



Research on Ideological and Political Teaching Reform of Basic Course of

Mechanical Design in Higher Vocational Colleges

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Abstract: In the context of the new situation, the course of political thinking for higher vocational schools is a new teaching concept, which requires higher vocational schools in the teaching of basic mechanical design must be based on the characteristics of the course itself and the culture of the discipline, to take up the task of educating their own, and at the same time, the professional course teachers need to take up the responsibility of educating the people, and to maximize the potential political thinking in the basic mechanical design course to dig out the potential political thinking, and effectively implement the requirements of the moral and humane education. Effectively implement the requirements of moral education. In the process of the change of the basic mechanical design professional course civics teaching, it is necessary to build a "full staff education, all-round education and the whole process of education and teaching pattern, strengthen the course of civics education, and further improve the "island" like education predicament. In addition, senior teachers also need to sort out and integrate the cultural and educational factors related to civics and politics, combined with the professional content of the basic mechanical design, to strengthen the practice and exploration of the basic mechanical design profession, and to broaden the career prospects of higher vocational students.

Keywords: higher vocational and technical colleges; Basic major in mechanical design; Curriculum ideological and political education; reform in education

In the new era, social education further emphasizes the responsibility of educating people. At the same time, it also requires higher vocational colleges and other institutions of higher learning to further deepen the integration of "curriculum ideological and political education" and majors, and to strengthen the design of the educational link of "curriculum ideological and political education" while integrating "curriculum ideological and political education" to achieve "professional subjects contain ideological and political education, and teachers are all educators". Although it is very important for students in higher vocational colleges to consolidate their professional knowledge, it is also

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particularly important to cultivate their scientific quality, moral accomplishment and social responsibility through the study of professional courses. "Fundamentals of Mechanical Design" is a core basic course in higher vocational schools, which has a very important position, so its course, experimental teaching and course design will run through the whole semester. Therefore, the teachers of mechanical design foundation in higher vocational schools can further strengthen the positive interaction with higher vocational students through on-site guidance, classroom teaching and online answering questions, and effectively implement the "educating" effect of curriculum ideology and politics in the major of mechanical design foundation.

1. Teachers change their teaching concepts and strengthen their own ideological and political literacy

In the previous teaching concept, only the teachers of ideological and political theory courses and class counsellors have the responsibility and obligation to carry out ideological and political education for higher vocational students. In the actual education and teaching process of mechanical design basic speciality (Jiang et al., 2022), the teachers pay more attention to explaining mechanical design, the overall analysis of machinery, the selection of mechanical parts and design of mechanical parts and other knowledge related to mechanical speciality for higher vocational students, and rarely infiltrate and guide ideological and political consciousness in classroom teaching. With the deepening of education reform, curriculum ideology and politics, a new concept of education and teaching, has gradually entered major universities. It requires all professional courses of the school to undertake the function of educating people and cultivating the values, world outlook and outlook on life of higher vocational students; Teachers should take up the responsibility of educating people, and they are the responsibility bearers to realize educating people. At the same time, curriculum ideological and political education requires higher vocational teachers to further change and innovate their own ideas, so as to make teaching ideas conform to the trend of the times and keep pace with the times, and give full play to the value and ideological role in curriculum ideological and political education..Secondly, higher vocational teachers need to strengthen their political accomplishment and moral education level, not only to be able to set a learning example for higher vocational students by using their own words and deeds, but also to make higher vocational students be actively influenced by them. It is also necessary to combine the knowledge content of the textbook with the self-growth of higher vocational students and the development of society and the country in the process of teaching the basic course of mechanical design (Sun et al., 2022). By analyzing

the current doubts of senior vocational students in terms of professional ethics and the focus and the focus affairs that are of greater interest to them at the moment, it actively disseminates advanced ideas and culture, becomes a guide and mentor for the correct growth of senior vocational students, and further promotes the comprehensive development of senior vocational students.

2. Reform the teaching content of basic courses in mechanical design

2.1 Change the course syllabus of the basic major of mechanical design

The previous syllabus of basic mechanical design majors paid more attention to the skill and knowledge goals, and paid less attention to the emotional goals. Therefore, in order to effectively implement the reform of ideological and political education in colleges and universities, higher vocational schools need to revise and improve the syllabus of the basic mechanical design course, organically combine the basic mechanical design course with the core content of the ideological and political course, and encourage higher vocational students to have a more in-depth knowledge and understanding of the ideological and political education, further strengthening the correct guidance of values, worldview and outlook on life for senior vocational students(Dong & Gu, 2022). At the same time, higher vocational colleges should not only help higher vocational students learn the practical operation and professional theoretical knowledge of the relevant courses of mechanical design basic speciality, but also strengthen the cultivation of the spirit of hard work, being the first and being a great craftsman, enhance the adhesion between speciality and occupation, and help higher vocational students establish a thoughtful, honest and rigorous professional concept.

2.2 Scientifically set up the teaching content of the course to realize the seamless integration of ideological and political education and professional courses

The basic speciality of mechanical design

involves a wide range of course knowledge, including the professional knowledge of mechanical principles course and mechanical design courses, which is very practical. Therefore, to achieve the goal of both major and moral education in a short time according to the requirements of the syllabus of the basic course of mechanical design, higher vocational teachers need to analyze and clarify the course content and its knowledge system based on the special vision of the basic course of mechanical design and the actual construction of socialist modernization, dig deep into the ideological and political teaching materials of Cheng Qian, further study the potential relationship between the teaching content of the basic course of mechanical design and the ideological and political teaching of the course, and seamlessly cut moral education into the course teaching of the basic course of mechanical design (Guo, 2021).

3. Use a variety of teaching methods to carry out the teaching of basic courses in mechanical design

The course of mechanical design basic speciality covers a wide range of knowledge and involves many practical operations, so it is necessary to use corresponding teaching means and methods when facing different course knowledge and practical contents. For example, when explaining the related application and development of gear technology, teachers in higher vocational colleges can combine the concept of patriotism with the teaching case list. Because of solving the difficulties in the design of the gear transmission system of high-speed rail, China's high-speed rail has become the "world's first speed", and through the case, vocational college students' pride in China manufacturing can be enhanced, so that they can more agree with the current road of socialist development. For another example, when teaching threaded connectors, higher vocational teachers can integrate social responsibility and craftsman spirit into comparative teaching methods: it took Ruo Linkyan 20 years of unremitting efforts to study Hadelok nuts, and since then people have nuts that can't be loosened (Bao & He, 2021). It takes unremitting efforts to make higher

vocational students understand the origin of good grades, and any success can't be achieved in one step, thus enhancing their sense of social responsibility, trying to explore the unknown and improving their skills. Another example is the combination of vocational quality education and analogy teaching method in the process of explaining the relevant contents of shaft design; In addition, teachers in higher vocational colleges can also analyze the contents of professional courses through discussion classes and combining with practical problems in their work, to further strengthen the student's awareness of economy, engineering, responsibility and quality.

4. Using multimedia teaching facilities to promote ideological and political education in courses

The classroom is the main channel to realize ideological and political education, and multimedia facilities are an important carrier to promote ideological and political education. The title, pictures and background of courseware are used to show ideological and political elements to higher vocational students and strengthen ideological and political education for higher vocational students (Wang, 2021). For example, in the teaching class of the basic course of mechanical design, higher vocational teachers can use multimedia teaching facilities to show vocational students the great achievements in science and technology in China in recent years, such as "Glory of Great Country", Interpretation of Industry 4.0 and "Striving Forward", etc. Based on this, they can deepen the impression of ideological and political courses on vocational students, and further deepen their understanding of the basic major of mechanical design, thus enhancing their enthusiasm for learning the basic major of mechanical design. In addition, teachers in colleges and universities can use multimedia to play historical stories and people's stories that have happened in the discipline field to higher vocational students in the form of videos, so that higher vocational students can have a correct understanding of social progress, professional courses and professional progress, and

then cultivate their patriotic feelings, the heart of strengthening the country and the ambition to serve the country.

5. Based on the concept of OBE education, strengthen the guiding role of higher vocational teachers

OBE education philosophy focuses on the individualized cultivation of students, and then cultivates students' professionalism and sense of responsibility, to realize the overall improvement of students, which has the same reform goal as curriculum ideological and political education (Yang et al., 2020). Teachers in higher vocational colleges can learn more about students' concerns and preferences about hot current affairs, select corresponding teaching cases, and use more words that vocational college students like to hear and explain the ideological and political ideas in the course when teaching the course of mechanical design basic speciality, to enhance the enthusiasm of vocational college students for course learning. At the same time, teachers in higher vocational colleges also need to ask vocational college students to summarize their recent learning situation irregularly and then communicate with classmates and teachers in class to find out the advantages of others and make up for them. In addition, based on the concept of OBE education, the "learning goal", "learning behaviour" and "learning result" of higher vocational students are fully implemented. For the teaching design of mechanical design basic courses, "goal" is the learning task of higher vocational students, "behaviour" is the drawing process, calculation process and design process in the learning process of professional courses, and "result" corresponds to the final defence result, which effectively promotes the ideological and political teaching reform of mechanical design basic courses.

6. Further emphasize the main role of students in course learning.

To effectively arouse the enthusiasm and enthusiasm of higher vocational students for the

basic major of mechanical design, it is necessary to further emphasize the main role of higher vocational students in course learning. For example, teachers in higher vocational colleges can divide the class into several study groups at the beginning of the term, so that members of each group can collect more course content by using modern new media means such as app software, "internet plus", WeChat, campus network and Weibo, and then select a case to explain, and organize higher vocational students to discuss or organize a debate in class. Strengthen the independent thinking ability and cooperative literacy of higher vocational students (Zhao et al., 2020). In this way, we can not only create a mutual help and harmonious classroom learning atmosphere, but also encourage higher vocational students to actively learn the core values of ideological and political courses, deepen their understanding of social responsibility and effectively implement the effectiveness of moral education.

7. Conclusion

To effectively promote the reform of ideological and political education, we must give full play to the moral education function of the major of mechanical design foundation, and put the task of educating people through the teaching design and implementation of the whole course of mechanical design foundation. Higher vocational teachers need to further strengthen their sense of responsibility and professionalism, strengthen the rationality and scientificity of teaching link design, explore teaching methods more suitable for the development of modern higher vocational students, concise and integrate the knowledge content of course teaching, sort out the potential ideological and political elements in all teaching links, use modern information technology to integrate them seamlessly into the course teaching process, strengthen the spiritual guidance for higher vocational students in terms of core values and ideals and beliefs, and cultivate higher vocational students to become professional and technical talents with social responsibility and high quality.

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Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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