

Facing Petroleum and Local Markets, Establishing Teaching & Research School

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Abstract—Taken the School of Civil Engineering and Architecture of Southwest Petroleum University as an example, elaborated how to teaching staff construction as the breakthrough, around the university characteristics, positive for petroleum and local market to carry out the teaching and scientific research work, and the characteristics of course, for the industry development and construction of general subject in colleges and universities to provide the reference.

Keywords- teaching staff; discipline construction; teaching; scientific research

I. INTRODUCTION

Southwest Petroleum University is the second petroleum universities founded new China in 1958. After more than 50 years of development, it has become a multidisciplinary coordinated development of oil and gas prominent superiority and the characteristic of teaching Research University. In such an industry characteristic of the university, how to do a good job in the civil construction and other general discipline is a lot of practical problems facing the colleges and universities in developing industry. School of Civil Engineering and Architecture of SWPU insists “derived from petroleum, facing society and outstanding characteristics”, positive for two markets of the oil industry and the local economic construction, in the construction of teachers team construction professional discipline construction personnel training and social service has made some reform and exploration, and step by step on the path of the sustained and rapid development, laid a solid foundation for establishing teaching research university.

The School of Civil Engineering and Architecture of Southwest Petroleum University (SWPU) was originally established in 1988, deriving from the Industrial and Civil Architecture Specialty of the Department of Mechanical Engineering (now the School of Mechanical Engineering, SWPU). Currently in the school, there are 2,500 students of whom 158 are pursuing their master’s or Ph.D degrees. And there are 74 faculty members on its staff of whom 55 are full time teachers with two doctor supervisor, eight professors and 18 associate professors.

The school offers six undergraduate programs: Civil Engineering, Building Environment & Energy Application Engineering, Survey Engineering, Engineering Management,

Urban underground space engineering, and Urban and rural planning. The school also offers 9 master’s degree programs: Structural Engineering; Heating & Gas Supply, Ventilation & Air-Conditioning Engineering; Geotechnical Engineering; Disaster Prevention and Reduction Engineering; Bridge and Tunnel Engineering; Municipal Engineering; Underground Engineering; Geological Information Engineering; and Engineering Management.

Presently the school is working on over 50 various scientific research projects, including the National Natural Science Fund; National Social Science Fund; and National Science & Technology Supporting Projects with annual funding of over ten million RMB.

On the basis of the “Institute of Engineering Structures and Reliability Engineering of System Quality of SWPU”, “Institute of Rock and Soil Mechanics of SWPU”, “Testing Center of Construction Engineering Quality of SWPU,” and the “Training Base of Civil Engineering Talents of Sichuan Province” various research areas are being formed: computational theory for structure design; structure safety, endurance, maintenance and consolidation; utilization, transportation and planning of gas and heat; automatic control and trouble diagnosis of equipment in artificial environments; essential features of soil and rock mechanics; numerical simulation of foundation and geotechnical engineering; earthquake resistance and reliability of engineering structures; engineering structure testing, disaster prevention and reduction of pipeline lifelong engineering (which integrates with mechanical structure and strength of long distance oil and gas transportation systems). As a developing school of SWPU, only strengthen connotation construction and outstand characteristics, we can occupies a certain position and better cultivate qualified civil construction industry of high-level personnel.

II. TEACHING STAFF CONSTRUCTION

The development of a college involved in all aspects of a lot of content, but the first thing is teachers’ troop construction. Without the first-class teachers, there is no first-class discipline. To implement talent strong school strategy, strengthen the construction of teaching staff, is the rapid development of institute of cadres. Has an abundant structural optimization

quality good faculty, is the important guarantee to improve the quality of teaching and research on subject construction.

In recent years, the school increased the teachers troop construction, on the one hand, vigorously introduce teacher, on the other hand in a planned way and teachers study for a doctorate. The school and the teaching and research section made career development plans for each teacher, according to the characteristics of the teachers, to help them perform good personal career development plan. Through the efforts of recent years, college teachers in the rapidly expanding, structure of the teachers has been significantly optimized. In the end of the 12th five-year, full-time teachers will have 60% doctorate and 60% senior title.

In the process of construction of teachers' team, our main approaches are,

A. Accurate Positioning, Introduce Available People and Improve the Practicability of Introducing Talents

Different levels of school orientation, the working train of thought of different location decision, the corresponding talent introduction have different goals. For provincial colleges and universities, as the economic power and influence is limited, the introduction of heavyweight of the leader is not easy. What college need to have a clear positioning, build level of discipline, those should be development and can quickly up discipline. As Civil Engineering School in Petroleum University, must be geared to the needs of local economic construction and Sichuan petroleum engineering construction need, to carry out the research with industry and local characteristics, form their own discipline characteristic. Clear positioning, talent introduction should be about characteristics, around the established the direction of the introduction of talent, can use to ensure that the introduction of talents, stabilizing.

B. Create Conditions to Make the Young Teachers Become the Life-Blood of Teaching and Research As Soon As Possible

Teaching is the teacher's main job, In order to let the young teachers on the platform as soon as possible, our school helped young teachers to improve teaching level by old teacher guidance, organizing young teachers lecture contest, peer observation etc. Scientific research is another important job of young teachers. Because of the new teachers are mostly young doctoral and postdoctoral, it is difficult to get project in the first few years. Therefore, the school has established discipline team development plan, and encourage young teachers to join the team. By scientific exercise, gradually raise the level of scientific research. Implementing system innovation and improving the efficiency of choose and employ persons. Give commendation and reward to the contribution teachers, and form the respect for labor, respect for talents, respect knowledge, respect the contribution of chooses and employ person's atmosphere. In short, to strive to use good everyone, play to their maximum energy.

C. Create a Harmonious Atmosphere and Retain High-Level Personnel

Party and government bodies to care much about the working life of high-level personnel, as far as possible to help solve their difficulties, let them feel the warmth of the organization. Only the school atmosphere is good, everyone can work in a good mood, to be dedicated, do more contribution.

III. DISCIPLINE CONSTRUCTION AND RESEARCH WORK

For reiterated exposed in the process of discipline construction, problems of the construction of the light, our school to declare the level 1 discipline of civil engineering doctoral degree as the target, vigorously promotes the discipline connotation construction.

One is refined discipline direction. The school is from petroleum, which determines our scientific research and discipline must be geared to the needs of the oil industry as features, and only for oil industry, can rapid development. Closely involved in the oil industry a large number of civil engineering problems, conducting scientific research, refining subject characteristics. Only the disciplinary power, have power more widely to serve the community and the local economy.

In order to better to do a good job of discipline construction, according to the development of college teachers in scientific research support and national demand, further refining the research direction of each one discipline characteristic has been gradually revealed. Geotechnical engineering disciplines, for example, combined with the key geotechnical problems of resource development and environment protection to carry out scientific research, including the main research direction: (1) Seepage theory and application in geotechnical engineering; (2) coupling theory and its application in geotechnical engineering; (3) Petroleum engineering disaster prevention and mitigation; (4) Underground energy and waste disposal.

The second is gathering discipline team. Famous universities at home and abroad, it is famous known as the discipline and discipline leaders. our School will, in accordance with the subject research direction, the timely introduction of related subject leaders and academic backbone talents to stand out from the environment and atmosphere, to create conditions for the growth of talent. Strive to the end of the 12th five-year, built 4-5 stable subject team, each team has fixed the leader, has a relatively stable discipline echelon and support research projects.

The third is to strengthen the construction of subject base. In meet the conditions of teaching of undergraduate course, discipline direction, building structure engineering in sichuan province key laboratory of colleges and universities and more than large geotechnical physical field coupling experiment platform.

Scientific research is the foundation of the discipline construction. No scientific research, it is hard to produce it, discipline construction also will be a madrasa reflected, non-existent. Therefore, to strengthen the scientific research work is of extreme importance for developing subject. At present, our

school has 67 scientific research projects, including national science and technology major projects subject three five-year national science and technology support project 3 item of national natural science foundation of China academy of engineering project 6 major engineering consulting project item 2 and more enterprises entrust horizontal topic. These research projects support the subject development.

IV. STRENGTHEN THE CONSTRUCTION OF PRODUCTION BASE AND DOMESTIC AND INTERNATIONAL ACADEMIC EXCHANGES

Establish production bases of enterprises actively, and 21 bases has established with the army and local enterprises. Nearly four years, there are more than 40 students practice teams successively to the base of practice, ability training and so on are the business guidance comprehensive benefit. At the same time, the production base as the platform, give full play to the advantages of the technical theory of scientific research in colleges and universities and enterprises of the regional industry and capital advantage, to achieve resource sharing and complementary advantages. Nearly four years, our school signed 17 scientific research projects and trained 420 people for the enterprise, which promote the sustained and healthy development of the school and enterprise.

In recent years, our school attaches great importance to academic exchanges at home and abroad, to participate in academic exchanges at home and abroad every year to more than 30 people. By strengthening academic exchanges, widened the field of vision, improve the influence of the college.

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