

Exploration and Practice of Ideological and Political Education in Railway Vehicle Major Courses in Colleges

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Abstract: This study explores the integration of ideological and political education into the railway vehicle major courses in colleges. Emphasizing practical application and contemporary relevance, the study suggests measures to update course content, improve teaching methods, and promote interactive learning environments. By aligning educational practices with industry demands, colleges can better prepare students to meet societal needs in the maintenance and operation of railway vehicles.

Keywords: Exploration and practice ;ideological and political education; railway vehicle major; courses in colleges

1. INTRODUCTION

To cultivate high-quality railway vehicle professionals, mastering scientific and cultural knowledge and relevant professional knowledge is the foundation, and constantly improving technical capabilities and expanding knowledge is also the key. These talents not only need to have strong railway vehicle maintenance and operation management capabilities, but also need to have innovative thinking and the ability to solve practical problems in order to meet the comprehensive needs of society for the use and maintenance of railway vehicles. In the current education system, the practical teaching conditions of some colleges and universities cannot meet the needs of modern teaching. Students cannot perform enough practical operations, which makes them lack the necessary practical experience when they enter the workplace. The railway vehicle major generally belongs to the category of machinery, but many colleges and universities have a common problem in teaching content: the teaching content is updated slowly, and the knowledge points cannot keep up with the pace of development of the times, resulting in the teaching content being too outdated. The teaching methods are also relatively single, and most teachers are self-centered and neglect the guidance of students' thinking and interactive communication. This not only leads to a dull classroom learning atmosphere, but also makes many students lack interest in the knowledge they have learned, which easily leads to classroom chaos. In order to meet these challenges, colleges and universities need to take a series of measures to reform. First, update the teaching content, introduce the latest industry development trends and technologies, and ensure that the knowledge learned by students is in line with practical applications. Secondly, enrich teaching methods and stimulate students' learning interest and initiative through various forms such as case teaching and project teaching. In addition, strengthen practical teaching links, increase laboratory construction and school-enterprise cooperation, provide more internship opportunities, and let students practice their skills in a real environment. At the same time, teachers should pay more attention to the development of students' thinking in the teaching process, encourage students to ask questions and discuss, and enhance classroom interaction. In this way, not only can the teaching efficiency be improved, but also the students' innovative thinking can be stimulated, so that they can respond flexibly when facing complex problems. In the Figure 1, the sample of railway vehicle is demonstrated.



Figure. 1 The Sample of Railway Vehicle
(source:https://en.wikipedia.org/wiki/Road%E2%80%93rail_vehicle)

2. PROPOSED METHODOLOGY

2.1 The Key Ideas of Railway Vehicle Major Courses

In traditional railway vehicle professional teaching, teachers mainly rely on textbooks for teaching. However, because textbooks take time to compile and review, their content is often out of date. In order to deal with this problem, the talent training model integrating work and learning is particularly important. Make up for the shortcomings of teaching material theory through production practice, and combine teaching material development with corporate technology improvement in the practice process. Students can significantly improve teaching effects through communication and learning with corporate masters. The work-study integration model not only meets the requirements of professional and technical teaching, but also improves teachers' professional and skill levels according to the ability needs of different positions. In the process of school construction, building a high-quality and high-level teaching team is crucial to improving the quality of teaching. Schools should pay more attention to teacher training and continuously improve teachers' professional and technical levels. Teachers should constantly change their teaching methods in teaching, take students as the main body of learning, and fully mobilize students' enthusiasm. Teachers should have a high sense of responsibility in the teaching process, guide students in practical training, and promptly correct students' mistakes during practical training. Teachers also need to be proficient in the operation and use skills of various equipment and be able to reasonably solve problems raised by students. Schools should continue to encourage teachers to improve themselves and strengthen learning. They can invite experts to train teachers and improve teachers' practical training techniques. When recruiting teachers, talents

with professional knowledge and high quality should be selected on the basis of merit. In the construction of the teaching team, professional title evaluation should also be strengthened, teachers' professional quality should be improved, and communication and exchanges between teachers and students should be enhanced. Teachers should be familiar with the current social development situation in teaching and cultivate professional talents in a targeted manner according to social needs. To ensure the value of the apprenticeship system in the training of railway rolling stock professionals, the college needs to improve its management system and improve the dual-master training mechanism. First of all, the college should set up a modern apprenticeship implementation group for railway rolling stock majors, invite vocational education experts and railway rolling stock depot leaders to participate in the formulation of the apprenticeship system, and improve the apprenticeship exploration and practice in a pilot manner. Professional leaders need to work with railway rolling stock companies to formulate talent training plans and personnel work assessment procedures, and clarify the responsibilities of both schools and companies. During the pilot implementation of the apprenticeship system, a third-party agency was introduced to clarify the responsibilities of both parties to avoid confusion of the responsibilities during the implementation of the apprenticeship system. Through these measures, we ensure that the apprenticeship system plays its greatest role in the training of railway vehicle professionals and cultivates high-quality professionals who meet social needs.

2.2 The Exploration and Practice of Ideological and Political Education

Teachers are the main force of curriculum ideological and political education and the core force of colleges and universities in promoting the construction of curriculum ideological and political education. Without teachers, curriculum ideological and political education cannot achieve its goal of cultivating souls and educating people. To effectively promote the construction of curriculum ideological and political education, all kinds of teachers need to work together and work in unison. In the construction of new liberal arts majors, the teacher group includes four categories: professional teachers, ideological and political teachers, social practice tutors and counselors. In order to give full play to the main force role of teachers, it is necessary to let these four types of teachers move in the same direction, break the barriers of "fighting alone", strengthen horizontal communication, and improve teachers' curriculum ideological and political ability.

1. To achieve the integration of classroom content. Arrange the course content according to the syllabus, reasonably design the content and proportion of moral education and intellectual education in each class, and avoid turning professional courses into pure ideological and political courses. It is necessary to naturally integrate ideological and political elements into the imparting of professional knowledge, avoid didactic education, and let students receive ideological and political education in a subtle way.

2. Broaden the teaching carrier. Use information-based teaching methods to carry out online and offline hybrid teaching, establish online course case libraries, question banks, and resource expansion libraries, and use ideological and political elements as online course resources for students to learn before and after class. Adhere to the linkage between the first and second classrooms to educate people, and through

various forms of teaching activities, integrate ideological and political education into the entire learning process of students.

3. Create a new position for practical classrooms. Under the background of the new liberal arts, most courses are humanities and social sciences courses. Such courses have moral education advantages, but they are more theoretical and relatively weak in practice. Therefore, the new liberal arts major should create a practical base for students and build an ideological and political platform so that students can feel the power of ideological and political education in actual operations. Enhance students' comprehensive quality through the joint education channels of the first, second, and third classrooms.

With the advancement of ideological and political courses, the following points need special consideration:

First, the promotion of scientific spirit. Science is knowledge that correctly reflects objective reality, seeks truth from facts, studies laws and is used to transform the objective world. The progress of modern society depends on the progress of science. Every scientist faces many difficulties and challenges in the process of exploring the truth. Their excellent qualities of adhering to the truth, daring to innovate, constantly exploring, daring to challenge, uniting and cooperating, and being indifferent to fame and fortune in scientific research are worthy of learning and admiration from each of us. These qualities are not only the embodiment of the scientific spirit, but also an important part of ideological and political education. By telling the stories of scientists and the process of scientific research in the classroom, students' interest in science can be stimulated and their scientific spirit and spirit of exploration can be cultivated.

Second, the cultivation of family and country feelings. Family and country feelings are one of the basic connotations of Chinese traditional culture. Patriotism is a traditional virtue of the Chinese nation and a basic obligation of every Chinese citizen. In the classroom, it is very important to cultivate students' family and country feelings and enhance national pride. Through examples of historical events, cultural traditions and modern social development, teachers can help students understand and identify with the country's development process and achievements and stimulate their patriotic feelings. At the same time, through practical activities, such as visiting red education bases and participating in public welfare activities, students can experience the connotation of patriotism in actual actions and enhance their sense of social responsibility and historical mission.

Thirdly, the improvement of innovation ability. The development of modern society requires a large number of talents with innovative spirit and ability. By incorporating education on innovative thinking and methods into the curriculum, students can be helped to develop the spirit of daring to break through and dare to try. Teachers can encourage students to put forward novel ideas and solutions through case analysis, project teaching and other methods, and cultivate their innovation and practical abilities.

Finally, the improvement of humanistic literacy. Under the background of the new liberal arts, most of the courses are humanities and social sciences courses, which themselves have rich moral education resources. Through the design of course content, ideological and political elements can be organically combined with humanistic literacy education to help students form correct values and outlook on life. For

example, through the appreciation of literary works and the discussion of historical events, students' aesthetic ability, critical thinking and humanistic care can be cultivated.

3. CONCLUSION

Integrating ideological and political education into railway vehicle majors is essential to cultivating well-rounded professionals. By updating teaching content, diversifying teaching methods and promoting interactive learning, colleges can bridge the gap between theoretical knowledge and practical skills. This approach not only enhances the effectiveness of education, but also fosters students' innovative thinking and problem-solving skills to meet the evolving demands of the railway industry and the needs of society at large. In the future, the more detailed studies will be considered.

4. REFERENCES

- [1] Liu, Xu, Zhao Xiantong, and Hugh Starkey. "Ideological and political education in Chinese Universities: structures and practices." *Asia Pacific Journal of Education* 43, no. 2 (2023): 586-598.
- [2] Zhang, Youwu, Yongquan Yan, R. Lakshmana Kumar, and Sapna Juneja. "Improving college ideological and political education based on deep learning." *International Journal of Information and Communication Technology* 24, no. 4 (2024): 431-447.
- [3] Zhang, Tingting, Xiangpeng Lu, Xu Zhu, and Jing Zhang. "The contributions of AI in the development of ideological and political perspectives in education." *Heliyon* 9, no. 3 (2023).
- [4] Li, Kang, Maliang Jing, Xingwang Tao, and Yinxiang Duan. "Research on online management system of network ideological and political education of college students." *International Journal of Electrical Engineering & Education* 60, no. 2_suppl (2023): 377-388.
- [5] Li, Lili. "Effective model of the communication path conversion of ideological and political education in colleges and universities based on new media." *Computer-Aided Design and Applications* (2023).
- [6] Qi, Fenghua, Yongqing Chang, K. Ramesh, and P. Hemalatha. "Online and offline teaching connection system of college ideological and political education based on deep learning." *Progress in Artificial Intelligence* 12, no. 2 (2023): 163-174.
- [7] Liu, Zhenkun, and Yuchen Huang. "Innovation in Ideological and Political Education and Personalized Learning Paths in the Era of Artificial Intelligence." *International Journal of New Developments in Education* 6, no. 5 (2024).
- [8] Su, Jinjin. "Innovation of guiding mechanism of ideological and political education in colleges and universities under the background of network public opinion." *Transactions on Comparative Education* 6, no. 3 (2024): 50-55.
- [9] Zhang, Liqun. "Ideological and political empowering English teaching: ideological education based on artificial intelligence in classroom emotion recognition." *International Journal of Computer Applications in Technology* 71, no. 3 (2023): 265-271.
- [10] Wang, Bo, Hailuo Yu, Yusheng Sun, Zhifeng Zhang, and Xiaoyun Qin. "An effect assessment system for curriculum ideology and politics based on students' achievements in Chinese engineering education." *International Journal of Advanced Computer Science and Applications* 14, no. 1 (2023).
- [11] Chen, Ying, and Weiji Zhai. "Study of Ideological-Political Education in Foreign Literature Curriculum Group." *International Journal of Education and Humanities* 13, no. 1 (2024): 101-104.