Research on the Secondary Development of Mechanical Engineering English Textbooks based on the Concept of CIPE

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Abstract. The focus of research on CIPE has been shifted from the macro level to the micro level. This paper focuses on the research on the specific paths and methods of integrating CIPE into the whole process of classroom teaching. Special attention will be given to the five aspects of secondary textbook development, that is, revision of curriculum standards, generation of CIPE connotation, optimization of textbook structure, cohesion of teaching mode innovation and classroom teaching effectiveness.

1. Introduction
Most of the researches on Curriculum-oriented Ideological and Political Education (CIPE) focus on the conception at the macro level. Generally speaking, existing efforts can be divided into three parts, namely, the analysis of the connotation of CIPE, the discussion of the key points and difficulties of CIPE, and the reflective summary of the deficiency of existing CIPE practice. The interpretation of the concept of peer-oriented and collaborative education of curriculum ideology and politics has reached a consensus in the field of education. The discussion of CIPE elements such as excellent Chinese traditional culture, revolutionary culture, advanced socialist culture and socialist core values applicable to all kinds of majors and courses is becoming more and more mature. [1] While integrating professional courses and CIPE we aim to avoid "simple labeling". At present, the research on this proposition in the educational circle has moved from the macro level to the micro level. This paper focuses on the research on the specific paths and methods of integrating CIPE into the whole process of classroom teaching.

2. Research background and significance
CIPE refers to a form of ideological and political education that organically combines the principles, requirements and contents of ideological and political education with curriculum design, teaching material development, curriculum implementation, curriculum evaluation and so on. The development of teaching materials provides substantial support for the implementation of the concept of CIPE teaching, and is a quantifiable factor for the effectiveness of CIPE construction. An in-depth study of the characteristics and advantages of different disciplines and majors, and the scientific and rational expansion of the professional teaching materials are the premise of carrying out the CIPE. In particular, higher vocational colleges need to refine and implement the development of teaching materials according to the classification and curriculum of higher vocational majors.

Under the background of CIPE, it is of practical and long-term significance to study the "secondary development" of teaching materials for higher vocational colleges. To explore the ways of secondary development of teaching materials on the existing college-based teaching materials is an important work
Research on the secondary development of mechanical engineering English textbooks based on the concept of CIPE has two aspects of research values. In terms of application value, the secondary development of teaching materials can provide opportunities for college English teachers to improve their ideological and political recognition, professional and scientific research capabilities etc. [2] The secondary in-depth development of the published or unpublished teaching materials can provide higher vocational college English teaching with teaching materials that reflect national ideology, the spirit of the times and the forefront of the industry, making sure that daily teaching in the ivory tower can be closely related to development in social, economic and cultural life. At the same time, the development of teaching materials promotes the implementation of important concepts such as collaborative education, whole-person education and humanistic literacy, which has been reiterated for many years in classroom teaching. In terms of academic value, the secondary development of ideological and political teaching materials for higher vocational college English courses is an indispensable part of the development and research of ideological and political teaching materials for higher vocational and even for higher education, which provides innovative ideas and inspiration for curriculum development and research of other disciplines.

The reform of CIPE teaching materials will become a landmark in the history of education reform, curriculum reform and textbook reform in our country. The secondary in-depth development of self-compiled textbooks in higher vocational colleges can highlight the characteristics of the reform of foreign language textbooks in higher vocational colleges in the Province. Taking the secondary development of teaching material for mechanical engineering major as an important starting point, it is helpful to highlight the achievements of foreign language teaching and scientific research in the construction of first-class higher vocational colleges in the province.

3. Research question and methodology

3.1. Revision of curriculum standards.
In May 2020, the Ministry of Education issued the guiding outline of CIPE Construction in Colleges and Universities, emphasizing the scientific design of CIPE teaching system, the practical implementation of the basic requirements of professional teaching standards in higher vocational colleges, and the construction of a scientific CIPE teaching system. The national teaching standard system of vocational education, with professional catalogue, professional teaching standards and curriculum standards as the core, serves as the specific teaching standard for implementing the educational policies of the Party and the country. To implement the concept of CIPE teaching and clarify the teaching intention, we should first start with the revision of curriculum standards. The main contents are as follows:

(1) In the process of writing the CIPE into the curriculum standard, we need to construct the linkage between professional curriculum and CIPE curriculum. And to set up a teaching material development group composed of ideological and political theory teachers, [3] professional course teachers, pedagogy and curriculum theory teachers and social experts, to promote the revision of curriculum standards on the basis of scientific division of labor and cooperation, and to encourage teaching material teams to participate in the formulation of curriculum standards and the development of teaching materials is the primary concern of this part of the research.

(2) As a teaching guidance document that defines the nature of the subject curriculum, curriculum objectives, content objectives and implementation recommendations, the curriculum standards make a detailed and clear exposition on the basic concept of the curriculum, curriculum objectives, curriculum implementation suggestions and so on. We need to integrate curriculum CIPE into the basic requirements of teaching objectives, and to refine the construction of teaching content, objectives and implementation.

The research on the revision strategy of curriculum standards focuses on the effective measures taken by the teaching departments and the teaching and research department teams to ensure the
standardization and normalization of the secondary development of teaching materials in terms of depth and appropriateness in the process of the second revision of curriculum standards.

3.2. Generation of CIPE connotation
The CIPE guidance outline points out that the content of CIPE construction should focus on strengthening students' ideals and beliefs, political identity, national feelings, cultural literacy, constitutional awareness of the rule of law, moral cultivation, etc., and focus on optimizing the supply of CIPE content, including systematic education on the core values of socialism with Chinese characteristics, the rule of law, labor, mental health, and excellent Chinese traditional culture. To excavate CIPE elements for specialized courses and actively broaden and innovate the ideas of ideological and political teaching of specialized courses, the key point is to give full play to the role of "invisible CIPE education". The difficulty lies in how to improve the affinity and pertinence of CIPE education to meet the needs of students' whole-person development. The study follows and investigates the CIPE education elements contained in the curriculum of textbook development group, forms the context of CIPE education in line with the teaching nature of this course, generates the inherent logic of CIPE education, and scientifically integrates the whole process of CIPE education. The key to this is to correctly understand and deal with the relationship between professional skills training and people's all-round development. In view of the characteristics of college English teaching in higher vocational colleges, we focus on two aspects.

First, based on its professional, practical and social characteristics, higher vocational education has innate superiority in integrating professional ideals and professional ethics education, carrying forward the spirit of craftsmen of a great nation, advocating patriotism, dedication, integrity and other social core values. On the basis of comprehensive humanistic literacy training, we will work to play a leading role in CIPE construction, and systematically integrate the existing CIPE elements into the textbooks and courses.

Second, the cross-disciplinary characteristics of college English courses bestow CIPE construction in mechanical engineering English courses dual advantages both in language teaching and international cultural exchanges. We will attach importance to the shaping of students' world outlook, life values, understanding of China's cultural knowledge, national spirit and aesthetic concepts, so as to consciously cultivate and enhance students' cultural self-confidence in cross-cultural communication. The ability to spread excellent Chinese traditional culture should be fully demonstrated in the secondary development of mechanical engineering English textbooks. The generation of the CIPE connotation in mechanical engineering English courses of higher vocational colleges should serve to guide students to a deeper understanding and conscious practice of the professional spirit and professional norms of various industries, to enhance their sense of professional responsibility, to guide students to inherit Chinese merits and to learn foreign languages and tell Chinese stories well.

3.3. Optimization of textbook structure
CIPE reform follows the inherent logical relation with previous series of teaching reform initiatives. Therefore, the optimization of textbook structure should follow a similar logic path. [5] First, teaching structure optimization should fully respects and safeguards professional curriculum ontology teaching, which plays a main role in professional courses teaching. Knowledge teaching and value guidance should be combined. Mechanical engineering English is highly related to job demand and social practice. The optimization of textbook structure will include how to integrate educational practice resources and excavate effective forms of practical activities to integrate CIPE elements. We will infiltrate CIPE ideas into projects tasks, activities, cases etc. Teaching methods and teaching materials in mechanical engineering English course teaching are all investigated in this part. Second, CIPE education works peer to peer with ideological and political education. We will carry out more operational and effective cooperative education mode based on moral education rules combining students' spiritual traits and value pursuit. We will spread the original vocational spirit, industry norms, moral norms etc. Various teaching modes will be enriched with CIPE elements in teaching materials distribution, deployment and
refinement, thus forming integrated quality education. We will use flexible strategy to integrate CIPE elements flexibly into one or more teaching modes.

### 3.4. Cohesion of teaching mode innovation

We focus on how to develop college-based textbooks, college-enterprise cooperation practice and training base development, auxiliary teaching development, extension data development etc. First, college-based textbook development of Mechanical Engineering English is based on highlighting the advantages of science majors in science engineering and cross-industrial interdisciplinary interaction. Second, we will connect CIPE construction between college and enterprise cooperation teaching materials. Teaching media and teaching materials should complement each other in secondary development of CIPE teaching materials. Multimedia and information teaching has become an inevitable choice for vocational education to achieve whole process education. With the popularization of "Internet +" digital curriculum, multimedia courseware and digital resource library have been developed as necessary materials for supporting information teaching modes such as flip class, MOOC, hybrid teaching etc. Third, in secondary development of teaching materials for Mechanical Engineering English teaching, multimedia courseware and digital resources updating should also reflect elements of CIPE. We should pay attention to traditional aesthetic values and brand reputation promotion of national brands in courseware design, auxiliary teaching tools selection and resource integration to enrich teaching content and create information teaching media with national characteristics.

### 4. Conclusion

This paper provides an early preparation and intellectual wisdom for further exploration of secondary development of teaching materials for mechanical engineering English teaching in higher vocational colleges. Judged from current research results, relevant theme conferences and research projects, it appears that micro-level researches take into consideration unit knowledge points and CIPE teaching design in classroom teaching. Middle level CIPE materials research is beginning to emerge and focus on professional curriculum research but still teaching materials development is a topic less touched upon. Therefore, based on existing research, this paper attaches importance to knowledge points or classroom teaching design. We hope to shift the focus to professional teaching material development on micro level and to highlight the importance of secondary development of professional textbooks.

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