

Thinking of Personnel Training Mode to Enhance the Employment Competence of Civil Engineering

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In this article, with the goal of improving civil engineering students' employability and establishing the "five-in-one" application-oriented talents cultivation mode of civil engineering specialty, We do the research primarily from professional practice in education, career planning, job skills training, alumni resources construction and enterprise feedback, in research at home and abroad on the basis of successful experience and practice, combined with the current civil engineering students in our actual situation, existing advantages into full play and accumulate, and put forward the "five-in-one" new training mode.

Keywords: Five-in-one; Civil Engineering; Personnel Training; Mode

Introduction

Employment is the primary objective in students' career development, with the growth in the number of university graduates, increasing employment pressures, only by continuously improving the employment competitive ability of the students, their professional orientation in the workplace will be found quickly, and meet the position requirements soon, to make it stand out in a competitive job market, grow as soon as possible. This article by building a "five in one" application-oriented talents cultivation mode of civil engineering specialty, achieving the goal of improving civil engineering students' employability, freeing students from learning of non-autonomy, academic development of blindness and confusion of career development. So that our students can clearly orient our career life in the four-year study at the university, according to its own characteristics of selected academic and career paths. It is on the basis of single professional education, breaking original model, establishing the "five-in-one" all-round personnel training mode.

Domestic and Foreign Research Status

In terms of Practical Education

Research in domestic and abroad recognized that engineering education should return to the engineering practice. Practice education is the basis for engineering education. We should strengthen project-oriented training and practice-oriented project, also we should implement in practice on the teaching. Therefore, training courses throughout the curriculum play an important role in the system.

In foreign universities, civil engineering professional education target at professional and emphasized the development of application-oriented talents. In the United Kingdom of all the civil engineering colleges and universities, a considerable number of engineering colleges is practicing the "sandwich"-type curricula, that is the first、second、fourth year studying at school, the third school year as engineering practices (as an integral part of the teaching program)[1]. This scheme occupies

fewer hours in classes, students have more free time, and it has the characteristics of multiple channels. In Germany Universities of civil engineering, it attaches great importance to talent cultivation of the ability to work independently, in practice links, civil engineering students must come to the actual first line of production practice of 13weeks, training content and requirements are clearly defined. Germany's companies can assume the receiving students practice tasks, as well as recruiting new staff study[2]. France training model of higher engineering education has similar features with Germany and other European countries: students either learn scientific basis or engineering technology, schools attach importance to work in companies, and keep in touch with companies[3].

Nowadays, many scholars in China on the teaching reform of engineering practice education project, optimizing, integrating course content, course structure, strengthening the construction of laboratory practice and training, with a view to improving the practical ability of the students. Modular course construction in colleges and universities improve students' computer skills, such as CAD, Drawing, PKPM software, computer simulation test system.

In Terms of Career Planning

In the teaching curriculum of civil engineering of Hong Kong University of science and technology, the academic and career development course as core curriculum, there are three hours of counseling and study hours. At present, China also attaches great importance to career planning of university education; career planning has become a new mode of employment guidance. Compared to China, early career planning education abroad has been more mature. Especially in Germany, Singapore and other developed countries, they began to focus on employment ability of students from primary school training, and guide students step by step to make their own career plan.

In recent years, the employment guidance in University departments in the Mainland changed; it began to guide students to make career planning. This kind of education, just introduced into the junior college students. At the same time, human re-

sources service providers began to involve in community college education, well-known entrepreneurs' access to career training in colleges and universities, through seminars, training, testing, games to help students find their career objectives and their implementation. Students need to have a career plan. A reasonable career planning is the first step towards success. On the first day of entering the university campus, students should combine their personality, interests, expertise, values, and other factors, according to the external environment, establishing his career goals, taking advantage of a variety of favorable factors in the social environment, having a purpose, a planned, strategic way to implement this objective. In the process of implementing this objective, according to the changes in the external environment and their interests and hobbies to continuously adjust and eventually obtain a satisfactory result.

At present, China's College students in this direction is still relatively weak, for many college students, they don't have a sense of development planning; Many colleges and universities, present a reasonable career planning for college students also has no formal action, successful career planning is the key to ensure the students' ability to acquire employment factors. Since 2005 United Kingdom Higher Education Quality Assurance Agency (QAA) began to record graduate students' results through the process of file or personal development planning (PDP). Personal development planning's primary goal is to improve an individual's ability to understand what they learn, and how to learn, and to review, plan and be responsible for their own learning, students need to be able to reflect on their achievements and provide proof, and realize that the capabilities they developed is through curriculum and extra-curricular activities. Fundamentally, only interested in the students' personal development plan process, rather than the result of personal development planning, recruitment, personal planning's role is to help job seekers to explain and articulate what they know, what they can do and what they are doing. Developing good moral character, role change can be completed as soon as possible is also important duties and responsibilities of the university.

In Terms of Job Skills Training

Affected by traditional "formal" education, there is a widespread phenomenon of despising vocational training in colleges. At present, many vocational colleges and universities attached great importance to students' vocational skills training, mainly carried out with the dual certification requirements, taken of students at school-oriented training so that students with professional qualifications, obtain the appropriate professional credentials.

In recent years, with education plays an important role in the society, institutions have sprung up in all kinds of education and training, training courses cover wide range of subjects according to market needs. The number of participants in training courses was in a rising trend, in which college students played the main roles. Lacking of vocational education is the weaknesses of college students. In China the higher education is degree-oriented education, focusing on basic theory and professional teaching, ignoring vocational education particularly practical job skills training. However, out School of vocational training filled this gap. Higher education is different from domestic and abroad, they have very sound system of higher vocational education. In developed countries such as Britain and

the United States, they typically use legislation to promote the stable development of vocational education.

In the Development of Alumni Resources

Research indicates that in France more than 100 large enterprises, two-thirds leaders of the industrial enterprises are alumni of the school. Higher mining school of Paris has proudly claimed that the school founded 200 years, and they maintained close cooperation with the mining industry of 200 years. Obviously, University Alumni is a knowledge-intensive, information-rich, strong social skills group, the group has a special feeling to their schools, and it has significant resources. As the president of Zhejiang University Pan Yunhe says "Alumni are the most important achievement of the University", it plays an important role in the development of colleges and universities.

Alumni study in the United States and Europe has a long history. The earliest Alumni research appeared in the 1930 in United States, in 1979, pace pointed out that the Alumni leadership research mainly focused on helping colleges and universities assess educational outcomes as well as understand the feedback of college students' employment situation. Today, alumni research has been extended to many new fields. New research on Alumni resources mainly includes the reform of university alumni working way in order to better serve the alumni. Relative to the history of alumni work abroad, our university alumni is lagging.

In the Area of Enterprise Feedback

Civil engineering in United Kingdom attaches great importance to ties with the engineering sector and department of engineering industry advisory committee. first, the celebrities involved in the teaching of engineering management, involved teaching programs, teaching reform and suggestions made; Second is to invite members of the business community to make lectures at any time, providing the latest information[4]. And they have series of teaching system and community resources for protection; making sure that universities and enterprises can build a win-win.

In recent years, as the change of China's economic system and the reform of the education system, University of engineering try their best to establish the close relationship with industrial enterprises. But, in General, contacting and cooperation between the two sides is not strong enough. Universities are not open to industrial enterprises; enterprises are not really relying on universities.

In developed countries such as Britain and the United States, they are running a market-oriented system, taking the road of enterprise at the University. Through the cooperation with industry and enterprise, colleges cultivate students with knowledge and skills.

To Enhance the Employability of Civil Engineering Talents Cultivation Mode of Thinking

Civil engineering is a major which require high quality of employment, employment creation, employability development, employment promotion, employment information. In order to improve the quality of these five aspects, the main idea is as follows **Figure 1**.

Accumulation of Job Quality

To do a good job in professional practice education, the first thing is to have a solid theoretical knowledge, and practice education links allow students to use short term, subject research, study tours and other forms of social practice to maximize exposure and understanding of civil engineering enterprises in the field of present situation, development trend and occupational characteristics. After understanding the industry, we can enable students to strengthen the awareness of professional, so as to raise interest and initiative of professional learning.

The basic idea is: the key of enrolment is focusing on professional course; first-year focuses on short term practical education; second-year focuses on scientific research; third-year focuses on production practices; fourth-year focuses on graduation design (thesis). Graduation design (thesis) is the only step that students can have the chance to discuss with tutors face on face and finish a paper by their own.

Professional practice is the important work in four years study, how to grasp the different stages is very helpful to the growth of students.

Set of Employment

Career planning education for students of any subject is crucial, because human personality determines the type of work which he is good at, it helps students finding the right type of work and it is very important to their future development. For the students in civil engineering, requirements are different for different types of practitioners. If students do not fully understand the needs of this industry and talent requirements and feel free to make decisions, it is easy to make a wrong decision and make their career path is not very smooth.

The basic idea is: taking colleges in Hong Kong as reference, they have "practice of the academic and professional development" courses in colleges and universities, these courses link to

the course of an introduction to the subject, new students in the colleges can gain the knowledge of career life planning. Students in civil engineering department should choose their specialty in the second-year. After selecting a specialty, students should well plan their career life.

Employment Promotion

The feedbacks from graduates in recent years, current graduates are faced with embarrassed situation, they are worse than people who have master or doctor degrees in doing research, and they are not skillful compared with vocational graduates. It is the important problem for colleges and universities to resolve.

The basic envisaged is: drawing on the experience of abroad university professional skills training and high vocational college vocational education, on the base of current five member training, perfecting training system, and setting up budgeter training, and guiding students on participate in series training, making reasonable time arrangements. Students can learn expertise while enhanced actual application ability, finally get "passport".

Expansion of Employment Information

University Alumni is a knowledge-intensive, information-rich, strong social skills group, the group has a special feeling to their schools, and it has significant resources. As the president of Zhejiang University Pan Yunhe says "Alumni are the most important achievement of the University ", it plays an important role in the development of colleges and universities. With economic globalization and the deepening of the reform of higher education, how to make the development and use of Alumni resources and play good alumni in college students' ideological and political work, expanding the school space, promoting the role of educational innovations, and other work is the important task of management work of colleges and universities.

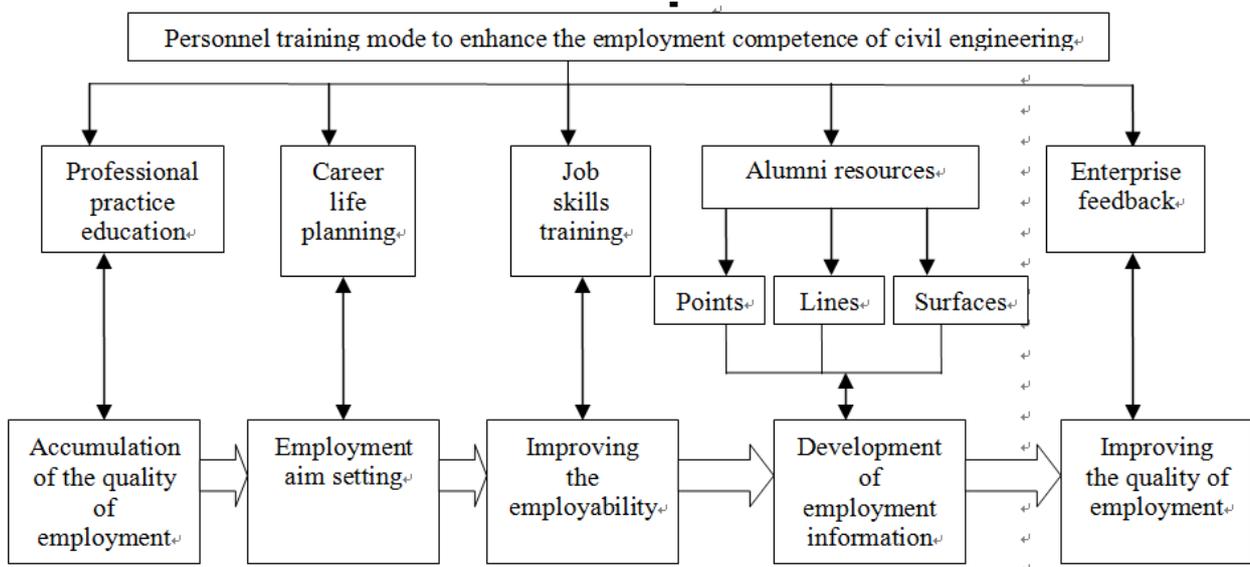


Figure 1. Personnel training mode to enhance the employment competence of civil engineering.

The basic idea is: by interviewing students who graduated from 1999-2006, building Alumni Resource Library, and doing survey in graduates in civil engineering. This summer has completed the first step, despite we face many difficulties and obstacles, but we also got many achievements and obtained much valuable information. If this work continues, we try to perfect the network of Alumni resources; we will have a better Alumni resources system. At the same time, employment opportunities provided by the Alumni will have a great effect.

Improving the Quality of Employment

Enterprise is an advanced technology platform, and also it is the place of professional resource. If first-hand information obtained from the enterprises on time, it is very important for both teaching and research. And they have series of teaching system and community resources for protection; making sure that universities and enterprises can build a win-win.

The basic idea is: using the way foreign colleges and universities do, firstly, inviting the celebrities in Engineering Advisory Board to teach engineering management, involved in teaching programs, teaching reform and suggestions made;

Secondly, inviting experts in the field of civil engineering have lectures at any time, providing the latest information; thirdly, building enterprise resource information database, recommending civil engineering graduates to the enterprise. It can improve the quality of students' employment.

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