

Exploration on the upgrading of personnel training mode of safety engineering specialty from the perspective of Internet +

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Abstract: in the context of the Internet + era, in order to effectively respond to the new situation of upgrading the personnel training mode of safety engineering major in Colleges and universities, and fundamentally solve the problems of single personnel training mode, low enthusiasm of students and unsatisfactory teaching quality of the major, Based on the in-depth analysis of the current situation of personnel training of traditional safety engineering specialty, this paper explores a new path of professional personnel training under the condition of Internet popularization, puts forward the positioning of innovative talents, and comprehensively reforms the teaching content of personnel training of safety engineering specialty, It is believed that this has important guiding significance for the cultivation of modern talents and the improvement of the adaptability of talents to future jobs.

Key words: Internet + horizon; Safety engineering; Personnel training; Mode upgrade; Strategy

Introduction

Internet + education has many advantages, such as integration, intelligence and sharing. For the safety engineering major with strong practicality and theory, the deep integration of the Internet and the talent training mode of the major is conducive to balancing regional education and teaching resources and boosting education equity, On the other hand, it is conducive to fundamentally solving the various bottlenecks faced by modern higher education and breaking through the limitations of personnel training for safety engineering. Only by continuously improving the education mode and optimizing teaching resources can colleges and universities cultivate more compound engineering and technical talents with noble morality and solid skills, and colleges and Universities themselves can achieve long-term development, Ultimately, it is conducive to gradually promoting higher education towards a new era of “promising” Internet.

1 The concept and characteristics of Internet plus

Internet + represents a new economic form, which mainly refers to giving full play to the optimization and integration role of the Internet in the allocation of social resources, deeply integrating the latest achievements of Internet development into industrial production, social construction, economic development and many other fields, and comprehensively improving the competitiveness and innovation of the industry, Finally, a new social development ecology centered on the Internet will be formed. Internet + takes the Internet as the core, and can be understood separately from + when understanding. The symbol “+” represents addition and integration, which mainly refers to the deep integration of the Internet and traditional industries. Internet + refers to an overall concept, which actively applies the network characteristics of openness, equality and interaction to traditional industries, truly promoting the industrialization of the Internet and comprehensively promoting the optimization and upgrading of the industry. In addition, the Internet has not only fundamentally changed the form of traditional industries, but also enriched people’s lives. In the specific process of education and teaching, the relationship between teachers and students is no longer fixed. Sometimes students play the role of “teacher”, and sometimes teachers can also act as “students”. Academic content no longer has national boundaries, which is conducive to the overall improvement of talent training quality.

2 Current situation and main problems of personnel training of safety engineering specialty

1. Weak professional teachers

The specialty of safety engineering has the characteristics of strong interdisciplinary, wide range of knowledge and high practical requirements. In view of the increasing importance of engineering safety in the industry, colleges and universities really need to build a team of teachers with excellent business, solid foundation and good professional quality, so as to lay a good foundation for the cultivation of high-quality talents in engineering. However, at present, from the perspective of the composition of the teaching staff of engineering technology specialty and the comprehensive teaching level in many colleges and universities, the most obvious problem is that the teaching staff is weak, especially the lack of teachers with rich practical experience, which leads to teachers’ inability to help students conduct in-depth research and learning of professional knowledge. At the same time, in the process of education and teaching, It may lead to the marginalization of the professional content of safety engineering, which may deviate from the professional talent training requirements, resulting in the unsatisfactory quality of the final talent training. At this time, in the process of upgrading the professional talent training mode, teachers should enrich themselves with rich theoretical and practical knowledge while teaching, and update the safety engineering knowledge system in time, so as to promote the sustainable development of the safety engineering field.

2. Course content to be updated

The interdisciplinary characteristics of safety engineering are very obvious, which may involve the knowledge content of computer science, sociology, information engineering, mathematics and many other disciplines. Course content is the basis of talent training, which is

directly related to the richness of students' knowledge and the quality of education and teaching. However, the contents of some courses of this major are relatively old, which can not really be in line with the technology applied by the current safety engineering related enterprises, resulting in the disconnection between the professional talent training in Colleges and universities and the actual needs of enterprises, which directly hinders the realization of the talent training goal.

3. Practice class hours are obviously insufficient

As we all know, the practice of safety engineering is strong and the scope of employment is wide. Therefore, the practice teaching link of this major should be paid enough attention. However, due to the lack of relevant teaching resources in Colleges and universities, as well as the complexity of professional practice teaching scenes and high construction costs, practice platforms based on virtual environment and multimedia devices are often lacking, and hardware and software teaching resources may not be able to effectively meet the needs of talent cultivation in the new era. If there is no real and vivid practice environment, most of the students are just talking on paper. Slowly, they may lose interest in learning the boring basic theoretical knowledge, and also can not understand the professional knowledge of safety engineering through practice, which will directly affect the quality and efficiency of professional talent training.

4. Talents divorced from industrial demand

At present, through practical investigation, it is found that due to the integration of production and education, the lack of deep cooperation between colleges and enterprises, the links between colleges and enterprises, talents and posts are not close, and the lack of educational resources, some students are difficult to solve practical problems independently after graduation, resulting in graduates unable to be recognized by the industry, and finally the talents cultivated by colleges and universities are gradually far away from the industry, It has seriously hindered the realization of the goal of cultivating interdisciplinary talents.

3 Effective strategies for upgrading the training mode of safety engineering professionals from the perspective of Internet +

1. Online and offline, reform teaching methods

Pre class, in class and after class are essential links for the training of safety engineering talents. The reform of teaching methods is conducive to fully stimulate students' interest and enthusiasm in learning, improve learning efficiency, and lay a solid foundation for improving the quality of personnel training. With the vigorous development of the Internet, a series of new teaching methods relying on the Internet emerge in endlessly. Micro class, MOOC, mobile classroom and flipped classroom will certainly become the new normal of the future classroom. In this context, it is necessary for safety engineering teachers in Colleges and universities to organically integrate the traditional classroom and online classroom, integrate online + offline teaching methods, build a network resource library, introduce courses and textbooks from foreign famous universities, and develop a unique curriculum system and professional textbooks, so as to fit the development of engineering safety industry as much as possible.

First, data. With the vigorous development of network technology, the network teaching system records a lot of data information about teachers' teaching methods, teaching process, students' learning methods and results. By collecting these data, teachers can comprehensively track students' learning behavior and learning process, understand their learning characteristics and master their learning progress, so that teachers can adjust teaching methods at any time and greatly improve students' learning quality and efficiency. In addition, by collecting information and data on economic and social development, the Internet can analyze what kind of talents the society needs and the number of talents. Colleges and universities can take the final results as an important basis for the cultivation of safety engineering talents, which will help colleges and universities to more clearly and clearly "cultivate what kind of people", "for whom" and "how to cultivate people". Finally, it can greatly improve the conversion rate of university scientific research level and the accuracy and effectiveness of talent supply.

Second, be intelligent. In the Internet + era, mobile phones, tablets and computers are no longer just entertainment tools. In the process of talent cultivation, teachers can provide online guidance to students anytime and anywhere through the flexible use of the network teaching platform. Especially in the experimental teaching of safety engineering, teachers can fully realize the authenticity of experimental teaching by using the smart platform, It makes the experimental results more vivid and vivid. In the actual teaching process, teachers can adopt the new teaching method of "bullet screen teaching". In class, students can seek the help of teachers and students at any time for some doubts. After class, teachers can ask students' learning progress at any time, so that teachers can timely adjust the teaching method according to the problems raised by students, optimize the teaching content, and consolidate the theoretical and practical foundation of talents, Help to significantly improve the quality of personnel training in safety engineering.

2. Mutual employment between schools and enterprises to optimize the teaching staff

In the era of Internet + education, with the deep integration of new technology and teaching process, the safety engineering specialty has put forward higher requirements for the comprehensive teaching level of the teaching team. In order to comprehensively improve the quality of talent training, as far as colleges and universities are concerned, the primary task is to build a team of double qualified teachers with solid quality and ability. The most obvious problem of the traditional safety engineering professional teachers' team is the lack of experience in connecting with the actual work, and sometimes the case explanation is not thorough, especially ignoring the cultivation of talent post fitness, which leads to the disconnection between the trained talents and the actual work posts, and it is difficult to meet the specific requirements of the industry. In the process of optimizing the teaching staff, on the one hand, we should actively play the unique training role of the Internet for teachers, enrich their knowledge and increase their knowledge, on the other hand, the role of enterprises can not be ignored. The specific measures are as follows:

First, colleges and universities should build an integrated teacher growth training system, actively guide teachers to learn advanced engineering safety technology knowledge and skills at home and abroad, and improve teachers' informatization teaching ability. Teachers themselves should actively change their teaching philosophy, keep abreast of the international and market development frontier, make full use of the Internet platform to further study the new safety engineering knowledge system, and strengthen students' recognition of their teaching ability with solid knowledge, so as to create favorable conditions for the orderly promotion of teaching.

Secondly, we should actively cultivate double qualified and multi qualified teachers. On the one hand, teachers should take the initiative to go out and study and visit first-class universities at home and abroad, especially universities with outstanding achievements in Internet education. They should have in-depth talks with teachers and principals of safety engineering, ask for their successful experience with an open mind, and innovate according to the actual situation of their own schools. On the other hand, teachers should take the initiative to study in engineering construction enterprises and carry out scientific research management and other practical activities in order to effectively improve teachers' engineering safety practice experience. In addition, the training of safety engineering talents in the Internet + era must always practice school enterprise cooperation. In the process of professional live broadcast teaching, the school can hire outstanding senior engineers or experienced front-line employees of enterprises as teaching instructors of the live broadcast platform to effectively answer students' questions, deepen teaching practice and improve teaching effect; Establish a stable and long-term cooperative relationship with enterprises, and cooperate with colleges and enterprises to carry out on-the-job internship, order type talent training, etc., so as to help students better apply theory to practice, comprehensively improve their practical ability, and promote the orderly implementation of the industry university research talent training mode.

3. Leading by science and technology, consolidating engineering practice

In view of the prominent practical characteristics of safety engineering, colleges and universities can give full play to the advantages of the Internet, keep up with the development of the information age, and lay a good foundation for the orderly promotion of students' engineering practice, education and teaching. Specifically, we can start from the following two aspects:

First of all, the Internet has built a communication platform for the in-depth cooperation between schools and enterprises. Engineering practice in the Internet + era does not only refer to school enterprise cooperation, but also the deep integration of school enterprise cooperation and the Internet. Because the Internet has many advantages, such as sharing, openness, instant and so on, it plays an important role in enhancing the communication between universities and enterprises. Based on the Internet platform, teachers can understand the latest trends and possible future development trends of enterprises and even the whole engineering industry anytime and anywhere. Through data integration, these information can be imperceptibly integrated into the process of safety engineering education and teaching.

Secondly, virtual simulation teaching. Virtual and simulation technology is a prominent technology in the Internet + era. Virtual simulation experiment teaching advocates the combination of virtual and real, and relies on database, multimedia, human-computer interaction and other key network communication technologies to simulate real experimental conditions for students, build a more realistic virtual experimental environment, and introduce simulation experimental objects. Students can carry out experiments in the classroom, and the experimental results are more ideal, and the experimental operation is also simple and fast. In addition, schools and enterprises can build a virtual experimental teaching demonstration center, which is jointly undertaken by schools and enterprises to enhance students' skills and knowledge in the enterprise learning stage, comprehensively improve students' innovative spirit and practical operation ability, further promote the reform and innovation of experimental teaching of safety engineering specialty, and help the reform and upgrading of talent training mode.

epilogue

To sum up, the talent training mode of safety engineering specialty in Colleges and universities needs to be industry-oriented and follow the trend of the times for innovative research and practice. The major of safety engineering mainly cultivates new engineering and technical talents with comprehensive development of morality, intelligence, physique, art and labor. It requires students to not only consolidate their theoretical foundation, but also further strengthen practice. In particular, they should strive to strengthen their professional quality and improve their job adaptability, so they are committed to safety scientific research, safety detection and monitoring. The training goal of applied senior talents in safety design and production industries can be realized. Only by deeply integrating the Internet into the training of safety engineering talents can we fundamentally eliminate the isolated island of resources, radiate and drive the development of talents, and create a good reputation of higher education.

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