Research on the Cultivation of Applied Talents in Civil Construction Major in Colleges and Universities

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Abstract: Owing to the constant progress of China's modern education level and the comprehensive deepening of education reform, the civil construction majors in colleges bear the responsibility of fostering massive professional construction talents for China. They are supposed to not only invest great energy in enhancing the teaching quality, but also focus on the effective ways to foster applied talents. Therefore, colleges should focus more on the teaching of civil construction courses, strengthen the constant optimization and improvement of the teaching staff, and raise the proportion of practical courses, so as to lay a solid foundation for further enhancing the education level of our country.

1. Introduction

Aiming at fostering substantial professional civil construction applied talents, it is necessary not only to ensure the effective connection between the talent demand of the construction market and the education goal, but also to fully grasp the actual demand of the construction industry and the construction unit for front-line applied talents, and clearly recognize the skill demand of the construction unit for professional talents. On this basis, it is essential to comprehensively analyze the career development needs and employment status of students majoring in civil construction, take students' practical operation ability as the core of education, take professional standards and job requirements as the basis of training, and help professional teachers establish clear training objectives. Teachers of civil construction specialty are supposed to comprehensively analyze the shortcomings in the teaching process, clearly recognize the causes of the teaching problems, so as to continuously adjust the teaching content and methods, and develop a high-quality skilled talent training mode for civil construction specialty that is highly consistent with the market demand.

2. Colleges Should Focus More on the Teaching of Civil Construction Courses

During fostering applied talents in civil construction, colleges should control the demand direction of the construction market for talents in real time, so as to make reasonable adjustment and planning for the teaching content of civil construction courses in combination with the actual requirements of the market, and ensure that the teaching content is focused.

Colleges should actively change the traditional school running philosophy and thinking, focus on the "application-oriented" level of the training of civil construction professionals, and ensure that relevant talents have the ability to fully adapt to the construction environment, management requirements, and service needs. While setting up the curriculum system of civil construction specialty, colleges should ensure that the relevant contents are based on practice and planned in strict accordance with the knowledge structure and skill requirements of front-line operators of construction engineering technology.

To reform and innovate the curriculum, syllabus, teaching content, teaching methods, teaching practice and other contents of civil engineering and construction majors, colleges need to ensure that each professional course can establish a new normal in combination with the market

development needs, and change the traditional thinking mode that attaches importance to basic map reading and despises the cultivation of technical ability.

For instance, while leading students to carry out the engineering drawing course, students are required to have a strong ability to read drawings, so that students can combine their own knowledge, truly understand the design drawings, and completely subvert the traditional education method based on drawing.

While teaching construction courses, it is not only necessary to enumerate typical architectural cases for students, but also to ensure that students accurately lock the key content of typical architectural cases, guide students to summarize knowledge points through case analysis, enrich students' professional knowledge reserves, and improve students' practical skills.

While taking students to learn the relevant knowledge and content of the course of building materials, we should focus on fostering students' awareness of flexible application of conventional materials and new materials, clearly understand the performance and characteristics of various materials, so that students have the ability to use all kinds of materials correctly, and be able to transform and apply modern scientific and technological achievements in practical operation.

While leading students to learn the knowledge of subgrade, pavement and construction organization courses, we should focus more on practical courses, simulate real engineering cases as much as possible, so that students can analyze engineering characteristics, understand engineering shortcomings and master optimization measures in practice.

While leading students to carry out measurement and experiment courses, teaching time should be reasonably increased, and students should be required to use their spare time to learn basic theoretical knowledge as much as possible, leaving more classroom time for practical operation, so as to improve students' hands-on ability, practical ability and innovative ability.

Colleges should ensure that every course in civil construction majors can achieve gains and breakthroughs in applied teaching and practical teaching, and constantly improve teaching effectiveness.

3. Colleges Should Strengthen the Continuous Optimization of the Teaching Staff of Civil Construction

When fostering applied talents in civil construction, colleges should not only continuously optimize and improve teaching ideas, teaching concepts, teaching methods and teaching contents, but also put the teaching team in the first place and take diversified measures to continuously enhance the comprehensive quality of the teaching team. This is because it is impossible to achieve the training goal by simply relying on the reform of teaching practice. As the carrier of carrying professional knowledge, teachers themselves are the implementers, guides and participants of teaching content, and can play an essential role in the experimental teaching [1].

Due to the heavy daily teaching work in colleges, there are few full-time teachers who have been engaged in front-line jobs and rich practical experience. Therefore, to ensure that the practical skills of students majoring in civil construction can be effectively improved, colleges should start from the level of teaching staff, enrich teachers' practical experience, and ensure that teachers have the ability to guide students' practical operation [2].

According to the actual investigation and research, it can be found that most of the teachers of civil construction major in China's colleges lack rich practical experience, especially the young teachers, who are mainly undergraduate and graduate students admitted to the colleges, have almost never participated in the construction work related to front-line practice, and their own knowledge is also from school to school, from theory to theory, from books to books.

When the teachers themselves have never been exposed to real civil construction, it is bound to be impossible to effectively connect the theoretical content of professional knowledge with various details in the construction process, resulting in a large difference between the practical teaching content and the real construction process. However, the architectural majors emphasize practicality, and the practical ability of the teachers is low, which is difficult to improve the students' practical ability [3].

It is the only way for colleges to train applied talents in civil construction at this stage to strengthen the training of civil construction professional teachers and constantly optimize and improve the structure of teachers. Therefore, colleges can take advantage of the functions of the incentive mechanism, start from the aspects of salary incentives and welfare treatment, and encourage civil engineering teachers to actively participate in the part-time work of enterprises, integrate their professional knowledge into practical teaching, and transform into their professional ability. Through continuous learning, they can further enrich practical experience, so as to fully impart knowledge, skills and experience to students in the teaching process.

Colleges can also invite excellent technical personnel of civil construction units and teachers with rich practical experience as part-time teachers to regularly organize students to carry out practical courses and guide students' practical operations. Through communication with students, they can teach students true skills, enrich their knowledge accumulation and improve their practical ability [4].

4. Colleges Should Reasonably Increase the Proportion of Practical Courses in Civil Construction

As an essential carrier for the implementation of various practical skills and training measures for civil construction majors in colleges, the construction level and implementation effect of practical teaching have a direct impact on the improvement speed and training effect of students' professional practical ability, and can influence the future development prospects of civil construction majors [5].

While designing the practical teaching system and implementing various teaching measures, colleges must ensure that the relevant contents are highly consistent with the training objectives of civil construction professionals. By providing students with professional training platform, students can deepen professional theoretical knowledge and improve their experimental operation ability [6].

With the help of the training platform, students can not only correctly understand professional theoretical knowledge and professional skills, but also develop learning interest in a series of highly practical and practical course contents such as engineering survey, engineering drawing, construction lofting, engineering experiment, engineering budget, etc., and deepen their understanding of relevant knowledge points and experience the operation process during independent operation, so as to ensure that students have the ability to meet the development needs of the construction market and lay a good foundation for their future employment [7].

5. Conclusion

Currently, China's construction industry has always maintained a good growth trend. With the support of a series of livelihood projects such as water conservancy projects, railway transportation, highway facilities, and municipal infrastructure, it can not only create a good environment for improving the construction level of the "the Belt and Road" in China, but also provide active help for achieving the huge project goal and long-term goal of rural urbanization. All construction cannot be separated from the support of construction talents, which forces the civil construction market to demand more professional talents. Therefore, while carrying out the teaching of civil construction majors, colleges should not only formulate the professional training direction for students, change the traditional education concept, but also improve the teaching reform and innovation, promote the effective connection between the construction market and the talent market, foster massive applied talents with high professional ability and quality, and contribute to the healthy and stable progress of China's construction market.

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