

Construction and Practice of Training System of Water Conservancy Engineering Drawing Course

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Fund Project: New engineering project of the Ministry of Education (E-TMJZSLHY20202157), Shihezi University Education and Teaching Reform Project (JGH2020-28, GZ-2019-07).

Abstract : Water conservancy engineering drawing is one of the most basic courses for water conservancy majors, and the course must also have strong water conservancy major characteristics. If the cartography teacher only pays attention to the explanation of cartography theory and ignores the practice of the system, it will weaken the connection between theory and practice in the classroom, and the lack of practicality will affect the teaching effect of cartography. This article focuses on the reform methods of the graphics course in the water conservancy major, and deals with various problems in the system teaching, optimizes the curriculum system, adds more practical training courses, and innovates teaching methods.

Keywords : Curriculum Reform; Practical Training System; Practice Mode

In the context of the current teaching reform, the teaching of water conservancy majors should also focus on the combination of practice. When students study, they also need to make in-depth investigations in external water conservancy engineering companies to understand the actual needs of the job. Focusing on the professional abilities of students, we carried out the design and integration of graphics courses, optimized and reengineered the existing course training questions, and emphasized the strengthening of the professionalism and practicality of the courses, and focused on cultivating students' professional ability.

1. Construct a curriculum training system

Teachers should design practical training courses for existing course content, investigate the technical requirements of water conservancy companies for professional talents in external water conservancy companies, and the current student learning status and classmates' working skills, and master classmates' knowledge and learning status. Combine the specific characteristics of engineering drawing to reconstruct the content of the drawing course so that students can master more practical knowledge. Increase the teaching content of the training system, first let the students realize the meaning of the training and the specific content of the training, let the students master the basic essentials of the cartography course and the teaching relationship between the cartography course and the water conservancy major. The teacher clarifies the future learning methods and goals of the graphics course, and then enhances the initiative of the students in learning, and strengthens the learning of the professional course. Secondly, the organization and implementation of classroom training should involve in-class training and various units of training, from basic skills training to compound skills training, step by step, and gradually improve. In the third stage, classes will be carried out. After the training, carry out comprehensive training. Combining with the current production practice, train students' drawing skills and enhance their drawing skills, so as to improve the students' comprehensive professional ability level. The design concept of the course training is to realize the professionalism of the course content, connect the students' learning ability with the future profession, integrate the theory and

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doi: 10.18686/ahe.v5i2.3326

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practice in teaching, and the normal integration of learning and operation can further strengthen the practice of the course. Design a drawing teaching curriculum system from easy to difficult for students.

2. Correct understanding of the training

Engineering drawing is often a basic course arranged by freshman students as soon as they enter the school. When they first enter the school, these students do not have a deep understanding of the majors in the university, and they don't know much about the courses, let alone master the relationship between these courses and majors. Some students do not realize the influence of the drawing course on their professional learning and future employment, so they need the drawing course teachers to explain the basic methods of engineering drawing in detail. The application in the major of water conservancy allows students to correctly recognize the training content of the cartography course. In the explanation of the drawing course, you can add some water conservancy project cases, and organize students to go to some water conservancy project sites to observe, so that students can have a deeper understanding of the water conservancy project construction process, and then they can use the drawing course part of the knowledge is used in practice. Teachers should organize students to visit and learn to understand the characteristics of various engineering constructions such as dams and sluices, and to use the drawing knowledge in textbooks flexibly. Only to enable students to have a stronger connection with the physical engineering and the drafting skills in the textbook, understand the operation links of various constructions at the construction site, and cultivate the students' three-dimensional imagination and spatial thinking. Before the introduction of the drawing course, the teacher should further consult the water conservancy project information, so as to make the on-site training and teaching more vivid. Enhance students' cognition of case teaching in water conservancy project construction, and establish a foundation for subsequent drawing study. In practice training, you can watch some case engineering diagrams during practical training, and strengthen the understanding of engineering drawings. Students follow the engineering model. Drawn from the main place, the teacher should also make necessary comments on the students' training assignments ^[1].

3. Classroom training

In the drawing class, students are organized to practice exercises and carry out practical training courses. Teachers teach theoretical knowledge while guiding students to practice in the classroom. Only through the integration of theory and practical training can students be taught to learn knowledge. The point is integrated into the study of the case. Through explaining some cases, let the students consolidate all kinds of drawing knowledge accordingly. Classroom training includes classroom training and single-item training. The in-class training should be taught by the teacher in the classroom. Theory, practice while exercising. During the unit project training, you can complete a systematic study and arrange more training projects. In short, in arranging drawing courses, it is necessary to arrange some drawing courses so that students can master more drawing skills and drawing work skills. Let students master the skills of drawing three-dimensional diagrams, assemblage figure recognition, entity figure recognition and cross-sectional plan view, and the recognition of plan view. Take the content of drawing and drawing as the focus of the entire training class, and focus on training students' drawing skills in the classroom. By focusing on some basic points, lines and planes and the basic knowledge points of drawing, some details of the teaching reform regulations are incorporated, and students' independent exercises should be properly arranged. In the classroom, some classic water conservancy project cases are introduced to allow students to visually observe the content of the graphics through computer CAD software, and guide students to use CAD to assist design software to construct plan and three-dimensional drawings of water conservancy projects. In teaching, teachers can also use three-dimensional graphics software and two-dimensional graphics software to make demonstrations, and gradually cultivate students' spatial imagination ability, so as to enhance their interest in graphics courses ^[2].

4. Comprehensive training

After the teachers arrange comprehensive training, they must also arrange special training and concentrated practice. Combined with the school's regulations on talent training, teachers choose some small water conservancy projects as examples of training. Teachers should teach students to draw three-dimensional graphics based on example projects. During the drawing process, they should also make in-depth thinking about the overall graphics structure. Through the application of a lot of practical training, students can correctly understand the basic principles of projection method, and students can learn the working skills of drawing, drawing standards, and gradually train the skills of drawing and drawing, so as to train students The ability of 3D graphics recognition and spatial logical thinking will gradually cultivate the students' ability to read and draw maps, so that students can use CAD software. According to the requirements of the teaching arrangement, let the students copy the drawings, or use the software to quickly draw the dams, tunnels and sluices in the water conservancy project. In the drawing teaching, students can form a working group, let the group members complete the drawing tasks arranged by the teacher independently, and each group member cooperates

with each other to discuss various drawing skills. By completing drawing recognition, manual drawing, and CAD drawing by themselves, each team member can cooperate closely under different tasks, and each team member can cooperate with each other to complete the task together, which will make the students understand the water conservancy engineering drawing course have more interest, and will greatly improve the students' practical ability level ^[3].

During the drawing period, the teachers will play a guiding role, leaving most of the time to the students to complete various activities and tasks. For the various requirements of the students' drawing, a unified explanation should be adopted to give full play to the students' subjective learning.

5. Reform the existing practical teaching mode and enhance students' practical ability

In order to realize the needs of practical teaching reform, teachers can combine theory and practice to break through traditional teaching restrictions through practical mode. Teachers explain in class and students can operate after class, and teachers assign certain tasks to students. Form an integrated practical teaching system through teaching, explanation, exercises and evaluation. Teachers first explain theoretical knowledge, and pay attention to the actual construction of some water conservancy projects when explaining theories. In the classroom, it is necessary to intersperse the process of drawing skills demonstration and engineering drawing, so that students can get more and clearer images through the demonstration. Students can imitate and master some drawing skills after the class, and the teacher will explain and practice in the classroom to operate. Let the students experience each step of the operation in depth, and let the teacher give the necessary guidance during the exercise.

6. Conclusion

In the context of the current domestic teaching reform, the water conservancy major needs to set up more engineering drawing training courses to connect the drawing course with the actual water conservancy project construction, so that students can correctly recognize the connection between the drawing course and the water conservancy major. Only then can students be encouraged to actively learn the skills of drawing, in order to lay a solid foundation for future work. In addition, students must learn to use CAD software after class and draw on the software to improve the efficiency of drawing.

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