

The Exploration of "Double Tutorial System" In the Practice Teaching of Local Application Oriented Undergraduate Education

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Abstract. The report of the 18th CPC National Congress has put forward: education is the cornerstone of China's national rejuvenation and social progress. In recent years, higher education has stepped into the stage of popularized education. In the case of limited educational resources, the need to explore the full implementation of quality education and the cultivation of students' innovative ability has become increasingly prominent. "Tutorial system" talent training mode for undergraduates accords with educational philosophy of quality education and individualized teaching, and it has important significance to cultivate pioneering and innovative talents. Aiming at the problems in "double tutorial system" implementation of the local application-oriented universities, setting the actual situation of Beihua University undergraduate tutorial system as the research object, learning the experience and lessons from the implementation of undergraduate tutorial system of colleges and universities at home and abroad, this paper carries out an analysis and study of the undergraduate "double tutors" practice teaching effects.

1. Introduction

"Double tutorial system" (i.e. the way in which the teachers in enterprise and the teachers in school jointly develop the same students) first shows the superiority in the graduate education, which strengthens the link between the University and the local. On the one hand it allows students to directly participate in scientific researches, find problems, solve problems, complement advantages and interact in the process of practice to promote students' all-round development, which is conducive to the cultivation of innovative talents and promotes the school alliance of IUR(Industry, University, Research); on the other hand, enterprises participate in the training of graduate students of colleges and universities, which provides convenience for enterprises to reserve high quality personnel.

For local application-oriented undergraduate education, it's mainly to train technology-applied talents who can go to, work on and stay at the first line of production, construction, management and services. The idea of "Setting service as the purpose, employment as the orientation, following the development path combined industry, university and research " has become the consensus of local application-oriented undergraduate educational field, and has guided the practice of education reform to the local application-oriented undergraduate education. The introduction of "Double Tutorial System" into the teaching of practice in Colleges and universities will certainly play a positive role in promoting work. After several years of exploration and practice, it shows that the implementation of "Double Tutorial System" in Colleges and universities makes communication and cooperation between the teachers in enterprise and the teachers in school become the link of school-enterprise cooperation, and starts the train of "theoretical teaching-skill training-student employment" .

2. The connotation of "Double Tutorial System" teaching mode

The tutor is a teacher for the student in the course of professional study. "Double-tutor" means that a student has two instructors responsible for the guidance. In the process of teaching, the two instructors have their respective duties: the teacher in school takes the classroom teaching in charge

and is mainly responsible for the course of study and guidance; while teacher in enterprise focuses on the cultivation of the student's ability outside the classroom, and strengthens the student's occupation morality, practice ability, communication and coordination skills and training. School teachers are generally professional teachers with teacher qualification, while enterprise teachers are professional engineering and technical personnel recommended by the enterprise and engaged in the same or similar major. The two instructors often communicate with each other to jointly develop a program of student training.

As for professional education, electrical information engineering is a highly applied major, due to the hysteresis of teaching material and lack of corresponding training equipment and practice mechanism, it makes teaching into a state of empty talk. Therefore, schools actively establish relations of cooperation with the local major electric power enterprises, organize students to practice in the enterprises, instruct the students' practice teaching through the joint cooperation of professional teachers in school and technical personnel appointed by the enterprises, encourage students to set the actual project of enterprises as a subject for research and innovation, "do practical work practically", and combined with credits of the school courses, excellent graduates can be preferentially hired by the enterprise, in the process school and enterprise jointly determine the assessment. After the implementation of the "Double Tutorial System", the students can practically contact with the new system, the new requirements and new practice, through the integration of theory with practice, they can learn something that they can not see in textbooks, thus practical ability will be improved. At the same time, through contacting society, students can also discover and solve the problems in reality, find their own shortcomings, get to know the needs of the community, and greatly stimulate their own learning motivation. In terms of Ideological and political education, double tutorial system opens the the door of understanding national situations, social conditions, and market circumstances for college students, students, in practical production, communicate and interact with people, and learn to be a man and to work.

3. The significance of "Double Tutorial System" implementation

As we know, teaching tasks, teaching content, teaching environment, teaching objects, and the quality of teachers jointly constitute atmosphere, and form a complex and dynamically developing teaching process. Application-oriented undergraduate education is different from the ordinary university discipline education, it considers putting the theoretical knowledge into practical operation skills as the purpose, and make students get a clear understanding and experience of real working environment position requirement for the future. Lack of teachers with "double-tutor quality" in colleges and universities, the experiment and training equipment shortages and student employment difficulties are the important factors influencing and restricting the development of local colleges and universities. Practice has proved that through the cooperation between colleges and enterprises, adoption of the cultivating mode of "double tutorial system" has the following several aspects of meaning.

3.1 Embodying the principle of combining application-oriented undergraduate education with practice

The essence of application-oriented undergraduate education is to cultivate talents. This kind of talents have essential distinction from skilled workers, they are not only the modern practitioners of science and technology, but also the creators and re-generators of modern technology. Therefore, in teaching we must pay attention to practical skills training, at the same time, strengthen to master the theoretical knowledge, make the theory teaching the same important as practice teaching, so that they can become knowledge-based skilled talents.

"Double tutorial system" truly embodies the guiding ideology of "in the teaching of application-oriented undergraduate education, the principle of combining theory with practice should always be carried out". On the premise of the rational use of theoretical teaching method by teachers

in school and profound understanding and grasp of the theoretical knowledge by students, combine theory with practice through the enterprise mentors, apply and sublimate the theory in practice.

3.2. Solving the problem of lacking teachers with "double-tutor quality" in colleges and universities

The key to improving the quality of local application-oriented undergraduate education is the team of teachers. For college teachers, the school training objectives emphasize the application, synthesis and adaptation of knowledge, thus teachers are able to do so: looking outward, often following the needs of society and timely adjust and update the teaching knowledge, developing new curriculum; to refine and convert the systematic disciplinary knowledge into applied knowledge, and carries on the design according to the characteristics of students; to be able to break the barriers of theory and practice, and take the integration of the two. All these require teachers to have the educational ability of "expert in one and dabble in all", on the premise of being qualified in main teaching tasks, they can carry other types of teaching, and establish the flexible connection between basic courses, professional courses, practical courses, teaching, management and scientific research. Therefore, a good vocational teacher needs the abilities and qualities in many aspects, they should possess not only "high education", "high morality", but also "high skills", and they are engaged in a high level, object-complex, content-varied and difficult job.

In recent years, along with people's increasing awareness of education, colleges and universities have got the specific implementation measures for the construction of the "double-tutor qualified" teachers' team from the human, finance and policies, and also have cultivated some "double-tutor qualified" teachers. But the overall structure is not reasonable, especially for the serious lack of "double-tutor qualified" teachers with vocational education characteristics and practice guidance teachers. Through "double tutorial system", according to different teaching requirements, choose to hire talented senior technical personnel of enterprises as the guidance teachers, the one hand to solve shortage of teachers, on the other hand to make up for the shortcomings of current occupational education, targeted to increase the intensity of practice teaching, embodying the characteristics of occupational education. Through "double tutorial system", take the combination of full-time and part-time teachers, complement each other to meet the basic requirements of teaching in higher vocational colleges and guarantee the teaching quality.

3.3. Solving the problem of lacking experimental training equipment in local colleges and Universities

Training platform is the stage of training for students. The construction input of training platform only by school itself is far from enough. On the one hand, school funding shortage can not meet the needs of bulk purchase of experimental equipment and construction of a sizable training center, on the other hand, in addition to the experimental equipment, we pay more attention to the core technology of the enterprise. Enterprises have the real environment and production facilities, enterprise culture and enterprise management system can not be achieved by universities with the existing conditions. Therefore, the enterprise instructors take their students to the production site to complete a teaching goal and the teaching task while teaching, learning and operating, and let students do comprehensive practice training through comprehensive application and test of knowledge. Through the training platform provided by enterprises, it makes teaching more close to the technical developmental level of enterprises, and rolling the same pace as enterprise practical technology; creates a strong atmosphere of occupation, reaches the purpose of synchronous training of quality and ability; integrates theoretical teaching, practice teaching, technical service and production as a whole with the advanced production equipment and teaching equipment. Build a training platform together with enterprises and even take enterprises as the training bases with a real occupational environment, occupational experience atmosphere and training projects full of functional application, low cost and innovation, improve the content of science and technology training, and such training will be the most effective.

3.4. Providing the basis for teaching reform of local colleges and universities

The theoretical content of application-oriented undergraduate teaching takes the main courses as the core, the basic theory and technology carrier of industrial technology development as the framework to form the dynamic course structure and content with integration of technologies, requires students to master the basic theory and professional and technical application ability the post needs, and makes students have a certain management ability and the sustainable development of space. Therefore, as the "processing factory" and the output of talents, the school should deeply understand and grasp the employers' job requirements, analyze occupation posts, in accordance with the employer's job needs, corporate culture and management features, clearly confirm the knowledge, skills, occupation morals and comprehensive ability that training objects should possess to achieve the first hand data of deepening teaching reform, reasonably advance the reform of curriculum system, course content, practice teaching system, so as to cultivate talents according to the needs of society, reflecting the characteristics of various talent training goals.

On the other hand, the key to the survival and development of enterprises lies in the quality of the staff. As the talent receivers, enterprises should reflect the constantly changing requirements of talents' knowledge structure, ability structure and quality made by enterprises into the scheme of teaching reform in school through the teaching reform and practice in higher vocational colleges so that enterprises can constantly recruit satisfactory technology-applied talents from universities to enhance the ability of survival and development.

3.5. Achieving the butt joint with no distance between students and employment positions

The education of local colleges and universities faces the important task of the students' employment education. Only when the job-oriented practice training keeps the same pace with technical level that the working position requires, can students have a way out to work after graduation, manage to work after the appointment and solve the problem of "marketable". We are trial implementing "double tutorial system" in the major of communication technology and equipment maintenance and high voltage test techniques, and have constructed a series of carrier of joint student training by school and society, as well as have established long-term interaction mechanism for the student internship and employment .

Through the internship with "realistic environment" in enterprises, students choose the content of graduation project according to projects of the enterprises, and they finish graduation thesis and "do practical work practically", so that they can get familiar with modern technology and management, and learn how to use the advanced technology and equipment, enrich the practical experience, make the organic combination of education, training and application. Students will be able to work after graduation, which enhances the employment competitiveness of students. At the same time, practicing in the field of enterprise also helps to improve the professional quality of students.

4. The problems of "double tutorial system" implementation to be solved

"Double Tutorial System" is a concrete manifestation of the implementation of the IUR cooperative education in application-oriented universities, it meets the demand of cultivating application-oriented talents in local colleges and universities, deepens the reform of education and teaching, and achieves the "employment oriented" mission. But in the implementation process, the combination of school-enterprise cooperation, the stability of part-time teachers, the relevant supporting system and other issues have to be further improved.

First of all, local application-oriented institutions should pay attention to benefit sharing and cooperation relations with enterprises on joint participation, mutual benefit, advantages complement, relative stability, agreement observation in the aspects of IUR cooperative education implementation. The two sides should have a common goal, intention and wish, more importantly, they should be able to complement each other, develop jointly, making "1+1>2". Combine the intelligence advantages of school with the resource advantages of the enterprise, the school become the intelligence back of the enterprise, while the enterprise provides the returning support for the school.

Secondly, the two sides should find the best combination of cooperation content, cooperation object and cooperation mode. On the premise of finding out the enterprise needs, school conditions and ability should be comprehensively analyzed to determine the content of cooperation, and students should be taught in accordance with their aptitude. Through cooperation, the two systems of theory teaching and practice teaching are formed; comprehensive experiments combine with and designed ones, compulsory experiment (practice) projects combine with alternative (Internship) projects, practice teaching in school combines with that out of school; highlight the basic training, comprehensive training, skills training and exploratory training. At the same time, taking advantage of college and enterprise long-term cooperation, establish a relatively stable and high-quality teachers' team. Through the communication between the two parties, enhance the hot issues concerned by both sides to a strategic height of long-term development, mutual benefit development and sustainable development.

Finally, the local application-oriented undergraduate education needs to rely on social support and incentive system support, and also needs the educators to raise awareness, change their ideas, keep pace with time, constantly explore new ways of higher vocational education and promote the educational and teaching reform of school.

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