

Discussion on practice teaching reform of Geotechnical Engineering Technology Specialty in Higher Vocational Colleges

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Abstract: the cultivation of practical ability is an important goal of higher vocational talent training, and the implementation of high-quality practical teaching is a powerful guarantee to achieve this goal. According to the defects and deficiencies in the practice teaching of geotechnical engineering technology specialty, this paper puts forward the corresponding reform measures from the aspects of practice teaching system, curriculum design, school enterprise cooperation, and evaluation system, which provides a useful reference for the practice teaching reform and talent training of geotechnical engineering technology specialty.

Key words: geotechnical engineering technology; Practice teaching reform; School enterprise cooperation

Introduction

Geotechnical engineering technology is the main engineering specialty of Guangxi Vocational and Technical College of natural resources. With the new requirements and demands of society and industry for such professionals, this paper takes the demand for talents in today's society and geotechnical engineering industry as the starting point, and takes Guangxi Vocational and Technical College of natural resources as the practice. In view of the problems and deficiencies in the practice teaching of the traditional geotechnical engineering technology specialty, this paper puts forward the objectives and measures of the reform of the practice teaching system, which provides a useful reference for the practice teaching reform and personnel training of the geotechnical engineering technology specialty.

1. problems in practical teaching

At present, some geotechnical engineering majors in higher vocational colleges have made more achievements in talent training mode. However, due to the characteristics of complex teaching system and strong practicality of geotechnical engineering specialty, talent training can not meet the new needs of society and the needs of application-oriented transformation. At present, there are some problems in the reform and implementation of practical teaching system for geotechnical engineering technology major in Higher Vocational Colleges in China.

1.1 outdated practice teaching concept

For a long time, practical teaching mainly relies on theoretical teaching, and has not yet formed a relatively mature system. There is a lack of systematicness, continuity and hierarchy between practical teaching links, and there is no distinctive professional positioning. Some professional teachers are old-fashioned and think that practical teaching is to complete a task sitting in the classroom. They can not go out of the classroom to meet the needs of practice and enterprises, so that students have no sense of practice and goal, resulting in students' loss of interest in learning and low participation; In the practice teaching link, the knowledge can not be updated in time. Some students' subject consciousness of practice teaching is relatively weak, and their learning enthusiasm is not high. They can not realize the integration of theory with practice, nor can they improve their engineering practice ability, nor can they temper the will of students. The outdated concept of practical teaching is not updated or updated slowly, resulting in the disconnection between talent training and social needs.

1.2 weak practical teaching conditions

With the deepening of the social transformation to the application of skills, the requirements for the practical teaching of engineering majors are also increasing, but because most of the experimental equipment is old or not updated in time, it can not meet the needs of students to master new skills. On the one hand, the construction of training venues on campus is divorced from the construction of specialties, and there are many training equipment, but the training venues on campus are limited, and multiple equipment are placed in one training room, resulting in a narrow training space and few opportunities for students to operate by themselves; On the other hand, due to engineering safety problems, some off campus training places are difficult to build, and comprehensive training and innovative experiments are superficial. School enterprise cooperation and the integration of production, learning and research also face various problems, which can not give full play to the role of enterprises and off campus training base in the practice teaching link.

1.3 practice link integration enterprise is not deep enough

In higher vocational colleges, enterprises should play a more important role in the school enterprise collaborative education mechanism. However, the current situation is that both in the promotion of school enterprise collaborative education mechanism and in talent training, schools occupy a dominant position and enterprises' participation is not high. On the one hand, there is no clear benefit distribution mechanism, or the benefit distribution is unreasonable, which leads to the low enthusiasm of enterprises to participate; On the other hand, in the process of school enterprise collaborative talent training, enterprises focus on whether they can effectively promote production projects, improve production efficiency, or select as many excellent talents as possible for enterprises, while schools focus on whether students' professional knowledge and skills can be improved in this process, and the lack of balance between the two also leads to the low enthusiasm of enterprises to participate.

1.4 imperfect practical teaching system and inspection and evaluation system

At present, many higher vocational colleges are more or less lack of a complete and modular practical teaching system. The content and form of cognition practice, professional skills training and post practice in the existing teaching system are single. Therefore, it is necessary to further study and improve the practical teaching and inspection evaluation system.

The traditional evaluation system of practical teaching links takes the final achievement materials as the condition to obtain results. The lack of evaluation criteria in the process of practical teaching and the lack of teachers make the monitoring insufficient; In practice teaching, the evaluation of students' application skills is not paid enough attention, and there is also a lack of effective evaluation mechanism, which leads to the low effect and quality of practice teaching, and makes students unable to master the corresponding abilities and skills.

1.5 teachers' practical ability and innovative thinking ability are weak

In higher vocational colleges, although professional teachers have high academic qualifications and solid theoretical knowledge, most of them have weak engineering practice ability and are not sensitive to changes in enterprise operation, management, industry new technology and talent demand, resulting in unreasonable training content arrangement, inconsistent practice process with enterprise production, and inadequate guidance for students. In today's diversified era, practical teaching methods need to be innovated and diversified.

In the practice of geotechnical engineering technology, the traditional teaching mode of "explanation visit / training summary" is mainly adopted at present, which lacks the corresponding professional knowledge and systematic conception ability, and ignores the cultivation of innovative thinking. Students' thinking is mostly limited to the basic content and operation of the theory course, and the progressive relationship and internal correlation of the knowledge system of geotechnical engineering technology course are not clear, Know nothing about the new technologies and methods of the industry and the latest needs of enterprises, resulting in the inability to analyze and solve practical engineering problems after employment.

2. ideas of practice teaching reform

2.1 investigation and research to determine the reform ideas of practical teaching system of Geotechnical Engineering Specialty

Through investigation, comparative research and project practice, the problems in the process of talent training are analyzed and summarized, and suggestions from enterprises and institutions are consulted to form reform ideas.

2.2 coordinate the two major curriculum systems of theory and practice teaching, and revise the talent training plan of geotechnical specialty

To cultivate skilled and applied talents who can obtain professional advantages in the market competition requires both theoretical teaching and practical teaching. Practice teaching is the deepening and internalization of theoretical knowledge, and its teaching content is closely combined with engineering practice. Therefore, the formulation of talent training program for geotechnical engineering specialty should be based on the information of school enterprise cooperation, questionnaire, social response and so on to carry out a comprehensive reform of the two major curriculum systems of theoretical teaching and practical teaching. In the process of reform, we should not only maintain the independence of the two, but also maintain the connection and penetration between courses, and jointly complete the task of cultivating students' practical ability, engineering application ability and innovation consciousness.

2.3 pay attention to the cultivation of practical application ability and innovative spirit, and build an advanced system of practical teaching courses

According to the requirements of the talent training objectives of geotechnical specialty, according to the professional quality requirements, basic practical ability training (Theory Course + practice course), special technical ability training (Theory Course + practical operation + Course Design), engineering application ability training (Theory Course + practical practice + Course Design)The practice teaching course advanced system of professional comprehensive ability training (practice) can achieve the goal of cultivating talents with innovation and application ability.

2.4 build a high-level teaching team with rich practical experience

At present, most college teachers directly enter the school after graduation. They have rich theoretical knowledge, but they are relatively unfamiliar with some specific problems in production practice. This is the short board for higher vocational colleges to cultivate skilled talents. Therefore, it is very important to send young teachers to enterprises for training, invite enterprise mentors or expert mentors to give special lectures, and select professional teachers to participate in academic exchanges or teacher training meetings. Young teachers can go to enterprises (Institutions) to participate in engineering practice, project management, tackling technical problems, etc. to improve teachers' engineering practice ability. Technical backbones of enterprises can also be invited to serve as part-time teachers to teach students core professional courses, especially post related training courses. And then build a double qualified and practical teaching staff.

3. measures for practical teaching reform

3.1 optimize the practice teaching system and practice teaching content

Based on the survey feedback from teachers, students, enterprises and other aspects, through the research on the correlation between the knowledge structure and practical education of geotechnical engineering technology specialty, and on the basis of meeting the characteristics of running a school and the orientation of the school-based specialty, the talent training program and practical teaching content of the specialty were formulated after many demonstrations, and through the tracking observation of graduates, Constantly optimize the practice teaching content and improve the practice teaching system.

3.2 optimization of practical teaching conditions and training course design

With the development of society, higher vocational colleges pay special attention to the cultivation of practical talents. It is very important to carry out practical training courses on campus. The college also pays more and more attention to practical teaching. In order to improve students' professional skills and practical ability, we should vigorously build and improve practical teaching conditions and practice bases, By investing a large amount of money in the construction of modern geotechnical engineering training center and professional supporting laboratory, and adding various training equipment, operation models of various types of work, solid models, and various professional auxiliary software, the teaching work of all in class practice teaching and centralized experiment and training link has been met. At the same time, in order to cultivate students' comprehensive quality and enable students to be employed as soon as they graduate, the college has continuously improved the design of on campus training courses.

3.3 optimize the practice teaching school enterprise cooperation education mechanism

Improve and optimize the school enterprise collaborative education mechanism and revise and improve the talent training program based on the enterprise's demand for geotechnical engineering professionals. Guided by students' career development after graduation, through various forms of school enterprise cooperation, enterprises' participation in all aspects of talent training is improved, and good conditions are provided for students' practice.

3.4 cultivate students' innovative consciousness and ability

Carry out innovation and entrepreneurship practice teaching activities, and combine professional practice teaching with innovation and entrepreneurship activities (competitions). Encourage student participation. At the same time of innovation and entrepreneurship, it also provides guidance and encouragement for the innovation process. By participating in innovation and entrepreneurship activities, students can find their own sense of value, and flexibly use the knowledge they have learned, which greatly exercises the students' ability to practice and innovate, and also temper their will. In addition, in the actual teaching process, teachers show excellent cases and other methods to enable students to improve their innovation consciousness imperceptibly and enable students to actively participate in innovation and entrepreneurship.

3.5 optimize the practical teaching inspection and evaluation system

The traditional evaluation of practical teaching is mainly based on the results submitted by students and other materials, but the evaluation of students' practical skills is not enough. Due to the strong operability of geotechnical engineering training, the evaluation mechanism of "operation assessment + achievement report + report" based on learning output is formulated, and the improvement of students' inductive expression level and students' practical ability are taken as important indicators. At the same time, through the development of relevant systems, teachers should be guided to pay attention to the in-depth cultivation of students' professional comprehensive practical ability.

4. conclusion

Based on the analysis of the problems existing in the practice teaching of geotechnical engineering technology specialty, this paper takes the cultivation of application skilled talents as the ultimate goal, combined with the characteristics and current situation of Geotechnical Engineering Technology Specialty in the college, carried out some more appropriate reforms from the aspects of practice teaching system, curriculum design, school enterprise cooperation, assessment and evaluation system, and improved the practice teaching quality of geotechnical engineering technology specialty, It improves students' practical ability, and comprehensively improves students' professional knowledge, application ability and professional quality.

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