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Discussion on Training Engineering Practical Ability of Applied Undergraduate Students

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Abstract: Under the new situation, the requirements of society and enterprises for professional talents are increasingly increasing, requiring students to have strong abilities. At the same time, application-oriented masters have also attached great importance to this in the recruitment and admission process, in order to adapt to the direction of the talent market business development, and in-depth research on the integration of enterprise construction and industry. This article analyzes the current situation of the cultivation of engineering practical ability of applied talents, and proposes practical measures for the cultivation of engineering practical ability of applied talents.

Keywords: Applied Undergraduate; Engineering; Practical Ability Cultivation

1. Introduction

In the context of the transformation of university disciplines, application-oriented undergraduate schools must have the main goal of cultivating versatile talents and actively cultivate talents for the country. During the education process, constantly innovate teaching methods to cultivate a sense of practice to allow each student to actively reflect on energy development. According to the needs of teachers, curriculum tasks suitable for students' actual levels are arranged, and school-enterprise cooperation is actively carried out to ensure the cultivation of each student's actual innovation ability. At the same time, discipline construction and in-depth integration of industries are carried out, so as to lay a foundation for the sustainable development of relevant industries.

2. The necessity of training engineering practical ability of applied talents

The curriculum system of applied talent cultivation engineering practical ability can ensure the cultivation of students' overall ability by training their practical abilities. The training focus of the college is to implement courses based on students' basic abilities and their future development trends. Through professional education and innovative curriculum design, students' adaptability to career development has been fully improved. By adopting a practical curriculum system and applying the learned content to school life, it not only enhances students' learning enthusiasm but also encourages them to engage in basic computer studies. In the education of engineering majors in universities, it is necessary to ensure that the educational classroom is interactive, with a lively atmosphere, and introduce novel teaching methods to enable learners to master the ability to apply technology.

The cultivation of practical ability in applied talent engineering can not only help teachers better understand students, reduce teaching pressure, but also enable students to have a clearer understanding of society, life, and teachers, to achieve progress in learning. Engineering majors are courses focused on the application of engineering majors, involving a wide range of knowledge content, aimed at enabling students to form correct ideas and value orientations through learning, in order to improve engineering professional skills.

3. Current situation of engineering practice ability training for applied talents

3.1 Inaccurate positioning of teaching objectives

At present, there is a relatively high demand from various sectors of Chinese society for the actual abilities of primary and secondary school students. However, the positioning of student education goals within universities is not correct, and there is no clear

specific goal for training students in practical innovation and experimental abilities. In addition, due to the insufficient comprehensive understanding of students' practical abilities in the field of engineering technology, the effectiveness of the school's teaching activities in engineering courses is not outstanding. Throughout the education process, students' future professional development is also not introduced, making them unfamiliar with the actual development of engineering and technology industries, thereby suppressing their learning enthusiasm.

3.2 Inadequate practical application ability training

In the education of applied graduate students, tutors must always attach importance to the training of students' comprehensive skills, so that they have practical application skills, and ensure that they can improve their own abilities in teaching. However, in practical education, the cultivation of students' practical skills is insufficient. Conducting practical training is too formal and does not strictly supervise them throughout the activity, making them unplanned and not practical when conducting practical training. In engineering education, mentors do not have a comprehensive curriculum plan, and their systematic education is insufficient, which leads to their lack of initiative and understanding of future goals, which affects their own growth.

4. Teaching methods for cultivating engineering practical ability of applied undergraduate students

4.1 Constantly optimizing the course content based on enterprise needs

With the development of society, the needs of college students are also constantly changing. According to the needs of construction engineering enterprises for graduates, it is necessary to continuously optimize the curriculum content, identify the latest theories, trends, and industry development examples, and integrate them into the curriculum system to ensure education. The content keeps pace with the times and meets the needs of students. The need for knowledge and a broader perspective make training for professionals more adaptive, and enable enterprise management methods to keep up with the trend.

4.2 Case method method

Case based teaching methods play an important role in engineering majors. Learning has changed from simple listening and learning to understanding and independent thinking. In other words, in the process of analyzing and solving problems, students understand the truth, fully utilize their thinking abilities, and actively think and discuss. Understand knowledge points and integrate knowledge. In the training course, more case analysis methods should be used for explanation. For example, teachers can display various examples in the classroom and explain them to derive knowledge that will be learned in the classroom, so that students do not directly acquire classroom knowledge, which allows students to better understand and explain classroom knowledge. It can help improve learning efficiency.

4.3 Interactive teaching method

Interactive teaching is fundamentally different from the traditional teacher centered teaching method. This is an effective training method that can mobilize their learning enthusiasm and achieve self-learning. Teachers must play their leading role in practical education. First, learners are more able to participate in the process from passive learners to active learning, and focus more on the communication between teachers and learners than this tutorial. The teacher raises questions, and students actively analyze and discuss them, and propose solutions. Students can also ask questions, while teachers respond in the form of answers.

5. Training strategies for engineering practical ability of applied undergraduate students

5.1 Strengthening the faculty

Strengthening the construction of teacher resources is an important foundation for improving students' ability cultivation. To improve students' practical abilities, it is necessary to strengthen the training of teachers, improve their teaching quality and ability, and enable teachers to innovate in various teaching modes, in order to establish a team of teachers' talents, and improve the overall teaching level. Modern education refers to the use of modern technology by teachers to educate students in accordance with modern educational ideas. We should eliminate conventional teaching methods and educate students. Schools must improve their informatization construction, and conduct comprehensive training on teachers' informatization education level, so as to enhance their knowledge level, cultivate their awareness of the application of advanced technology, provide scientific guidance to them, and enhance their awareness of problem solving. When educating students in various majors, scientific guidance must be provided for

modern development to promote the formation of student learning systems. In addition, teachers must keep pace with the times and master the appropriate training methods for current students. At the same time, teachers must understand modern training methods and combine modern training techniques to improve their own level.

5.2 Development of school-enterprise cooperation mode

The teaching process is an important process for schools to cultivate descendants of national undertakings. At present, due to the rapid economic and social development, the original traditional teaching mode of schools cannot meet the needs of modern social development. Therefore, universities should also make corresponding teaching adjustments and add innovative elements to the curriculum to meet the rapid economic and social development, especially in the teaching of indoor architectural engineering majors. For training engineering and technical personnel, colleges and universities should also choose this teaching method combined with enterprises to enhance the practicality and efficiency of training personnel. School-enterprise cooperation can combine traditional teaching models with a market economy to meet the needs of economic and social development, thereby promoting a close integration of theory and practice. Therefore, on the basis of traditional teaching methods, colleges and universities must constantly explore innovative teaching models to optimize the current teaching method of skills+education adopted by schools for vocational education. Schools can also guide students to combine their work needs with knowledge in mechanical and engineering disciplines through school workshops. This not only enables students to learn skills safely, but also solves the problems of insufficient company space and insufficient school educational equipment, truly realizing resource sharing between universities and construction engineering enterprises. In addition, students can also go deep into shopping malls and construction sites to master the application methods and characteristics of various building materials, and become familiar with market changes. At the same time, they also need to understand the specific implementation process of construction methods, ensuring that students can clearly understand the practice of professional knowledge.

Conclusion

In the context of applied talents, Chinese universities must take cultivating composite talents as their main goal and actively cultivate talents for the country. During the teaching process, we constantly innovate the traditional teaching mode, use the practical curriculum system to cultivate students' practical awareness, and let students actively reflect on the current development trend of the construction engineering industry. In specific courses, students should be trained in their innovative abilities based on the development trend of the industry, so as to achieve a deep integration of discipline construction and industry, and lay a foundation for the sustainable development of construction related industries.

References:

[1]Wang S, Zhou Y, Zheng X, etc. Construction and thinking on the integration mode of production and education of application-oriented undergraduate universities facing new engineering [J]. Education and teaching forum 2020;(50).247~249.

[2]Shen Y, Dong G, Yang C, etc. Discussion on the cultivation mode of integrating practical and innovative abilities of college students -- taking the cultivation of financial and tax professionals as an example [J]. Journal of higher education 2019;(3):36-39.