The Reformation and Practice of Water Supply and Drainage Science and Engineering 's Training—Taking Yulin University as an Example

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Abstract. Cognition practice, production practice and graduation practice are very important practical teaching link for undergraduate course phase of water supply and drainage science and engineering. By analyzing, found that the extremely limited practice base, the shortage of funds and the single evaluation methods are the problems about the water supply and drainage science and engineering's practice teaching link in our school currently. The study discussed that continuing to promote the double-professional teachers training scheme, setting up a stable practice base, collecting image data, strengthening cooperation between college and enterprise, changing the way of production practice and assessment methods, can strengthen the teaching effect of practice teaching link and improve the training quality of applied talents.

Introduction

Over the years, our school always adhered to these guidance about grounding in Yulin, relying on Yulin and serving Yulin, to cultivate applied talents as the main line, so these were particularly important to strengthen the practice teaching and cultivate applied talents for local colleges. The former Minister of Education Zhou Ji pointed out that [1, 2] : "Knowledge comes from practice, ability comes from practice, the quality need to develop more in practice; all kinds of practice teaching link are very important to cultivate students' practice ability and innovation ability for college students. We must pay attention to the link of cultivating high-quality talents."

Water supply and drainage science and engineering devote mainly students to do the planning, design, construction, operation management, scientific research and teaching work on water supply engineering, drainage engineering, building water supply and drainage engineering, water pollution control and water resources utilization and protection and so on. These students obtained the basic theories knowledge and basic skills of the main water supply and drainage engineering, water pollution control and water resource utilization and protection and so on. Practical teaching provided platform for contacting practical engineering, understanding the production process and equipment, and communicate with the designers, builders, executives and so on, which were the important ways to enhance the students' perceptual knowledge and train students to solve practical engineering problems. Water supply and drainage science and engineering students should be carried out three practical experiences step by step, cognition practice, production practice and graduation practice respectively [3].

Current Situation and Existing Problems of Water Supply and Drainage Science and Engineering Practical Teaching

Current Situation of Practical Teaching

At present, the practical types, the practical time( the number of weeks) and the contents of Water Supply and Drainage Science and Engineering in Yulin university were shown in Table 1.
Table 1. Present Practical Teaching of Water Supply and Drainage Science and Engineering.

<table>
<thead>
<tr>
<th>practical types</th>
<th>practical time(weeks)</th>
<th>the practical contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>cognition practice</td>
<td>The end of the fourth term (two weeks)</td>
<td>Visit High-tech zone water supply and drainage company, sewage treatment plant in Hengshan and Jingbian, north thermal power plant, high-rise building water supply and drainage in Yulin, etc.</td>
</tr>
<tr>
<td>production practice</td>
<td>The end of the sixth term (four weeks)</td>
<td>Attendant internship to high-tech zone water supply and drainage company, sewage treatment plant in Hengshan and high-rise building water supply and drainage</td>
</tr>
</tbody>
</table>
| graduation practice | Eighth semester (two weeks) | According to the graduation design content to choose the internship company **|**

Existing Problems of Practice Teaching Link

**Extremely Limited Practical Base.** The practical base is the most important condition to guarantee that the practical teaching could be carried out smoothly, but it is difficult to establish a solid practice base for water supply and drainage science and engineering major at present, the main reasons were as follows: (1) This major was a new major, Yulin city is located in the north of Shaanxi Province, it is difficult to introduce academic leaders or higher educated people, and professional teachers were young and had poor practical experience, cannot establish cooperative relations with the internship, so the internship base was very easy to abortion. (2) Yulin city is a third-class city, there were few waterworks and sewage plants, small scale, few people, high degree of automation, so the practical company didn't want students to train, on the one hand, the security responsibility, on the other hand, when the students went to the company to practice, who cannot touch, only see, the effect was very poor.

**Limited Internship Funding.** At present, the lack of funding is the common problem in colleges and universities, practice base were quite limited in Yulin. If the practice funding were not limited, the students could go to out of Yulin, students could see all kinds of structures, which was a great help for curriculum design, graduation design as well as the late work.

**Single Assessment Method.** At present, the assessment method of cognition practice and production practice were the submitted training reports, many students were practicing only see to understand the process and the layout of the water plant, the actual operation process of the structures and the internal structure of the structures were not in depth study, so the understanding of water plant was only fragmented for many students, would not draw the flat profile of the building, and not solve some practical problems, even there was no perceptual knowledge. Therefore, just submitting an training report after the practice was difficult to reach the effect of learning.

The Improvement Measures for the Practice Quality of Water Supply and Drainage Science and Engineering

**Continuing to Promote the Double-Professional Teachers Training Plan and Building a Stable Practice Base**

The lack of teachers engineering experience limited the engineering understanding depth, prominent teacher are the key to improve the teaching quality. Institute of architectural engineering should continue to promote the double-professional teachers training, and improve the teacher's professional practice and the ability to solve practical problems, and can establish a certain relationship with the training companies, which was important to establish a solid practice base.
Collecting Image Datum and Strengthening the Cooperation between Colleges and Enterprises

According to the different requirements of the professional practice stage, professional teachers made audio and video materials about some typical, unusual process, structures and its internal construction, that could enrich the contents of the practice teaching, strengthen students' understanding, improve the learning effect and reduce the internship funding. Yulin university or institute of architectural engineering could invite senior engineers who had practical experience about designing and building to report for students to make a report about some engineering examples for explaining the basic knowledge, design knowledge and specifications in designing.

Changing the Ways of Production Practice and Assessment Methods [4]

Production practice was arranged after the end of most of the professional courses, which could integrate theory with practice and put them into action. The purpose of the production practice reform was to overcome the shortcomings of traditional practice methods, and improve the students' learning enthusiasm, which could receive better effect. The concrete measures were as follow: holding mobilization meeting before practice, explaining some safety precautions and practice outline, doing PPT for students to explain the practice contents, then take students to the laboratories to visit some models of structures and buildings in order to understand mechanisms, operation process and internal construction of the structures. During the training period: students were led by teachers to divide team practice according to the traditional mode of practice in the first two weeks, and students carried out for open practice, free combination, contact internship company themselves. The purpose was to allow students to participate in the actual project, and master the water treatment structures operation, management and so on. The teachers asked students to write practice diary every day during internship, submit internship workplace certificates and training report after the end of training, then carry on the scene reply. Finally, the teachers assessed the students' production practice results according to the training report and the student's reply record. The students who failed to pass the exam were required to re - practice the workplace in the city.

Conclusions

Cognition practice, production practice and graduation practice were practical teaching mode from easy to difficult step by step, the three parts linked with one another, which constituted a complete practical teaching. The whole practice were to explore a new way for practical teaching reform, but also to improve the students' practical ability, and lay a solid foundation to adapt to the working environment out of the university. In the new social environment, the problems of professional practice were difficult to solve the problem in the short term completely, the single centralized practice was difficult to adapt to the development of the times. Therefore, according to their own characteristics, architectural engineering institute took the "Double Teachers" training, collected image data, combined with many kinds of practice methods, strengthen contact the classroom theoretical knowledge with practice, which made a positive contribution to the cultivation of applied talents.

References
