Exploration on engineering education of engineering geology

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Abstract: In order to improve and strengthen the problem of weak practice in engineering education, the education department of our country launched the policy of "excellent engineer" in the middle of 2010, as well as the international education. Engineering education certification, China's engineering education has a crucial impact on the role. However, in today's university education, geography engineering education or the existence of the phenomenon of lack of teaching practice, hindering the development and upgrading of engineering education. To this end, this paper analyzes the problems in the engineering education of engineering geology in colleges and universities at present, and discusses the teaching system, teaching practice method and construction of educational base in engineering geology, so as to study the engineering geology professional education methods to explore to provide a strong reference.

Keywords: geography specialty; engineering class; education exploration

Introduction

The Ministry of Education issued the "excellent engineer education and training technology" as a long-term development of higher education goals and planning, which is the implementation of large-scale engineering education reform important signal. It purpose is to cultivate the country with excellent innovation, practical ability of engineering and technical personnel for China's sustainable development of strategic development of outstanding talent behind the reserve. Engineering education professional certification to follow the three basic concepts: results-oriented, student-centered, continuous improvement. These ideas are of great significance to promote professional construction and teaching reform, guarantee and improve the overall quality of engineering students. Among them, the results-oriented education has become the United States, Britain, Canada and other countries the mainstream of educational reform concept, engineering education professional certification is fully adopted. Engineering geology professional industry is the need for a number of solid foundation, comprehensive high quality, innovative ability and practical experience of students to achieve China's industrial road construction and innovation of the country's development. In order to respond to the call of the Ministry of Education and the country, and with the international standards, each engineering geology professional colleges and universities should adjust the mode of education as soon as possible, in order to enhance the engineering geology professional education characteristics, to contribute for the training of outstanding engineers.
1. The existing problems in the current stage of engineering geology teaching aspects

There is a big difference between geography engineering and other traditional disciplines, and field practice is needed in the course of learning to obtain relevant knowledge and theory. The concept of international engineering certification to the engineering education and teaching activities to carry out a clear direction. However, China's engineering geology teaching in the education of law still exists in the following aspects:

(A) The concept of engineering education to be improved

Due to the influence of China's examination-oriented education, the educational concept of engineering geography education in our country also embodies the teaching idea of light practice in our country. It often measures the students 'learning achievement through one-sided achievement, ignoring the students' feedback and feelings on geology teaching. The enthusiasm and subjective initiative of students' learning. And teachers often left the traditional Chinese education teachers for the big idea, between teachers and students to form a state of imbalance in the follow-up teaching reform in the lack of continuous adjustment and improvement of the concept and understanding of China's geoscience engineering which has a certain constraint on the development of engineering education.

(B) Lack of practical activities

The teaching of geology engineering needs to have a lot of practical teaching links in order to ensure that students can master the knowledge theory. However, most of our geography engineering institutions in the professional education model is often too much on paper, attention to the mastery of student knowledge, but ignores the role of students’ engineering practice education, not the students as the main body of training, resulting in many colleges and universities appear the theory of light practice of the phenomenon for the development of China's geography project had a serious impact [1]. In the teaching process, teachers often use spoon-feeding teaching methods which will need to explain the contents of the three-dimensional interpretation of the content to explain the plane, the lack of outdoor learning environment for creation, leading to students' ability to innovate and imagination is more rigid, lack of engineering geology professional enthusiasm. In long-term, students as a whole reflects the poor learning situation.

(A) In prior cooperation between the schools and enterprises to be strengthened

At present, the base of school engineering practice is chosen by the school and the production unit to sign on a paper contract. In the past, the practice base is chosen for students in this way. However, it is this way that led to the practice of engineering science in most colleges and universities is often only a mere formality, the lack of rich practical teaching process and educational content, resulting in students cannot pay enough attention to geo-engineering practice, and its due to the form and content of the unitary, the lack of continuous improvement of the optimization strategy. Many students do not have enough practical resources to enhance, affecting the overall practice of teaching effect. In addition, engineering practice activities in the class will also be shrunk, many schools with the production sector to carry out the practice of teaching activities are often based on the field of geological prospecting units to carry out the market project, cannot guarantee the continuity of teaching practice in real time. And the production sector is not equipped with professional geotechnical engineering instructors and excellent education, this situation led to even the practice of teaching activities arrangements, it is difficult to ensure that students harvest high-quality knowledge theory.

(C) Lack of continuous improvement of the optimization strategy
The experimental facilities in the school need to be strengthened in many domestic engineering geology professional institutions in the construction of conditional excellent laboratory hardware and software environment, but there are still many engineering geosciences colleges and universities do not have complete experimental facilities, leading to geography engineering education activities cannot be extensive [3]. The main problems in the construction of laboratories are the lack of investment in construction funds, which leads to the inability of the laboratory construction work to proceed smoothly. Moreover, the status quo of university education still attaches importance to the status of theoretical knowledge, leading to timely corresponding experimental conditions, will serve the cause of scientific research, and ignore the importance of undergraduate teaching practice, and undergraduate education practice equipment is often equipped with too old and Backward equipment, in the course of practical education, which cannot be based on specific educational chapters to carry out practical teaching demonstration, resulting in teaching practice courses cannot be a higher level of development, affecting the excellent engineers training technology and training progress.

2. Geography professional engineering education reform measures

Engineering geology professional knowledge and practical experience of students have strict requirements. In order to ensure that students can meet the school's teaching objectives and corporate recruitment standards, and constantly adapt to China's education sector promulgated the "excellent engineer training program" and international engineering certification the requirements of the results-oriented, student-centered, continuous improvement of the concept of international engineering certification to implement the teaching methods to improve them. To explore suitable for China's colleges and universities of talent management and training model, the need to correct and adjust from the following aspects:

(A) The improvement of educational philosophy

According to the requirements of international certification to improve the concept of China's geography engineering education should establish the equal education concept of teachers and students to students as the center to carry out geoscience education, according to the student's learning progress and learning methods to help students learn to improve students' subjective initiative, and according to the engineering geology of learning objectives and learning outcomes as the guide for students to develop a clear learning program, at the same time according to the curriculum put into use the effect of continuous adjustment and correction to ensure that according to the human nature of the national educational philosophy, to develop a suitable way of study for our country.

(B) Attach importance to scientific research to promote teaching

Practical teaching is an important way to ensure that students get professional system training. In order to ensure that practice teaching can really take root in school education, schools and teachers need to continuously improve the importance of geological practice education activities, teaching activities in-depth understanding, and continue to obtain the latest development of engineering geology professional technical means in the classroom to the students popular, from the bottom of my heart to stimulate students to engineering geology professional practice enthusiasm, the students from the previous theoretical study state sublimation for the theory and practice of mergers and acquisitions thinking [3]. At the same time in order to really play the role of scientific research to promote teaching, colleges and universities can carry out scientific and technological project activities, to ensure that funds allow the case, the students continue to research and research projects to ensure that students can in the original knowledge system, cutting-edge, more
profound theory and practice to study, to enhance students' research ability, for the university's scientific research practice to create a good atmosphere, but also for teachers to provide a broader idea of scientific research projects. Only in the social environment and economic development in the direction of continuous improvement in the protection of continuous improvement in order to China's engineering development areas to transport more outstanding talent.

(C) Attach importance to the construction of school teachers

Teachers are important leaders in the training of highly efficient engineers, for which colleges and universities need to improve the construction of teaching and system. In the construction process of teachers, teachers do the selection and training of teachers to ensure that teachers at the source of high quality protection for the follow-up of the organization and training of teachers to establish a solid foundation. In the core geological courses carried out in colleges and universities, we must choose the excellent teachers to take full responsibility, through the professional curriculum responsibility system to ensure the quality of teaching and teaching can be guaranteed, at the same time, in the education sector problems, can effectively find out the root causes of education problems, and timely and effective means to carry out rectification, the results will be guided as an important guiding ideology. At the same time in the theory of teaching activities in the development of practical teaching activities, through the concerted efforts of teachers to ensure the perfect integration of practice and theory. At the same time, the supervision of the quality of the work of teachers to improve the quality of teaching also has an important help. Strong teacher training, requiring young teachers to the enterprise into the post-doctoral mobile station, the establishment of teachers and enterprises of scientific research cooperation, improve the ability of teachers to solve problems. To this end, the need for regular teaching feedback activities, invited outstanding teachers to class lectures, summed up the daily teaching activities in the problems and shortcomings, and in accordance with the characteristics of colleges and universities and the overall teaching conditions for teachers to carry out regular training to ensure that teachers in teaching skills and the ideological and moral to be able to get a comprehensive upgrade, and timely update the new teaching ideas, to ensure that students provide the forefront of geoscience theoretical knowledge and practical skills, and outstanding performance of teachers to reward teachers to improve the teaching initiative.

(D) To strengthen school-enterprise cooperation

The main purpose of the training of the school is to train the counterparts in the enterprise. Similarly, in order to improve the employment rate of the students, it is necessary to cultivate the professional counterparts according to the employment needs of the enterprises. In the current stage, both theoretical and practical knowledge of high-quality talent is the shortage of resources in society [4]. In order to better promote the students' practical ability, the school needs to cooperate closely with the enterprise, according to the characteristics of the needs of enterprises, the development of the school's teaching focus and core content, students in the process of school, inviting outstanding employees to come for students to explain the most cutting-edge geoscience engineering technology and research results, students in scientific research and graduation design process, inviting practical experience of the staff for the students to check and audit, to promote students and employees in-depth exchanges for students engineering practice to establish a good example, and employees have a wealth of practical experience, to hire business personnel for teachers for students to school, the establishment of school-enterprise joint engineering practice center, do a good job of common construction, co-training students. To a certain extent make up for the lack of practical experience of college teachers, to ensure that students in the theoretical study and practice of exploration can be a good development.

(E) Optimize the teaching method according to the professional particularity
The teaching of the theory is mainly to better the basic knowledge of the students, and blindly the use of theoretical knowledge cannot improve the students' professional skills. In view of this situation, the concept of international engineering certification, should be based on the particularity of engineering professionals, the appropriate optimization of teaching methods. Which cultivate students' autonomous learning ability, increase the number of practical courses is a reasonable teaching method. Focusing on student-centered learning ability, the practice of operation requires a lot of equipment and large enough practice sites, and the practice of engineering equipment is to protect the earth teaching practice can be an important channel to carry out smoothly. To this end, the government and the school need to strengthen the improvement of experimental equipment in colleges and universities, the timely replacement of old and backward equipment, update the forefront of advanced facilities to ensure that the teaching content and teaching progress and teaching practice to keep pace, and through convenient instruments to enhance students' enthusiasm for practice [9]. At the same time, only continue to ensure the upgrading of equipment, in order to ensure that the practice can continue to develop, so as to develop students' self-learning ability.

(F) To implement the international development strategy

The development of geoscience engineering cannot be closed down the lock country, and foreign geography project in the development trend and education concept is often ahead of the domestic level of development, so the need to continue to implement the "going out" development strategy to promote our university talent to get better promotion. To this end, China needs to effectively implement the training program of outstanding engineers in the local institutions to carry out international cooperation in the school model for students to build an international information and communication platform to ensure that students can actively through independent learning to broaden their horizons And knowledge. At the same time in the teaching but also to increase the concept of environmental and safety education and international standards, and in the international exchanges and discussions to learn from foreign outstanding technical achievements and practical experience, which learn more outstanding students to help students to help students in exchange learning with foreign institutions, to the international teaching background to improve the institutions of the engineering geology professional engineering knowledge and practice of attention.

Conclusion

The education department "excellent engineer training program" for our country theory of light practice teaching sounded the alarm, as a geology engineering college students, more obligation to carry forward the combination of theory and practice of learning mode. In order to effectively cope with the development strategy of the Ministry of Education, from the promotion of students with self-learning ability, colleges and universities need to effectively enhance the professionalism of teachers, and establish the concept of parallelism in theory and practice, through the development of international exchange platform to enhance student innovation ability and learning ability, and enterprises to establish close cooperation to develop the strategic development of colleges and universities for the development of students and enhance the shape of a sound education system strategy, fundamentally enhance the university students geological learning ability and subjective initiative.

Reference

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