

Practical Exploration of the "Four Beams and Eight Pillars" Study Style Construction System in Sino-foreign Cooperative Education from the Perspective of "Three-Wide Education"—Taking the International Elite Engineering School of East China University of Science and Technology as an Example

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Abstract: Sino-foreign cooperative education has unique characteristics in terms of training mode, curriculum system, and study planning. Therefore, the study style culture of the Sino-foreign cooperative school also demonstrates uniqueness. Combined with the concept of "all-round" "all-member" and "all-process" education, the International Elite Engineering School forms a study-style construction system, known as "Four Beams and Eight Pillars", which provides a new model of study style construction in Sino-foreign cooperative colleges.

1. Introduction

"Three-round Education" refers to "all-member cultivating people, whole-process education and all-round education".^[1] Ideological and political education from the perspective of "three-round education" emphasizes the all-round development of morality, intelligence and physique.^[2] In the university teaching stage, we must pay attention to the construction of the style of study, actively play the guiding role of the construction of the style of study in the growth of students, so that students can become New Youth with ideals and aspirations and clear learning goals.^[3]

With the ever-rising global influence of China and the ever-deepening "going global" strategy, an increasing number of students choose to participate in Sino-foreign cooperative education programs. Typical features of French engineering schools are that these schools maximize the role of enterprises in education; the aim is to train engineers who meet industry needs. In view of this, the International Elite Engineering School (IEES) of East China University of Science and Technology (ECUST) integrates the French elite training model for engineers with the advantages of ECUST's engineering education and forms an effective study-style construction system, known

as "Four Beams and Eight Pillars."

2. The General Idea of the "Four Beams and Eight Pillars" Study Style Construction System

The concept of "all-round" education in the construction of study style focuses on the creation of a comprehensive learning atmosphere based on different course categories. In the curriculum system of IEES, the practical courses emphasize engineering characteristics; language and culture courses (English and French) focus on students' cross-cultural communication skills; management courses help students understand the operational modes of modern enterprises; and professional courses develop students' ability to solve complex interdisciplinary problems. In this context, IEES deeply explore the essence of study style construction according to these specific course categories to create a multi-dimensional excellent style of study.

The aim of "all-member" education is to mobilize the educational resources of the school, the family and the society. The most urgent task currently is to accelerate the establishment of a "trinity" management mechanism for schools, families, and society, based on issues such as diverse management entities, single centers, and insufficient quality of management teams in university student education management.^[4] IEES effectively develops the educational potential of enterprises, peers, student party members, party-joining activists, foreign language teachers, professional teachers, class tutors, experts and scholars, alumni, etc.; this collective effort creates a synergistic effect that pushes forward the high-quality development of study style.

The "all-process" education aims to provide students with developmental education throughout their entire academic career. In the context of the four-year undergraduate program under the Chinese-foreign cooperative mode, the focus at each stage is as follows: freshman year focuses on adaptive and practical activities; the sophomore year focuses on innovation and professionalism; the junior year focuses on cultural literacy and international behavioral norms; and the senior year focuses on employment guidance. Considering the characteristics of each stage and the natural growth progression of students themselves, IEES has created a comprehensive theme education for study style construction.

3. Practice Path

3.1 "Four Beams" for the Construction of Study Style Based on "All-round" Education

With a focus on innovation and entrepreneurship curriculum, IEES creates a study style that integrates theoretical knowledge with practical application. IEES actively adapts to the needs of new productive forces and enhances its talent training. IEES stimulates enterprise deep involvement in the training of future engineers and invites enterprise tutors to collaborate in the design of teaching objectives. Taking advantage of the high recognition of the engineering education among French enterprises and the rich resources of engineer alumni, IEES invites French enterprises in China to formulate its development strategies, provide enterprise teachers, facilitate visits and internships, and guide the students in innovation practice. This approach aims to influence students with French engineering culture and develop a study style that drives mutual development between the school and enterprises.

With a focus on language courses, IEES creates a study style that champions diligence. Throughout the training program, students are required to complete about 1100 hours of French courses. Therefore, IEES provides personalized training to ensure that students' language proficiency meets international communication standards. The school has set up WeChat public accounts such as "Academic Monthly" and "French Fuel Station", organized the "Spelling-bee" French word spelling contest, and held a series of international reading activities to subtly stimulate

students' interest in language acquisition and lay a solid foundation for their linguistic development.

With a focus on basic and professional courses, IEES creates a study style centered on the pursuit of truth. IEES connects the French preparatory courses with ECUST's chemical engineering curriculum, improves the design of basic mathematics, physics and chemistry courses, and highlights the practical aspects of experimental and laboratory courses. IEES conducts chemistry lectures and holds the "Sino-French Environment Month" and other activities. Through various "Second Class" activities, students identify with their majors, remain firm in their development path, and engage in active, thorough, and systematic learning.

With a focus on the general education curriculum, IEES creates a study style full of virtue and elegance. Students are encouraged to take humanities and management courses to understand modern business operation models and cultivate interdisciplinary problem-solving skills. Taking advantage of the 60th anniversary of diplomatic relations between China and France, IEES has held a series of activities, including a photo exhibition on the diplomatic relations between the two countries, reading circles themed by "Voltaire Meets Confucius", and master lectures on "China-France Diplomacy and Cultural Exchanges". The aim is to integrate the diverse cultures of China, Europe, and France and enhance students' cultural literacy and cultural confidence.

3.2 "Eight Pillars" for the Study Style System Based on the Concept of "All-member"

3.2.1 Council for Promoting Integration between Industry and Education

With enterprises as key stakeholders, IEES established the Council for Promoting Integration between Industry and Education to create a new type of partnership. Under the Council for Promoting Integration of Industry and Education, the school expands internship opportunities for students, ensures a safe internship environment, facilitates comprehensive practice, and provides effective pathways for enterprises to recruit top talents.

3.2.2 "Mutual-Help" Groups among Peers

With students as key stakeholders, IEES tracks their learning performance and conducts comprehensive analyses of their learning ability. Students at the elementary and intermediate levels are grouped into "peer learning together" groups to carry out problem seminars and achievement-sharing activities. Students with advanced or struggling levels form "mutual help" groups, which focus on guiding and supporting students with difficulties.

3.2.3 Learning Model Post

With student party members and party activists as key stakeholders, IEES recognizes student party members and party activists as advanced groups among students and has a profound effect on their peers. Student party members and activists are designated as learning models, organizers and mini-lecturers. They themselves take charge of planning, organizing, and implementing study activities.

3.2.4 Observational and Feedback Mechanism for Language Learning

With French teachers as the key stakeholders, IEES observes and evaluates students according to their language learning stages and their learning performance. Weekly reports on students' progress and attendance are submitted to the college. For students with difficulties in French learning, the counselors and class tutors engage directly with students and their parents to provide targeted education and guidance.

3.2.5 "Ting Hai Lun Dao" Interactive Program

With professional teachers as key stakeholders, the "Ting Hai Lun Dao" teacher-student interaction micro platform organizes dialogues where master teachers and students exchange ideas while having tea. It not only helps impart knowledge but also serves as a platform to listen to students' voices. Therefore, it is an essential way to help the school timely understand students' needs, solve their confusion, and promote the construction of the college's study style to a higher level.

3.2.6 Thematic Class Meeting

With class tutors as the key stakeholders, IEES sets themed class meetings across eight semesters. These sessions cover the guidance of academic careers, the cultivation of innovation literacy, the enhancement of cultural literacy, etc. Through these thematic class meetings, IEES helps students solidify their academic aspirations, define their learning objectives, and build up their academic confidence.

3.2.7 Face-to-Face Talks with Famous Professionals

With experts and scholars as the key stakeholders, IEES invites well-known experts and scholars to deliver keynote speeches, present academic reports, and conduct seminars. Students directly dialogue with industry celebrities and discuss cutting-edge topics in a certain field. These interactions deepen students' understanding and comprehension and enrich the academic atmosphere.

3.2.8 Hall of Fame

With outstanding alumni as key stakeholders, IEES invites them to write articles on their experience on the new media platform. Moreover, these alumni organize lectures on professional learning and provide guidance on overseas studies. The aim is to stimulate students' passion for learning and to expand their international vision.

3.3 Continuous Momentum into the Study Style System Based on "All-process" Education

In the first semester of the freshman year, IEES carries out adaptive education. In the second semester, students are encouraged to participate in winter and summer social practices.

In the first semester of the sophomore year, IEES focuses on the cultivation of innovation among students through participation in innovation and entrepreneurship competitions. In the second semester, IEES focuses on career development education, including analysis of study abroad advantages and academic career planning.

In the first semester of the junior year, IEES emphasizes cultural literacy, encouraging students to understand, master and advocate traditional Chinese culture. In the second semester, IEES focuses on the international behavioral norms. This includes the analysis of the current international situation and clarification of standard conduct for their study abroad.

In the first semester of the senior year, IEES focuses on employment and career choice education. In the second semester, it pays attention to graduation education and encourages students to cherish and honor their alma mater through activities such as the graduation ceremony.

4. Conclusion

This provides a basic guideline for the ideological and political work of colleges and universities

in the new era to guide college students to take root in China and look to the world from the perspective of "three comprehensive" education, and to cultivate socialist builders and successors in the general trend of world development.^[5] According to the concept of all-round, all-member, and all-process education, IEES has developed a multi-dimensional study style. The "Four Beams and Eight Pillars" study style construction system of IEES provides a new model of study style construction in Sino-foreign cooperative colleges.

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