

Reform and practice of ideological and political teaching in the course of electrical and electronic technology based on the concept of "All-Online"

Pei Yu^{1,a}, Yu Meng^{1,b}, Fang Wang^{2,c,*}

¹China Fire and Rescue Institute, Beijing, China

²College of Information Engineering, Beijing Institute of Petrochemical Technology, Beijing, China

^abiacd_yupei@163.com, ^b421057815@qq.com, ^cfangwang@bipt.edu.cn

*Corresponding author

Abstract: The ideological and political construction of college curriculum is a fundamental problem related to the cultivation of what kind of people, how to cultivate people and for whom. Through new measures such as teaching students in accordance with their aptitude, layered teaching, experiential teaching, heuristic teaching, discussion teaching and promoting teaching through competition, and on the basis of the existing BOPPPS teaching mode, the new mode of "All-Online" curriculum ideological and political teaching is deeply integrated, so that the curriculum ideological and political teaching is no longer limited to classroom teaching, inspire and guide students' interest in curriculum ideological and political teaching, which not only strengthens students' understanding of knowledge, Moreover, it has stimulated the students' interest in learning, so that the students with different foundations have mastered knowledge, received education and achieved the curriculum objectives. Through teaching practice, the ideological and political content of the course can be effectively incorporated into the teaching process of electrical and electronic technology.

Keywords: Curriculum thought and Politics, student-centred, BOPPPS

1. Introduction

Curriculum ideological and political education has carried out relevant research and practice at home and abroad. In foreign vocational education teaching, invisible ideological and political education is carried out through professional related courses to cultivate citizens' moral quality in line with their own requirements. Germany's moral education is a political education course. Hans Werner Kuhn, in his "German Political Education: development, current situation and prospects", expounds that the teaching content of German political education course is basic objective knowledge^[1]. Through the teaching of these knowledge, students' will of political thought and behavior can be stimulated, so as to produce the attitude of actively taking responsibility for public life. American educator Fred Newman emphasizes social action moral education, that is, infiltration education and practical education. Although there is no special ideological and political course, the ideological and political education is diverse: civic education, political socialization, quality education, history education and other infiltration methods, which are applied to students to solve social problems and exercise students' moral ability^[2]. It is a kind of moral education that is not only taught in moral education, but also actively infiltrated into other moral education courses, so as to make students receive moral education in the same way as moral education.

Domestic colleges and universities always adhere to the fundamental purpose of "building morality, cultivating people, teaching and educating people", and actively carry out curriculum ideological and political research and practice. The Internet plus education in the post epidemic era has promoted the integration of teaching on line and online, changing the time, place and space of learning, making learning accessible whenever and wherever possible, and providing a more convenient way to train high-quality skilled talents with a sense of industry and family life. Zhu Honglei and others, in order to improve the teaching effect and cultivate qualified talents of industrial skills, based on the "Internet plus" integration of high-quality resources of schools and enterprises, excavate the relevant moral education elements of the curriculum, implement the curriculum teaching mode of "school enterprise cooperation and four in one", effectively stimulate students' passion for professional and learning enthusiasm, and enable students' knowledge, Ability and comprehensive quality have been comprehensively improved^[3]. Lu Hui explored the online and offline mixed teaching methods of professional courses, fully reflected

the advantages and value of information-based teaching in special periods, promoted the same direction of Ideological and political courses and ideological and political theory courses, formed a "synergistic effect", and improved the independent learning ability and professional value identity of professional students^[4]. Ju Yan takes the course of electrical and electronic technology as the professional background. In order to carry out the curriculum objectives, COVID-19 excavated the ideological and political education contained in this course, and integrated the elements of Ideological and political education contained in the course into the teaching process, so as to cultivate students' patriotic feelings, scientific research spirit and social responsibility, and rigorous. Practical and realistic working attitude^[5].

There are too many knowledge in the course of electrical and electronic technology, and the combination of experiment and theory is more closely related. But suddenly COVID-19 has accelerated the development of converged teaching on line and online, which has greatly affected the implementation ability and implementation effect of electrical and electronic technology courses. With the expansion of BOPPPS teaching mode and OBE concept, the traditional curriculum ideological and political teaching paradigm limited to a certain knowledge point is no longer applicable to the curriculum teaching in the post epidemic era. It is urgent to reform and develop the curriculum ideological and political thinking and teaching methods.

In the post epidemic era, we need to think more deeply about how to integrate curriculum ideological and political education into the whole link of teaching, and need to form a new whole process teaching mode of "All-Online" (All-Online is a lifelong online learning mode, which was first seen in foreign network security communities), that is, to provide students with a full-time and online curriculum ideological and political teaching environment, Establish an all-round education pattern of students' active thinking, active exploration and active growth.

2. Problems faced by ideological and political integration of electrical and electronic courses

The course of electrical and electronic technology in our university is just in the initial stage of operation. The coverage of Ideological and political teaching in the existing courses is not enough, which has seriously affected the comprehensive formation of students' values. The main problems are as follows:

- (1) The teaching structure is complex and the ideological and political expansion of the course is low;
- (2) The teaching scale is large, and the ideological and political effect of the course is not ideal;
- (3) The integration of Ideological and political education into teaching is not deep enough.

3. Methods of ideological and political reform in electrical and electronic courses

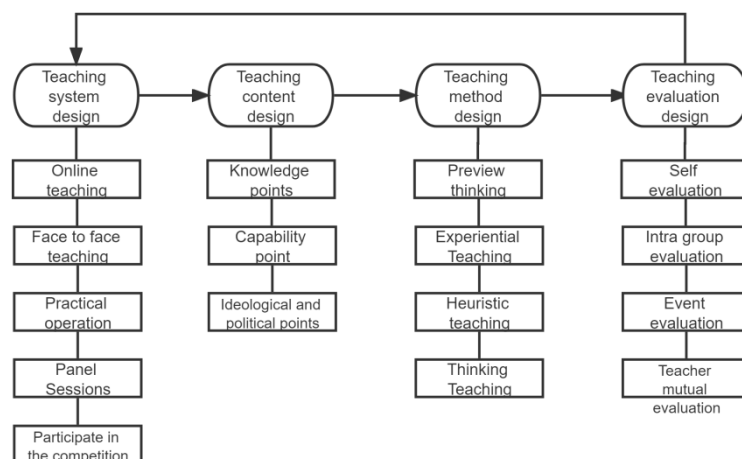


Figure 1: Methods of ideological and political reform in electrical and electronic courses

3.1. Improve the BOPPPS teaching mode and realize the sorting and decomposition of teaching contents

The whole teaching process is divided into six parts: B (Bridge in) introduction, O (Objective) goal, P (Pre assessment) pre-test, P (Participatory learning), P (Post assessment) post-test and S (Summary). Create online and offline integrated teaching methods based on BOPPPS teaching mode. According to the different contents of the course and students' learning status, online layout, offline supplement, pre class preview and post class review can realize the whole process flow of tasks and improve students' ability to master and understand knowledge points.

3.2. Deeply study the concept of "All-Online", innovate the ideological and political teaching methods of the course, and improve the teaching level

The post epidemic era brings more thinking to college teachers than online and offline. What is more profound is how to break through the fixed thinking mode in talent training, innovate curriculum ideological and political teaching methods, and guide and cultivate students' real autonomous learning ability and the establishment of outlook on life and values. In the future, the concept of "all online" will be deeply rooted in the hearts of the people, promote the in-depth integration of curriculum ideological and political education and teaching content, realize full-time online uninterrupted curriculum ideological and political learning, build a student-centered, goal-oriented, growth oriented, integrate a variety of online teaching modes, and design curriculum ideological and political teaching modes and teaching methods with distinctive characteristics and clear objectives, It is combined with the new idea of training fire emergency professionals in the new era to better improve the teaching effect.

3.3. Change from knowledge teaching to ability improvement, and realize personalized and differential Course Ideological and political teaching

The "All-Online" concept emphasizes the students' ability of active learning and self-designed learning. With the mapping relationship model and full-time online driving model between teaching content and curriculum ideology and politics as the core, focusing on the curriculum ideology and politics curriculum design, and based on the BOPPPS teaching mode, it deeply excavates the students' curriculum ideology and politics points in the teaching process, so as to meet the students' requirements for professional ethics The urgent desire to improve the spirit of patriotism, dedication and craftsmanship has formed a new ideological and political teaching mode of "All-Online" online and offline learning.

3.4. Promoting teaching through competition and evaluating the effect of Ideological and political teaching in the curriculum in a diversified way

The course of electrical and electronic technology has strong practicality. Students' teamwork and creativity are tested through a wide range of competition participation. Through self-evaluation, intra group evaluation, event evaluation, teacher evaluation and other dimensions to investigate the learning effect of students' individual curriculum ideological and political education, and continuously improve the teaching methods and teaching modes of curriculum ideological and political education.

4. Key problems to be solved in the integration of Ideological and political education in electrical and electronic courses

4.1. Construction of the mapping relationship between the teaching content of electrical and electronic technology and the ideological and political education of the course

As the first professional college of the national comprehensive emergency rescue team, colleges and universities are an important base for talent training. The purpose of setting "electrical and electronic technology" course for non electrical majors is to theoretically obtain the electrical equipment in contact with future work and the necessary knowledge and skills of electrical and electronic technology related to fire rescue through the contents of electrical control of transformers, motors and machinery, electrical safety and electronic modules contained in alarm devices involved in the course. Teaching knowledge points are complex and have little relevance, and the breadth and depth of knowledge system are high. How to closely combine such complex teaching content with curriculum thought and politics, and build the mapping relationship between teaching content and curriculum thought and politics, is one of the key

problems to be solved.

4.2. How to build a new ideological and political model of "All-Online" course based on the existing teaching model

The existing BOPPPS teaching mode runs through the online and offline integrated teaching, and has a good foundation for all-round curriculum ideological and political teaching. Therefore, on the basis of BOPPPS teaching mode, we need to deeply integrate the ideological and political content of the course, and guide students to actively discover, think and grow. Build a full-time online "All-Online" curriculum ideological and political model, carry out curriculum ideological and political education anytime and anywhere, form a closed-loop management of the teaching process, give full play to students' subjective initiative in learning, and realize students' self-development from the aspects of ability improvement and ideological innovation.

5. Conclusion

Through new measures such as teaching students in accordance with their aptitude, layered teaching, experiential teaching, heuristic teaching, discussion teaching and promoting teaching through competition, and on the basis of the existing BOPPPS teaching mode, the new mode of "All-Online" curriculum ideological and political teaching is deeply integrated, so that the curriculum ideological and political teaching is no longer limited to classroom teaching, inspire and guide students' interest in curriculum ideological and political teaching, which not only strengthens students' understanding of knowledge, Moreover, it has stimulated the students' interest in learning, so that the students with different foundations have mastered knowledge, received education and achieved the curriculum objectives. Through teaching practice, the ideological and political content of the course can be effectively incorporated into the teaching process of electrical and electronic technology.

Acknowledgements

This research was supported by grants from 2022 undergraduate education and teaching reform of China Fire and Rescue Institute(YJYB2022013) and China Fire and Rescue Institute (XFKYB202215), the Key project of University-level education and Teaching reform and research of Beijing Institute of Petrochemical Technology (ZD202103001, ZDKCSZ202103002, ZDFS GG202103001), Cross-Disciplinary Science Foundation from Beijing Institute of Petrochemical Technology (BIPTCSF-006). The referees' valuable suggestions are greatly appreciated.

References

- [1] Siqi Yu, Yike Zhou. *The Idea of Comprehensive Infiltration in German Political Education Curriculum and Its Enlightenment*[C]//*Proceedings of 2021 International Conference on Modern Management and Education Research(MMER2021)*, 2021:217-220.
- [2] OUYANG Fei. *The Contemporary Concepts of Moral Education in American Schools and Its Practice*[J]. *Journal of Educational Science of Hunan Normal University*, 2017,16(06):97-100+123.
- [3] ZHU Honglei, DAI Hui, SANG Zhiguo, XIE Jun. *Exploration on the Reform of the Teaching Mode of "School-enterprise Cooperation and Four-in-one" under the Background of "Internet +" - Taking "Integrated Application of Industrial Robot Technology" Curriculum Ideology and Politics as an Example*[J]. *Vocational Technology*, 2022,21(01):104-108.
- [4] LU Hui. *Exploration on the Ideological and Political Teaching of Nursing Courses-Take "Nursing Management" as an example*[J]. *The Guide of Science Education*, 2021(19):134-136.
- [5] JU Yan. *Exploration on Ideological and political education of electrical and electronic technology course under the background of epidemic situation*[J]. *Chemical engineering and equipment*, 2021(11):308-310.