanges, and other means.

Multidisciplinary Interdisciplinary Integration Curriculum System: Based on the advantages and distinctive resources of our school in the fields of electronic engineering, control engineering, and electrical engineering, we will design curriculum teaching content with our school's unique characteristics, form an important component of the teaching system, effectively undertake the preceding courses,

and lay a foundation for subsequent courses. Establish a multidisciplinary and integrated teaching team, carry out professional backbone and characteristic courses as well as international curriculum construction, and integrate the latest scientific research achievements to provide students with rich after-school learning resources and practical teaching cases.

Developing comprehensive abilities of students: Provide students with sufficient and valuable teaching resources through pre class and post class activities, cultivate their self-learning ability, and stimulate their intrinsic learning motivation. In addition, integrating research and innovation training and technology competitions into teaching, promoting learning through research and competition. Explore the joint training model of research, competition, and learning, with scientific research and innovation training and technology competitions as the starting points, to promote the cultivation of students' innovative and practical abilities.

4 Conclusion

The educational internationalization reform goal of New Engineering Education is to cultivate world-class international high-quality talents. Although the internationalization system of the current curriculum is not yet complete, we still need to continuously explore and strive to create a high-level and high-quality educational environment.

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