Under the concept of Craftsman spirit, the ideological and political teaching reform of the course “Mechanical drawing practice”

Fenglian Zhang *, Jing Zhu (Dalian Jiaotong University Mechanical Engineering, Liaoning, Dalian 116028, China)

Abstract: The Practical Course of mechanical drawing is the first engineering course for undergraduates. It is an effective carrier for the transformation of learning method, the expansion of thinking mode, the Enlightenment of engineering consciousness, the cultivation of scientific style of work and the establishment of practical spirit. It is a professional basic course supported by engineering application and practice, and its main characteristic is strong practicality. How to transfer the theoretical knowledge into the ability to draw and look at mechanical drawings and express the design intention freely is the main task of drawing course teaching. In this paper, teachers design teaching methods, ideological and political point into a reasonable teaching content. Teachers in addition to teaching theoretical knowledge, but also the spirit of craftsmanship, scientific rigor, hard-working and other spirit imperceptibly infiltrated into the teaching. This not only improves students' professional quality and professional identity, but also impels students' professional ethics and quality to a higher level. To achieve the goal of educating people in the invisible.

1. Introduction

The practice link of mechanical drawing is an important node in the transition from the basic theoretical knowledge of mechanical drawing to the practical application ability of drawing and reading. Its continuous deepening reform is an important link to ensure the quality of teaching. We regard "Building morality and cultivating people" as the basic task, and take the goal of "Ideological and political course" as the basis, and combine the characteristics of the practical course of mechanical drawing, this paper explores an effective way to integrate "Course ideology and politics" into the practical course of mechanical drawing. Take the course content as the carrier, take the course goal as the guidance, realize the organic combination of "The ideological and political goal" and the course goal. By improving teachers' understanding and grasping of the connotation of "Curriculum ideology", we can cultivate students' craftsmen spirit of great power and inspire students' national feelings and mission. To achieve the education goal of combining knowledge imparting and value leading [1-3].

2. Mechanical drawing practice course has the advantage of carrying out the reform of “Course ideology and politics”

The practical course of mechanical drawing has the characteristics of foundation, Technology and practicability. This course integrates “Course thinking and politics” into the daily teaching process so that students can master the drawing method of parts surveying and mechanical drawing. Let students develop the habit of independent thinking and dialectical thinking consciousness. Train students to be precise and meticulous engineers thinking and the craftsmanship of excellence [4-9]. In order to carry out the course, the following work has been done:

2.1. Set quality awareness and craftsmanship in the course objectives

To draw mechanical drawings well, students need to be familiar with and master the relevant provisions of national standards, master the skills of reading and drawing mechanical drawings, and even more need to consciously comply with national standards, and persevere to be rigorous and meticulous and excellence. Students in the study and long-term drawing mechanical drawings training can slowly develop a sense of rules; develop a meticulous and rigorous, and strive for excellence in working attitude; establish a sense of quality; with the spirit of craftsmanship. Therefore, it is very necessary and meaningful to carry out “Course ideology and politics” in the practical course of mechanical drawing [6-9].

2.2. The establishment of “Ideological and political goals” to guide students to form correct values

In the teaching process of the practical course of mechanical drawing, teachers pay attention to the combination of knowledge imparting and value guiding.
The content of the practical course of mechanical drawing is prepared collectively, discussed together, and the hidden ideological and political elements are explored actively. In the process of value communication in classroom teaching, teachers pay attention to the cohesion of knowledge, and integrate ideological and political education into the whole process of course knowledge teaching. The teacher helps the student mold the correct value idea, sets up the student lofty ideal, trains the student good professional ethics and the team cooperation spirit. In the process of education and teaching, the function of silent education of ideological and political education in classroom teaching is to promote the course to serve the fundamental task and the central link of "Building morality and cultivating people", to transmit positive energy and to refract new ideas, highlight the value of education\[10\].

The teaching method designed in this way not only guarantees the quality of homework, but also trains the students' ability of cooperation, which is convenient to learn from each other and optimize the benefit. Let the student form the good cooperation ability and has the team spirit. Let the student form the individual obeys the overall situation view of the collective\[11\].

2.4. The construction of network courses, the introduction of discipline competition, and continue to promote the “Ideological and political curriculum” education and teaching reform

There are many teaching resources on the network teaching platform constructed by team teachers. In addition to the regular course knowledge points and assignments, there are some such as traditional culture appreciation and great country craftsmen video extracurricular resources\[12-13\]. These resources can be shared with students, so that students learn traditional cultural knowledge and experience the spirit of great craftsmanship. These can not only bring inspiration to students when they participate in the competition, but also make students feel the brilliance and charm of traditional culture, enrich students' spiritual world, enhance national self-confidence and stimulate positive energy. On the basis of theoretical study and Operation Practice, students should be encouraged and guided to participate in various competitions to train their comprehensive ability and team spirit. We promote education in mechanical drawing innovation. Through various competitions, such as “College students advanced mapping competition” and “Mechanical innovation design competition”, theory and practice are closely combined to improve the overall quality of students and innovative ability. At the same time, in the network platform of the information, set up "Course ideological and political" column, the recent years domestic mechanical graphics design, the development of the field of processing, as well as the development of bottlenecks, the content and video of safety liability accidents are published in the column to stimulate students' interest in learning and fully realize the importance of cartography in the engineering field. To help students develop in an all-round way, to establish the awareness of equipment safety, to strengthen cultural self-confidence, to cultivate the professional spirit of holding the post, and to promote the emotional goal of ideological and political education\[14\].

3. The goal of ideological and political education in the practical course of mechanical drawing

3.1. To cultivate students with a sense of rules, patriotism and law-abiding

This course is highly standardized and practical. The main line of the course is to cultivate craftsmen's spirit and abide by laws and regulations and professional norms, set up standard consciousness, responsibility consciousness, safety consciousness, cost consciousness, quality consciousness. This course promotes the students to set up a correct world outlook, outlook on life and occupation, embellish things to silently carry out the course thinking.

3.2. Cultivate the spirit of craftsmanship, practical and innovative ability of students

In the classroom teaching, the introduction of enterprise product drawings. One picture wins ten thousand languages, carries on the Chinese excellent traditional culture education to the student, stimulates the student to study the mechanical drawing practice curriculum the interest and the sense of responsibility. According to the assignments, students are encouraged to design, optimize and innovate their own structures. These not only improve

Group measurement & Group discussion & plan comparison & plan optimization

Figure 1 design of practical teaching method of mechanical drawing
students' innovative ability, cultivate students' national feelings, establish students' cultural confidence, but also carry forward the great nation craftsmanship.

3.3. To cultivate students with self-learning ability, strong national and cultural self-confidence

This course constructs the network course, establishes the on-line and off-line union, in-class and out-of-class union, and the theory practice union mixed type teaching pattern. Through more classroom interaction, timely feedback, process assessment, to help students better complete the course of learning tasks. To provide effective help for students to realize self-study and self-management, so that students have self-study ability and develop lifelong study habits. During the course of drawing, teachers interspersed the students with stories about the cutting edge of the industry and its development. Students were encouraged to appreciate the power of science and technology, and at the same time, they were encouraged to pursue truth and innovate new technologies. In enhancing the national pride of students at the same time, to encourage students to actively enterprising, people-oriented, unremitting pursuit of truth.

4. Teaching points and expected teaching outcomes

4.1. Skills training

Students can learn more about our country's self-developed world-leading products; Through the answer questions, guide students to understand the mechanical drawing standards, emphasize the importance of compliance with the rules, train students to work according to the rules of consciousness.

4.2. Part measurement

Train students to be precise and meticulous engineers thinking and the craftsmanship of excellence. To make students have a good sense of team, with group members to communicate with the ability to solve related problems. Through the students to write learning experience, to assess the effectiveness of ideological and political courses.

4.3. Drawing part drawings

Continuously strengthen the awareness of rules, cultivate the habit of compliance with standards; Cultivate a rigorous and meticulous, excellence style; Through the drawing of engineering parts, let students experience the methodology of concrete analysis of specific problems, and promote students' engineering awareness.

4.4. Drawing of Assembly drawing

Through the practice of drawing operation by the students themselves, the students can draw from a single part to the whole assembly body in the process of the change from perception to qualitative change, at the same time, let students understand that the accumulation of knowledge is the process from quantitative change to qualitative change. Recognize that there is still a gap between China's manufacturing and advanced manufacturing, and strengthen responsibility. Pass on the attention to detail, the pursuit of perfection, meticulous, excellence craftsmanship. Form good cooperation ability and team spirit, individual obey the overall situation view of the collective.

4.5. Innovative Design Module

In the design of products, students are trained to have an innovative spirit. Set up the concept of efficiency and benefit, realize scientific development. Students are trained to be excellent, meticulous craftsmen. Form a sense of teamwork.

5. Ideological and political achievements of the practical course of mechanical drawing

Teachers actively combine classroom teaching with "Ideological and political education". Based on the principle of student-oriented, problem-oriented and practice-oriented, the "Ideological and political elements" have been continuously integrated into professional education, gradually forming a whole-person, whole-process, all-round education pattern, the reform of ideological and political education in the practical course of mechanical drawing has achieved the following results[15]:

5.1. Teaching and learning promote each other, to achieve benign interaction between teachers and students

The implementation of "Curriculum ideology and politics" promotes the common progress of teachers and students. On the one hand, teachers continue to "Recharge" to improve their own ideological and political literacy; on the other hand, students' "Points of interest" are fully stimulated by "Ideological and political elements", igniting the classroom atmosphere, changed for a long time, "Teachers tried to explain, but students are not enthusiastic" situation.

5.2. Knowledge and practice in one, significantly improve the ability to apply

The basic principles of Marxism such as "Practice is the source of knowledge" and "Practice is the sole criterion for testing truth" are integrated into the classroom, students' ability of social practice and engineering innovation will be greatly improved.
5.3. Keeping pace with the times, the quality of the curriculum has been steadily improved

In order to adapt to the new requirements of the new era, teachers constantly innovate the teaching system, enrich the teaching methods, set up the network course and load the video of the course explanation into each chapter. In the database, students enjoy videos of traditional culture, great nation craftsmen and so on. In the discussion area, students answer and post. These have trained the student self-study ability, causes it to become the self-discipline self-confident new time builder.

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