Empirical Research on University-enterprise Cooperation Model in Talent Training

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Abstract. University-enterprise Cooperation Model is very important in Talent Training for local undergraduate universities. This paper designs a survey outline, which is mainly for students of the university-enterprise cooperation class. According to the results of this survey, the teaching of University-enterprise Cooperation Model promotes reform of classroom teaching and strengthen the link of practical teaching, enriches the University’s teaching resources, and improves students’ practical application abilities. But still it shows some problems to solve, such as there should be more explicit standard for training students’ application abilities during teaching, relevancy between thesis and actual enterprise issues shall be improved and students’ application abilities shall be constantly strengthened, teachers’ practical teaching abilities shall be strengthened and a team of “double-position and double-capacity” teachers shall be built.

Introduction

Recently, under the background to boost some undergraduate universities to transform or develop to the applied universities by China, in order to meet the demands of social and economic development for talents and strengthen the close contact between higher education and demands for talents of the enterprise, more and more local undergraduate universities have proactively explored the university-running model of university-enterprise education. During exploration of this model, some universities have made significant achievements, but there are still problems to be solved at the same time. Therefore, to conduct the research on the university-enterprise education model is of practical significance for improving the applied talent training quality of the local undergraduate universities.

1. Discussion about University-enterprise Education Type

As one of first private common undergraduate universities established in 1984, Zhejiang Shuren University always adheres to the university-running orientation of “Teaching Service Oriented University” and sets up the applicable majors in strict accordance with the social requirements, so as to be committed to training the high-end applied talents. Since selected as an applied demonstration university in Zhejiang in 2015, it has explored a long-term mechanism to jointly train people with the government, enterprises and public institutions in the industry and overseas colleges and universities, boosted joint governance, restructured the teaching contents and improved the knowledge structure, so that the university and enterprise can jointly boost the reform of the talent training model.

At present, this university cooperates with the enterprise, which is based on establishment of the industrial college. As an organization type, the industrial college has a relatively fixed organization type, featured with the university-enterprise organization governance structure, teaching model with the industrial standard, teaching team consisting of those from the university and enterprise and jointly constructed and shared scientific research base for teaching. Such organization type of the industrial college is reproducible and transplantable, and is of significant guidance value and referential significance for transformation and development of the local undergraduate universities.
According to the content and organization type, the industrial college of this university can be divided into four types, including enterprise order class, technical training, scientific research cooperation and entrepreneurial incubation.

1.1 Enterprise Order Class Model

At present, the common type of the university-enterprise cooperation is the enterprise order class model. The university specifically sets up one or several classes for the specific demands for talents and purposefully formulates the talent training scheme and teaching plan; the enterprise directly provides students with the internship and practical training base as well as post training in rotation to improve their practical capacities. It can also be called the enterprise “order class”. The university signs an agreement with the enterprise, to which the enterprise places an order, and enrolls students according to the enterprise’s requirements. Both parties train talents together. Examples include Mountain & Sea Business College and Shaoxing Rice Wine College.

1.2 Technical Training Model

The leading enterprise in this industry starts from systematic training in the industry to train talents who are suitable for working in this industry. Take Huawei Information and Network Technology College of the University as an example. It constructs a complete university-enterprise ICT talent training system in terms of university-enterprise teacher team, professional and practical training platform, talent alliance base and certificate service system based on Huawei’s data communication, safety, storage, cloud computing and WLAN for ICT talent training.

1.3 Scientific and Technological Cooperation Model

Cooperation is developed based on the science and technology projects. For example, “Sino-Republic of Belarus Technology College” jointly established by the University and Belarusian State University, which is oriented by the “Belt and Road”, develops fruitful scientific and technological cooperation projects. At present, through cooperation, both parties have over ten topics successfully approved by the national and provincial Administration of Foreign Experts Affairs as well as national and provincial Ministry of Science and Technology, and develop the industry-university-research cooperation with Zhejiang Juhua, Zhejiang Ev-image, etc. In addition, “Belarusian Research Center of Zhejiang Shuren University” cooperated by both parties is approved by the Ministry of Education and is selected as its research center for countries and regions.

1.4 Entrepreneurial Incubation Model

The enterprise encourages students to start business and help them. Take Hongshiliang Entrepreneurship College as an example. It provides university students with innovation and entrepreneurship platforms, such as Hongshuren E-commerce Studio and Hongshiliang Innovation Park. Meanwhile, it explores the student makerspace as well as new mechanism, service and culture, develops such new models as “crowd-entrepreneurship, crowd-sourcing, crowd-support and crowd-funding” and mainly integrates various innovation and entrepreneurship elements.

With exploration for a period of time, Zhejiang Shuren University has made some achievements in the exploration of the university-enterprise education model, but there are still some problems and challenges. This article tries to summarize and organize the practice to provide references for applied transformation and development of the local undergraduate universities.

2. Empirical Analysis on Operation of University-enterprise Education Model

2.1 Data Source and Description

Centering on the operation mechanism, effectiveness and teaching management issues of the industrial college of the University, this research designs a survey outline and prepares a closed 25-question questionnaire, which is mainly for students of the university-enterprise cooperation class. Random sampling is conducted according to the university-enterprise cooperation class.
quantity of the existing industrial colleges. 500 questionnaires were handed out in total and 446 of them were collected, with the effective collection rate of 89.2%. EXCEL is used for making statistics.

2.2 Questionnaire Content Analysis

2.2.1 Operation Mechanism of University-enterprise Cooperation Model

2.2.1.1 Main Student Source: Secondary Student Enrollment in the University

At present, the industrial college of the University mainly admits the students of sophomore or above via campus career talk, distribution of enrollment guide, etc. The survey shows that the external factor affecting students to select the industrial college is the enterprise’s influence, and such factors as enterprise reputation and culture account for 58.4%. In addition, 78.1% students tend to their interested majors when selecting the industry.

2.2.1.2 Main Teaching Model: Combination of Learning with Working

The current teaching model of the University mainly employs the combination of learning with working. A short semester system is set up to develop the practical activities by making full use of winter and summer vacations and two-day weekends. During learning in the university-enterprise cooperation class, the University and enterprise will arrange the students to participate in the practical activity for a period of time during semester or winter and summer vacations. Take Hongshiliang Class and Mountain & Sea Order Class as examples. They ask students to have substituted post exercitation during winter and summer vacations.

2.2.2 Achievements in University-enterprise Education Model

2.2.2.1 Promote Reform of Classroom Teaching and Strengthen the Link of Practical Teaching

The university-enterprise education model promotes the teaching process reform of the applied colleges and universities. During survey, it was found that the teaching methods of the university-enterprise cooperation class were more than the traditional teaching methods. The survey shows that top three existing teaching methods include case discussion (50.9%), theory impartment (19.5%) and enlightening question asking (10.9%). In addition, there are also group discussion teaching (7.18%) and project experience teaching (6.9%). During survey, it was found that 64.08% students liked project experience teaching most, i.e. they participated in the project with real scenes. Several teaching methods of the university-enterprise cooperation class inspire students’ initiative to learn the specialized courses.

The university-enterprise cooperation class has various final-exams, which mainly test the students’ practical abilities. The survey shows that 33.96% of the result of the final exam is centered on the thesis and survey report as well as combination of the written exam and theoretical thesis respectively; the result of the traditional written exam accounts for 17.92% only and the result of other types of exams accounts for 14.15%. It shows that university-enterprise cooperative education changes the traditional written knowledge evaluation model, which further evaluates the students’ practical application abilities.

2.2.2.2 Enrich the University's Teaching Resources and Give Full Play to the Enterprise Advantages

During development of the university-enterprise cooperation class, the enterprise gives full play to its advantages and establishes a practice base outside the University to provide students with practice and internship platform and resources. In addition, the enterprise will also provide mentors during practice for guiding the students. The survey shows that 73% students are guided by the enterprise mentor. It means that most of enterprises employ the method to ask the mentor to teach, assist and lead the students to improve their comprehensive skills during their internship. Enterprise mentors are University’s important faculty. “Teaching one to fish is better than giving him fish”. Such mentors “teaching, assistance and leading” for students can improve their practical abilities quickly.
2.2.2.3 Improve Students’ Practical Application Abilities and Students are much Satisfied with Teaching

When the question “what do you think is the biggest difference between the university-enterprise cooperation class and other classes?” was asked, 65.5% students’ answer was “high applicability”, while 17.66% students’ answer was “high involvement”, which show that most students think that the university-enterprise education model pays more attention to the applicability. When the question “what do you benefit from the enterprise involvement in University’s talent training?” was asked, 53.5% students’ answer was improvement of their professional skills; 17.3% students’ answer was improvement of their team awareness; 14.8% students’ answer was improvement of their professional quality and 14.4% students’ answer was improvement of their initiative, which show that most students have their professional practical abilities and professional quality improved at varying degrees.

The survey shows that 20% students are much satisfied with the practice arranged by the enterprise and 50% students are satisfied with it; 52.3% regular students are satisfied with the university-enterprise cooperation courses and 1.3% students are not quite satisfied or dissatisfied with it; meanwhile, 49% students are fairly satisfied with teaching by the enterprise personnel and 26% students are very satisfied with it, which show that more than 70% students recognize teaching by the enterprise personnel.

2.2.3 Problems and Suggestions

2.2.3.1 More Explicit Standard for Training Students’ Application Abilities during Teaching

The survey shows 27.8% students get the qualification certificate related to the industry and the rest 72.2% students don’t do so, which shall be concerned. It means that less than 30% students get the qualification certificates related to the industry. The survey also shows that the majors of 53.3% students require them to get the relevant qualification certificates, and the majors of 46.7% students have no such requirements, which means that about 50% majors have no definite requirements for the qualification certificates. In addition, to train the students’ innovation abilities is neglected in the university-enterprise cooperation model. During survey, it was found that only 24.8% students participated in the innovation and entrepreneurship projects and 75.2% students didn’t do so, which means that a small number of students participate in the innovation and entrepreneurship projects. The survey shows that the scheme and standard for training students’ application abilities shall be further specified during university-enterprise cooperation.

2.2.3.2 Relevancy between Thesis and Actual Enterprise Issues Shall be Improved and Students’ Application Abilities Shall be Constantly Strengthened.

70% graduates select to relate their theses to the actual enterprise contents, but the rest 30% don’t do so, which shall be concerned. The thesis of the industrial college shall be closely related to the actual issues, which shall highlight the practicability while conducting the theoretical research.

2.2.3.3 Teachers’ Practical Teaching Abilities shall be Strengthened and a Team of “Double-position and Double-capacity” Teachers Shall be Built.

According to the survey, students think that teachers’ practical teaching abilities linking theory with practice are strong. 53.9% students think that they are relatively good, while 29% students think that they are OK, which means that teachers’ practical teaching abilities shall be further improved. The number of double-position and double-capacity teachers of the local undergraduate universities is small. Some young teachers reach some theoretical level, but have weak practical abilities. They are “double-gate” teachers from one university gate to another; others have some practical experience, but lack systematic and professional theoretical knowledge. Therefore, a key point in the future will be to build a team of double-position and double-capacity teachers suitable for applied teaching.

3. Summary

University-enterprise education model requires joint participation of the university, enterprise, government and the public, and it is necessary to find out the best point to integrate the local undergraduate university and enterprise. The university and enterprise shall constantly strengthen
the exploration in terms of talent training standard, teaching model and double-position teacher
development to form a long-term mechanism for university-enterprise cooperative education and
promote their mutual benefit and win-win situation.

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