Abstract—The integration of industry and education is an important way to improve the quality of talent cultivation in application-oriented universities. Based on the dislocation analysis of the talents cultivation in university and the talent demand of enterprise, this paper puts forward the "1 plus 2 plus 1" order training reform mode in application-oriented universities, and expounds its training process and content.

Keywords—integration of industry and education; order training mode; application-oriented universities

I. INTRODUCTION

With the development of economy, the demand for talents in society is constantly changing, and the corresponding is that the talents cultivation in universities has obvious lag. On the one hand, the employment rate of college graduates and their professional counterparts are not ideal. On the other hand, enterprises cannot recruit suitable talents. The concept of integration of industry and education provides a new way to solve the dislocation between talent cultivation in universities and talent demand in enterprises. Industry-education integration refers to the in-depth cooperation between industries, enterprises and education, which is in order to improve the quality of personnel training. Based on the background of the integration of industry and education, this paper explores the reform path of the talent cultivation mode in universities.

II. DISLOCATION ANALYSIS OF TALENTS CULTIVATION IN UNIVERSITIES AND TALENTS DEMAND IN ENTERPRISES

The deviation between talent cultivation in universities and the demand for business talents in enterprises is mainly reflected in the following aspects: Firstly, the education and teaching of talents in universities attaches importance to theory rather than practice. From the point of view of teaching content design and application of teaching methods, students' learning process is basically in schools, and most of the practical courses are carried out in the way of platform simulation training. There are very few opportunities for students to participate in the real business of the enterprise, and their practical ability cannot meet the requirements of the enterprise. Secondly, the education and teaching process in universities attaches importance to professional competence training rather than comprehensive quality training. The vast majority of business leaders reflect that besides professional skills, enterprises attach more importance to the comprehensive qualities such as teamwork ability, adaptability, pioneering and innovative ability. However, most of the cultivation objectives of universities are expressed as applied talents with certain professional skills, and the training process focuses on students' theoretical foundation and professional skills, which is also inconsistent with the needs of enterprises.

There are three main reasons for the dislocation between the above-mentioned talent cultivation and the demand of enterprise talents. Firstly, the flexibility of the cultivation mechanism in universities is not enough. Based on the talent training mechanism of higher education itself, universities lack flexibility in talent training, especially in the undergraduate stage. Therefore, the design of cultivation programs, such as curriculum setting, teaching hours and credits setting, cannot be docked and adjusted with the market promptly, which leading to the lag of talent training in market demand. Secondly, the enthusiasm of enterprises to participate in cooperative cultivation is insufficient. Most enterprises are not fully aware of the importance of the integration of industry and education for the development of enterprises, but are often reluctant to cooperate with enterprises in consideration of time and money costs. Moreover, the lack of a perfect talent training system and teacher resources in general enterprises leads to the lack of stability and unsatisfactory cooperative effect in the cooperative cultivation between enterprises and universities. Thirdly, the existing mode of integration of industry and education needs to be improved. In order to improve the quality of talents cultivation in universities and fully meet the needs of enterprises and institutions for talents, the integration of industry and education is the most effective way. The ways of integration of industry and education include joint running of schools, building practice and training bases, order training, cooperation on project research and development, teacher training, entrepreneurship practice, technical services and so on. At present, the common ways of integration of industry and education are enterprise participation in talents cultivation program formulation, joint
construction of practice bases, project research and development cooperation. The cooperation mode is single and the integration is shallow.

III. THOUGHTS ON THE REFORM OF TALENTS CULTIVATION MODE IN UNIVERSITIES AGAINST THE BACKGROUND OF THE INTEGRATION OF INDUSTRY AND EDUCATION

A. Integration of Industry and Education Is an Effective Way to Improve Students' Applied Skills in Application-oriented Universities

The purpose of application-oriented universities is to serve the local economy, and they should focus on the cultivation of students' application ability. Compared with research universities, the cultivation process of Applied Colleges pays more attention to the word "application". From the perspective of the current talents cultivation mode in application-oriented universities, theoretical teaching still occupies a large proportion, and the subject of training is still the school. In order to improve students' practical skills and make contribution to local economic development, the cultivation objectives of schools must be closely combined with the needs of industries and increase the proportion of students' practical abilities and professional skills. The most effective way to achieve the goals above is to integrate industry and education, which can achieve seamless docking between talent cultivation and talent demand through the cooperation of universities and enterprises.

B. Government Mechanism Construction Is the Guarantee of Integration of Industry and Education

From the advanced experience about integration of industry and education in foreign countries, we can see that the government plays an important role in the process of integration. First of all, the guidance, the government needs to formulate relevant policies and even enact relevant laws to guide both schools and enterprises to explore ways of integration of industry and education actively. Second, the implementation, the government needs to establish relevant mechanisms to promote the implementation of integration of industry and education. At present, our country has relevant policies on deepening the integration of industry and education, but it has not risen to the legal level. In the actual implementation process, there are rarely specific service measures, so the role played by the government is still in the guidance. Although the role of the government in the process of integration of industry and education is macro-guidance, its promotion to the integration of both schools and enterprises is the strongest. Therefore, governments at all levels should set up special institutions for the integration of industry and education, build a platform for communication between schools and enterprises, and also assess and evaluate the effect of integration of industry and education.

C. Reform of School Cultivation Mode Is the Premise of Integration of Industry and Education

The aim of the integration of industry and education is to achieve the goal of training talents with multi-win-win situation for schools, enterprises, students and society. The effect of the integration depends on the joint training of schools and enterprises. From the successful experience of the integration of industry and education, the vocational colleges gain more achievements than application-oriented universities. The root cause is that the cultivation mode of application-oriented universities is not flexible enough, and the talent training program is more conservative. Therefore, the talents cultivation mode in application-oriented universities needs to be reformed. On the one hand, it needs to strengthen practical teaching to enhance students' comprehensive abilities in many aspects. On the other hand, it needs to open school and absorb industry forces positively to support students' applied skills training, such as introducing industry teachers, post practice, talent orientation training, etc. In addition, we should closely integrate the needs of enterprises in terms of course setting, teaching plan formulation and teaching resources construction to improve the efficiency of talents cultivation.

D. Enterprises' Participation in the Training Process Determines the Effect of Integration of Industry and Education

In the process of integration of industry and education, enterprises should play a dominant role. At present, the enthusiasm of enterprises to participate in the integration of industry and education is not very high. The root lies in the lack of understanding on the significance of integration of industry and education, and the lack of scientific and systematic talent training system. Through the integration of industry and education, the process of talent training and selection in enterprises can be advanced. Thus, the cost of human resources can be greatly saved, and the efficiency of talent recruitment can be improved. Enterprises participating in the integration of industry and education need to systematically design the training contents of their business philosophy, post skills and post practice, so that they can be integrated into the school training system. Through the gradual joint training process, the enterprises can achieve the goal of employing employees.

IV. NEW MODE OF TALENT CULTIVATION REFORM IN UNIVERSITIES AGAINST THE BACKGROUND OF INTEGRATION OF INDUSTRY AND EDUCATION

A. Summary of Order Training Model

As one of the ways of integration of industry and education, order training mode refers to enterprises select training objects from college students of relevant majors, and entrust universities or joint schools to train target employees according to the needs of their own human resource needs. The order training mode can promote the precise docking of talent cultivation in colleges and universities with the needs of enterprise talents, and improve the employment rate of students. It can put the selection and training process of enterprise talents in front of graduation, which can greatly save the cost of enterprise human resource management and improve their efficiency of talent recruitment. It also can fully cultivate students' professional skills and improve
students’ employment competitiveness. Therefore, the order training mode is a multi-win-win mode for students, schools and enterprises, which effectively promote the deep integration of industry and education between schools and enterprises.

B. The Implementation Process of "1 Plus 2 Plus 1" Order Training Model in Application-oriented Universities

The "1+2+1" order training mode (see "Fig. 1") contains the following sections: the school training mode, the school-enterprise joint training mode and the enterprise training mode.

The first one refers to the teaching task of freshman is completed by school. The second refers to the teaching task of sophomore and junior is completed by school and enterprise together. The last one refers to teaching task of senior is completed by enterprise only. A complete and effective order class training implementation process should include the following steps:

1) Determining the cooperative enterprise: This is the foundation for the order training's smooth operation. Universities should actively seek high-quality enterprises in the industry to establish school-enterprise cooperation resources according to the demand for talents of the industry. The determined enterprises should have perfect human resource management system and scientific personnel training system, otherwise it is difficult to carry out joint training.

2) Enterprises participate in the formulation of talents cultivation programs: The cooperative enterprise can implant its series of courses in the form of elective courses or orientation courses into the talents cultivation programs of relevant cooperative majors. Those courses will be strictly implemented according to the cultivation plan, so that the order training can be truly implemented in the process of professional talent training.

3) Enterprises enter schools to give lectures and determine order classes: Enterprises can introduce their general situation and business philosophy in detail. The selection between students and enterprises should follow the principle of "two-way selection". It means students decide whether to participate in order training according to their professional expectations, and the enterprises can select order training class members from intentional students. At last, the order training class is established on the basis of two-way selection results.

4) School and enterprise implement teaching jointly: After the establishment of the order training class, it enters the process of cooperative cultivation by school and enterprises. Its teaching content is more focused on the cultivation of enterprise vocational skills than the general class of this major. The training target is to possess all kinds of skills required by relevant positions of enterprises in addition to the necessary theoretical and practical knowledge of this major. The teachers can come from both school and enterprise. The teaching method is the combination of inside and outside schools, and it can introduce real cases of enterprises into the curriculum.

5) Students participate in internship, and ultimately solve the problem of employment: According to the talents cultivation program, after completing the theoretical knowledge and enterprise courses in school, the order class students enter the enterprise to complete professional practice and graduation practice, and finally become the regular employee of the enterprise after graduation.

C. The Cultivation Content of the "1 Plus 2 Plus 1" Model in Order Training Classes

According to the cultivation target of order training class, the cultivation content should consider both theoretical knowledge training and practical skills training. It may include quality training, professional theoretical knowledge training, enterprise post competency training and practical competency training. Among them, quality training and professional theoretical knowledge training are taught by school, while the enterprise post competency training and practical competency training are taught by enterprise.

1) Quality training: The boundaries of different majors should be broken in general courses and professional basic courses. The curriculum design focuses on cultivating students’ humanistic literacy, scientific values and basic theories of economics and management. This part of the content is generally arranged in the freshman year, and the training process will be completed by school.

2) Professional theoretical knowledge training: The professional compulsory course usually contains the core course of the major, aiming at cultivating the basic concepts and key skills that students must master in employment. This part of the content is generally arranged in the sophomore year. And the training process is mainly by the school, or we can introduce enterprise teaching in the practice part of the curriculum.

3) Enterprise post competency order training: The elective courses (or orientation courses) can be set up according to the requirements of enterprise post competence. These courses are directly docking the needs of enterprise employee posts competence, so that students in order training class can basically understand enterprise culture, post skills and professional ethics before entering the
enterprise. This part is generally arranged in junior year, enterprises complete the training process of order courses and school complete the compulsory courses of their major.

4) Practical ability training: From the senior year, students can enter the enterprises to complete professional and graduation internships. They can also sign employment agreements with enterprises directly if they are qualified at the end of their internships.

V. CONCLUSION

The "1+2+1" order training mode realizes the precise docking of talent demand and the close cooperation of talent training process between universities and enterprises. It can effectively promote the students master applied competency and improve the talents cultivation level. Firstly, the school talents cultivation closely meets the post requirements, which makes the school to achieve the training goal of higher education serving the local economy. Secondly, through targeted training, the students can improve professional skills, comprehensive quality and enhance their employment opportunities. Thirdly, because of pre-course intervention and internship period examination, the enterprises can improve recruitment efficiency and reduce the costs of human resource management.

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