ATTACH STRATEGIC IMPORTANCE TO HIGH QUALITY
VOCATIONAL AND TECHNICAL EDUCATION

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Abstract: Xiamen University has been attaching great important to the display of its superiorities and strategic importance to practical technical education for the new century. The University aims at culturing technical and profession personnel to be used in the frontline of production, construction, management and service. In the area of the distribution of courses and reform of teaching contents, the University takes the culture of basic quality and capability of students as the core task, rationally sets up courses, makes conscientiously good teaching planning, improves textbooks, labs and bases for teaching practices. The University has cooperated with nine local enterprises in joint establishment of field trip and training bases. The University encourages engineering and technical staff of enterprises to joint our teaching staff and hires them as the teachers for field trips and training of students. At the same time, the University sends teacher abroad, other units in China or to industries for studies, aiming at building up a task force comprehending both theory and practices.

With development of science and technology and social progress, many professional posts set higher demands on the expertises of their staff. On the other hand, with the enhancement of people’s living standard, more and more people seek for higher learning education. The society sets various demands for higher learning talents and a great many professionals will work in the frontlines of manufacturing, service and management. The cultivation of this type of talents depends on the development higher-learning professional education (Wang Mingda,1999). In recent years, with the development of higher-learning education the case of higher-learning professional education has received more and more attention from various lines. Xiamen University is a comprehensive university and enjoys distinct superiorities in teaching taskforce, education infrastructure, faculties, academic level and higher-learning education experiences. In the process of educational system reform, Xiamen University set up its Vocational and Technical Institute in 1999 based on its long term experiences in higher-learning professional education. The Vocational and Technical Institute is an experimental site for vocational and technical education in the university. This paper intends to discuss some issues for raising educational quality of higher-learning professional talents in the areas of cultivation objectives, distribution of expertise, teaching courses and teaching materials, practice and training. Bases and capacity building of teaching staff.

I. Education Objectives

The objectives of education are associated with meeting the social needs. The development of higher-learning professional education meets not only the needs in China’s modernization drive but also follows the great trend in higher –learning education in the world. In the new century when the era of “knowledge economy”, a state needs not only high quality “academic” talents but also skill technical talents, in order to maintain its sustainable development by relying on its own capacity. The higher-learning professional education is an integrated part and a type of higher-learning education. It is not a type of lower-level higher-learning education, on the contrary, it is a type of education parallel to common higher-learning education that takes “academic education as its objectives” and becomes
a part of higher-learning education system in China consisting of professional, undergraduate and graduate education (Wang Hu, 1999). Based on this understanding, we are clear that the objectives of high-learning professional education intend to culture professional talents with advanced applied technologies for meeting the needs in the frontlines of manufacturing, construction, management and services. The students receiving higher-learning professional education should become professional talents meeting the urgent needs in local economic development, tradelines and enterprises.

II. Distribution of Faculties

1. There are two principles guiding the distribution of faculties, firstly social needs and secondary education resource superiorities of a school.

   Under the principle of social needs, the distribution of faculties should be made in accordance with the needs of local economy and market demand. The distribution of faculties and number of student enrollment should consider the actual needs of technical areas and professional posts (groups), especially the needs of the local large-scale key industries. In this regard, the broad and narrow faculties should be coordinated and the principle of stability and flexibility should be followed in order to give full play the applicable, new, modern and compound features of professional education. For example, the Faculty of Aviation Engineering in Xiamen University is a one of the key faculties meeting urgent social needs.

   Higher-learning professional education has to meet very strong practical needs. This feature urges us to change from depending purely on government budget to relying on the cooperation with tradelines and enterprises, and from enclosed education to opened education. By making full use of education resources of tradelines and enterprises, higher-learning professional education has embarked on the road of joined education by the cooperation between university and industries.

   The education superiorities of a school refer to the superior teaching staff and faculties of Xiamen University, including various labs for undergraduate education. The Vocational and Technical Institute of Xiamen University offers courses similar to close to the undergraduate courses, which have been offered by the university. At the same time, the distribution of faculties has taken into consideration the relationship between diversity and changeability of social needs and relative stability of school educational (Liu Zhipeng, 1999).

   By following the above principle, the courses offered by the Vocational and Technical Institute of Xiamen University have not only rich teaching resources but also training fields both inside and outside the school. In addition, the courses meet to a certain degree the needs of employment of the graduated student. Moreover, it makes full use of the teaching resources in the school and decreases greatly education costs.

2. Teaching Steering Committee

   In line with the education objectives of higher-learning professional education, Vocational and Technical Institute of Xiamen University has set up in each faculty a Teaching Steering Committee consisting of professors of the associated faculty and technical experts from relevant tradelines and enterprise. The Terms of References of Teaching Steering Committee are to set down the education objectives and basic requirements that meet the social needs, set up course system meeting the law of higher-learning professional education, examine and assess teaching plans, propose recommendations to the development of faculties and design-makings, and participate in the implementation of teaching plans, such as giving lectures and arranging field trips.
III. Course System and Teaching Management

1. Principles in course distribution

The distribution of courses is based on the objectives for culturing special talents of with advanced applied technologies meeting the needs of manufacturing, construction, management and services. The distribution of courses is based on the social expertise needs and analysis of professional posts and pays attention to the culture of professional quality and applied technical capability of students. The course systems bear the features of “taking capability as the core, making social requirements and applicability as the rule.” Under this principle, the teaching plans are designed and the teaching programmers developed. The public basic courses aim at applicability and the theoretical education and makes comprehension of concepts and reinforcement of applicability as the key points and “necessity and enough for use ” as the rule. The culture of capability in the use of computer network and English is emphases. The course of expertise is arranged by taking into consideration of their practical use and dealing well with the relationship between theory and practices and the theoretical education and field trips.

2. Reform teaching contents

Higher-learning professional education has the dual attributes of higher-learning education and professional education (Tan Songhua, 1999). It is a kind of education that takes technical skill and know-how as the teaching key points. Therefore, the teaching contents meet the needs in the culture of theoretical knowledge and practical capability of students and pay attention to the culture of quality of students and the combination of human science and technical education. In the course of teaching, the contents should be refined, deduction process should be less and capacity building and palpability of students should be made the objectives.

3. Putting emphasis on practical education

As the teaching process puts emphasis on practical education, the ratio of course time between theoretical education and practical education is 0.5 0.5 0.6 0.4 the teaching is organized in forms of course modules. The second feature in this regard is that filed training and trips inside and outside the school receive great attention. Xiamen University has cooperated with nine well-known large-scale enterprises in Xiamen and hired teaching and training teachers from these enterprises.

Since the education of higher-learning professional students is designed based on the professional posts we have clearly specified that a quantified graduate should acquired a professional certificate (post certification) in addition to diplomat. In the practical education, attention is paid in culturing a student’s capability in acquiring other certificates.

4. Education management system and education quality monitoring system

A series of strict teaching management regulations have been implemented. The regulations include mid-term education check, teaching monitoring, comments on course development, examination and approval in opening a new course, regulations on course examination, requirements on graduation thesis (design) and regulations on giving a course, changing courses or suspending a course of a teacher. As a result, a rather complete guarantee and monitoring system for education quality has been formed and education quality guaranteed.

IV. Teaching Materials Development

The compilation of teaching materials is based on the theoretical basis and knowledge system involved in the practical work, with special attention to the compilation of the teaching materials for
experiments, field trips and trainings. In addition to public courses and basic courses that use the textbooks recommended by the Ministry of Education, we have compiled some textbooks for special courses and used some compiled by other colleges. In addition, we have carried out the following work:

1. Participate actively in the compilation of serial textbooks for higher-learning profession education sponsored by the Ministry of Education and the National Association for Higher-learning Professional Education of Colleges, such as the textbooks for applied writing, computer science, electrics and elecmachanical science.

2. By reforming theoretical textbooks, the comprehension of necessary theoretical know-how by students is made as the principle. The textbooks are integrally optimized and combined well with the reform of course system; therefore, the capacity of a student in using technology is enhanced.

3. Textbooks for training and filed trips have received good attention. One way to use foreign textbooks for field trips and training upon some changes. For example, some of the textbooks used in the Faculty of Aeroplane maintenance Service are bought from abroad. In addition, some of the training materials used in the trade lines and enterprises in China are used for textbooks.

V. Capacity-building of Teaching Staff

Xiamen University intends to build up a high level, high quality, capable and stable teaching taskforce for higher-learning professional education. Attention has been paid to select “dual-teaching teachers from available teaching staff. These teachers have good knowledge of special expertise and rather strong technical skill. The available “dual-teaching” teachers used to work or be trained in the field of various trade lines. The teaching staffs of the Faculty of Law are teachers and concurrently lawyers. Most of the teaching staffs of the Faculty of Aeroplane Maintenance Service are recommended by HAECO and TAECO and have participated in the workshops and training sources sponsored by civil aviation institutions at home and abroad. In addition, they all have visited or studied in HAECO. We are now taking the following measures for improving the quality of our teaching staff.

1). To encourage the teachers qualified for “dual teaching “ to transfer to the post for higher-learning professional education.

2). The teachers selected or hired for higher-learning professional education should have education level higher than master. Priorities are given to that with doctor degree and masters qualified for “dual teaching”.

3). To develop a system urging teachers to participate in practical work, technical development and follow-up study.

4). To hire experts and technical staffs from trade lines and enterprises as the part-time teachers and field trip tutors.

5). To form a system for assessing and hiring teaching post for higher-learning professional education.

6). To develop a mechanism for cultivating and selecting faculty leaders and teaching backbones for higher-learning professional education and send them for follow-up studies in the regions or countries that are successful in the development of high-learning professional education.

7). To encourage enterprises at home and abroad to set up Education Funds in the Vocational
and Technical Institute.

In addition, we hire managers and technical staffs of tradelines and enterprises as our part-time teachers in line with the development and faculties and education needs.

VI. Development of Bases for Training and Field Trips

1. Improve and perfect the bases for training and field trips inside the school

Xiamen University has a relation in running higher-learning professional education, namely no enrolled should be made until the bases for training and filed trips inside the school is built up. However, in comparison with the bases for training and field trips outside of school, those inside school are old in facilities and imperfect in their functions, backward in technological level. It is decided upon studies that a great input should be made to improve and perfect the bases for training and field trips inside school.

2. To develop training and field trip bases outside of school are relying on trade lines and enterprises

Xiamen University has jointly built up “Out-School Training Bases for Higher-learning Professional Education of Xiamen University” by cooperating with some well-known enterprises and trade lines. The first group training bases have been set up in nine enterprises, including Xiamen Taikoo Aeroplane Engineering Lt. Co., Air Xiamen Lt. Co. Xiamen Overseas Electronics Lt. Co. and Xiamen Tourism Group Lt., Amoisonic Electronic Lt. Co., the Customers Service Center of United States DELL Computer (China) Lt. Co., Xiamen Fala Development Lt. Co. Xiamen Tourism Group, Xiamen Jingmin Hotel and Xiamen Siming District Court. These are all large scale backbone enterprises and units in Xiamen.

3. Following the road of combining education and industries and build up teaching factories (workshops) and centers

As higher-learning professional education puts more emphasis on the practical capability of a student, Xiamen University intends to invest and build an electronics manufacture for the module of electronics, a workshop for the Faculty of Building Materials and Plastic Processing, improve a simulation court for the Faculty of Law and a simulation lab for stock exchange for the module of finance.

4. Training and field trip programs

Training and filed trip programs are developed in accordance with greater social needs for some work posts and talents and the development in higher-learning professional education in Xiamen University. We plan to build several integrated training bases for multidisciplinaries and several centers for special field trips in the form of cooperation between Xiamen University and industries. The teaching facilities of these centers or bases should be up to the advanced level among the trade in China.

We must have a clear understanding of the phrase that “higher-learning professional education is an important part of higher-learning education.” We must transform our sense of education and understand that higher-learning education is a “whole life education” instead of “final education.” Higher-learning professional education is a type of whole life education. In this regard, how the state key colleges play their important role in higher-learning professional education by making use full of their education resources? It is an important issue needs earnest studies. We are intending to make our due contribution to China’s reform in higher-learning education by engaging in higher-learning professional education.
REFERENCES


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