

The “Gradual Integration” Mode Promotes the Research on the Deep Integration of Production and Education in Application-Oriented Universities—Take Management Major as an Example

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From the practice of cooperative education between universities and enterprises, the mode and content of cooperation are relatively simple, the depth of cooperation is not enough, and the continuity of cooperation is often difficult to guarantee. Moreover, strengthening the cultivation of students' application ability and neglecting the cultivation of students' humanistic quality are not conducive to the overall development of students' body and mind. It is necessary to mobilize the impetus of cooperation between the two parties, fully mobilize the enthusiasm of deep integration of universities and enterprises, innovate the mode the cooperation mode between universities and enterprises, strengthen and enrich the connotation of the integration of production and education, and solve the problems concerning the sustainability of cooperation between universities and enterprises. Adopting the “gradual integration” mode to carry out the cooperation between universities and enterprises can meet the different demands of both universities and enterprises. It plays an important role in strengthening the cooperation between universities and enterprises, maintaining the continuity, stability, and effectiveness of cooperation between universities and enterprises, and laying a foundation for the deep integration of production and education. With the promotion of “gradual integration” mode, the content of cooperation between universities and enterprises can be expanded, the mode of cooperation can be improved, and the space of cooperation can be extended, so that the field of cooperation between universities and enterprises can be deepened continuously, and the deep integration of production and education can be truly realized.

Keywords: integration of production and education, cooperation, collaborative education, application-oriented university

Literature Review

At present, the research on the mode of integration of production and education in application-oriented universities mainly includes such basic modes as the collaborative development mode of production, teaching and research institute, the mode of post practice, the mode of order training, the mode of professional transformation, and the mode of cooperation between universities and enterprises to build industrial colleges. From the integration of production and education at the basic level, to the formation of education chain, talent

chain, innovation chain, and industrial chain to achieve deep integration of production and education, we have carried out beneficial exploration and practice in practice, summed up the relevant experience and achieved good results.

How to promote the deep integration of production and education, Qiu and Fan (2016) believed that breakthroughs must be made in seeking the converging points of the interests of universities and enterprises, improving the management and security system, and establishing diversified investment mechanisms. Huang, Sui, and Wang (2019) advocated that the government should promote the reform of colleges and universities, and colleges and universities should start with the reform of system and mechanism, and build the management mechanism of the integration of production and education to deepen the integration of production and education. Liu, Xiang, and Wang (2015) emphasized that schools and enterprises should jointly intervene in the whole process of talent training, and implement the “double main body” education mode between universities and enterprises. Li (2018) emphasized that it is necessary to take measures, such as establishing regional information communication platform for production and education and giving play to the coordinating role of intermediate organizations to eliminate obstacles to the integration of production and education. Dai, Wang, and Feng (2019) proposed that we should implement the top-level design to strengthen the deep integration of universities and enterprises, accelerate the innovation of the operation mode of the deep integration of universities and enterprises, and establish and improve the incentive mechanism for the deep integration of universities and enterprises. Xu (2018) put forward some specific measures from the aspects of enterprises supporting universities to improve conditions, enhancing the experimental practice teaching level, participating in the reform of professional curriculum system, and improving the practical and innovative ability of teachers and students. Liu (2018) proposed to learn from foreign practices and promote the integration of production and education through the participation of industry associations in vocational education.

Based on the goals and requirements of the integration of production and education, the emphasis of cooperation between universities and enterprises is different due to the different modes of integration of production and education. However, judging from the current stage of policy orientation, the integrated development of production and education, the requirement of education, and the practical results, it is always centered on “production,” “education,” and “research,” that is, the coordinated development of the three. On the one hand, we should consider the matching between different the modes of cooperation between universities and enterprises and different types of education orientation. On the other hand, we should innovate modes of cooperation between universities and enterprises to improve the depth of cooperation between universities and enterprises, so as to realize the deep integration of production and education. From the perspective of practice, different cooperative education modes between universities and enterprises have different educational effects and social benefits in different levels of colleges and universities, and there are also differences in the sustainability of cooperation between these modes.

Application-oriented universities have three main characteristics: (a) orientation to application-oriented talents training; (b) lay particular emphasis on applied research of scientific knowledge and technological achievements; and (c) to promote employment and entrepreneurship as well as regional economic and social development (Chen, 2017). Taking this as the mainstream education orientation of application-oriented universities is also the embodiment of strengthening the cultivation of students’ application ability. However, because the academic circle mainly focuses on the exploration of students’ application ability cultivation, it is

easy to ignore the education and cultivation of students' humanistic quality, and the teaching time and teaching resources of humanistic quality are often crowded out in teaching practice, which is harmful to the cultivation of students' comprehensive quality and their physical and mental development. It can be seen that in the process of promoting the integration of industry and education, the intrinsic requirements that tend to lead to the integration of industry and education are often easily ignored, so that the connotation of the integration of production and education is not deeply explored.

In terms of the intrinsic requirement of the law of education and the practical need of the cooperation between production and education, the deep integration of production and education is an important direction of teaching reform.

Therefore, for application-oriented universities, an important proposition has emerged, that is, how to enhance students' application ability through the integration of production and education, and at the same time, strengthen the cultivation of students' humanistic quality, and promote the all-round development and growth of students. Therefore, application-oriented universities should solve these two problems well.

Basic Problems Affecting the Deep Integration of Production and Education

From the practice of cooperative education between universities and enterprises, the mode and content of cooperation between universities and enterprises are still relatively single, the depth of cooperation is not enough, the continuity of cooperation is often difficult to guarantee, and the overall effect is not ideal. For application-oriented universities, the integration of industry and education should adhere to the orientation of educating people, promote the application of scientific knowledge and technological achievements, and promote employment and entrepreneurship as well as regional economic and social development. On the basis of meeting the above requirements, the first important problem to be solved in order to realize the deep integration of production and education is to strengthen and enrich the connotation construction of production and education integration, which can be achieved by innovating the mode of cooperation between universities and enterprises. Secondly, it is necessary to improve the effectiveness of the integration of production and education. It is necessary to take measures to solve the problems of the depth and sustainability of cooperation between universities and enterprises. It is necessary to mobilize the motivation of cooperation between the two parties to fully mobilize the enthusiasm of the deep integration of universities and enterprises.

It is necessary to change the evaluation mechanism and standard of universities in order to mobilize the enthusiasm of the integration of production and education in application-oriented universities. For application-oriented, and research universities as similar as evaluation criterion, namely, for the subject of money and number of papers published in core journals, as an application-oriented university as the main evaluation indexes and evaluation standards, and should be the quality and quantity of training applied talents for the society as the main evaluation criteria. Secondly, it is necessary to strengthen the requirements of cooperation between application-oriented universities and enterprises, and take the cooperation between universities and enterprises to promote the transformation of scientific research achievements as an assessment index and an important evaluation standard. The research subject should be closely connected with enterprises and industries, and the research results should be transformed into actual production results with commercial value, and serve for economic and social development. Driven by this evaluation mechanism, application-oriented universities can mobilize the enthusiasm of cooperation between universities and enterprises, urge universities to cooperate closely with enterprises, obtain projects from relevant enterprises and

industries, and provide intellectual support for enterprises to transform scientific research achievements and solve practical problems in operation and management. In addition, through the cooperation between universities and enterprises, students can be sent to enterprises to become high-quality labor force. It can be seen that enterprises can also get real benefits in the cooperation between universities and enterprises.

Therefore, application-oriented universities should take the initiative to reform, give play to their social service functions, actively seek cooperation points with enterprises, and mobilize the enthusiasm of cooperation between enterprises and universities, so as to promote the deep integration of production and education and create favorable conditions for collaborative education.

The Main Measures to Promote the Deep Integration of Production and Education by Adopting the Mode of “Gradual Integration”

The “gradual integration” mode is a form of the alternating teaching mode of work and study, which integrates the theory and practice of professional teaching. After the students learn the basic theoretical knowledge, the students are arranged to practice in the different stages of the university, and the teaching is carried out by alternating the theory study with the practice of the enterprise. With the deepening of study, the study time of students in universities has been reduced, and the time of practice in enterprises has been gradually extended, finally enabling students to apply their knowledge to practice in enterprises in a more comprehensive way, therefore, it can be better integrated into the work of enterprises, promote the study and application of professional knowledge, and finally achieve the goal of training students’ application ability. The mode of “gradual integration” is different from the general teaching mode of alternating work and study, which requires the close, deep, and expansionary cooperation between universities and enterprise.

The cultivation of the professional quality and ability of the students majoring in management in application-oriented universities needs a relatively long period of practice in order to achieve better results, however, too frequent work-study alternation or long time practice is not good for the cultivation of students’ quality and ability. Therefore, the “gradual integration” model is more suitable for the application-oriented management of the ability of students. For the application-oriented university management specialty, adopting “gradual integration” mode can improve the effect of cooperation from the following aspects.

Reform the Course System, Pay Attention to the Management of Teaching Link, and Guarantee the Link of Teaching Content

According to the trend and requirement of specialty group and corresponding industry development, both the university and the cooperative enterprise should assume the responsibility of educating people in the arrangement of courses, teaching contents, teaching forms, and teaching links, both the university and the enterprise should work out the plan and finish the teaching task together.

In the theory teaching embeds the enterprise practice teaching link and the introduction enterprise teacher participates in the teaching activity. According to the characteristics of the “gradual integration” mode, we should cooperate closely in the course arrangement and improve the cohesion of the teaching content by embedding part of the practical teaching content into the theoretical teaching and the practice teaching link-up. In the process of cooperation, the university, as the main body of educating students, undertakes the main teaching task, and the cooperative enterprise, as the participant, also has to undertake part of the teaching task:

1. The adjustment of curriculum and teaching link. To adapt to the integration of production and education, we should adjust the teaching arrangement, embed part of the teaching contents in the professional courses, or insert part of the practical activities in different stages of the professional teaching;

2. Cooperative enterprises adjust their own work arrangements, so that the various links of collaborative education between colleges and enterprises are connected;

3. To carry out relevant training for enterprise teachers and school teachers, and to develop relevant courses, in order to enhance the teaching level of teachers and guide students to carry out practical ability.

According to the requirements of professional training and the needs of students' practice in enterprises, the corresponding professional practice courses are offered, which are jointly undertaken by professional teachers and key employees of enterprises. For some practical courses or theoretical courses closely related to practice, the key staff of the enterprise participates in some of the teaching activities. In order to cultivate students' practical ability, students need to participate in the teaching link of enterprise practice. For some professional courses, enterprises can also undertake some of the teaching contents according to the characteristics and requirements of the courses. By cooperating with enterprises, we can improve the requirements of practical teaching, pay attention to the universality of content and the specialty of enterprise practice, strengthen the management of practical teaching, and guarantee the teaching quality and effect.

Take a step-by-step approach to advancing practical activities. In order to ensure the effect of practice, combining with the adjustment of curriculum and teaching, we should take a step-by-step approach to promote practice activities. In addition to the arrangement of enterprise personnel into the campus to teach students and guide the relevant practical activities, students can also be arranged to visit the enterprise first, so that students have a preliminary understanding of the enterprise. After the above-mentioned links, combined with the needs of off-campus internship activities, students are mobilized to participate in the campus recruitment activities organized by enterprises. After the practice of this stage, in order to arouse the enthusiasm of students participating in the practice of enterprises, universities and enterprises can organize practice competitions in combination with the activities of students' associations in schools, to test the effect of students' practice and improve their practical ability. In addition, relevant publicity and guidance should be strengthened, the influence of cooperative enterprises among students should be expanded, the degree of recognition of enterprises by students should be raised, and students should be mobilized to actively participate in teaching activities in various links, it can also play a good foundation for the practice teaching in the next stage.

As an important part of education activities, we should strengthen the management of practical teaching, perfect the teaching activities, and make the teaching activities closely related. At the same time, we should pay attention to the students' adaptive guidance and psychological guidance in the initial stage of practical activities, solve the students' concerned problems and improve the supporting facilities for practical activities.

Universities and Enterprises and Different Universities Should Jointly Carry out Scientific Research Activities to Promote the Transformation of Scientific Research Achievements

The "gradual integration" mode can make the cooperation between the university and the enterprise more closely, combine the teaching activities of the practice link and the production and operation activities of the enterprise, let the university teachers, the enterprise personnel, and the related students participate in the related topic research, by taking advantage of the theoretical research of university teachers, combining the enterprises close to the market and the understanding of the development trend of the industry, and giving full play to the

students' innovative ability, we can jointly promote the landing and transformation of the practical scientific research achievements. Through the transformation of the scientific research achievements, the scientific research achievements can bring into play the actual commercial value and social benefits, arouse the enthusiasm of all parties, and expand the benefits gained by the cooperation between the university and the enterprise, thus strengthening the basis for the cooperation between the two sides, to promote the further integration of production and education.

With the joint construction of off campus practice bases as the link, application-oriented universities should strengthen the cooperation in scientific research with research-oriented universities and higher vocational colleges, so as to give full play to the strengths of different types of colleges and realize complementary advantages. Vocational colleges are close to the industry, directly contact with the relevant industries and understand the characteristics of the industry. They act as a converter for the transformation of scientific research achievements of application-oriented universities in all stages and links of cooperation between universities and enterprises, so as to expand research space and direction for application-oriented universities. In addition, cooperate with research-oriented universities, give full play to research-oriented universities' advantages in basic research, make up for the deficiency of application-oriented universities in basic research, and improve the research level of application-oriented universities.

Through the cooperation between universities, enterprises and different universities, giving full play to the advantages of different subjects is conducive to improving the quality of scientific research achievements and promoting the transformation of scientific research achievements.

Strengthening Humanistic Quality Education in Combination With Practical Activities

While adopting the mode of "gradual integration" to strengthen the practice teaching of students, theoretical teaching and humanistic quality education should not be relaxed. For the students of management major in application-oriented universities, the cultivation of their professional quality and application ability needs a long period of practice in the relevant posts, and it is also inseparable from the cultivation of humanistic quality. To carry out humanistic liberal education, besides imparting relevant humanistic knowledge to students, we also need to externalize their humanistic behavior. According to the characteristics of management specialty, its practice contains a lot of humanistic factors, which can be regarded as an important link of externalizing humanistic behavior. Therefore, students can be combined with practical activities, at the same time, the humanities quality of education.

On the basis of ensuring the effective connection of various educational links, combining practice activities to create the corresponding humanistic environment and externalize humanistic behavior. In addition to strengthening the education of personal morality, professional ethics, and social morality, we should also strengthen the guidance and education in the aspects of social intercourse and interpersonal relationship through practice activities, so as to make their behavior show higher quality. We can make use of the practice teaching activities to carry out the teaching of some professional courses and humanities courses online, offline, or both, or we can combine the practice activities with the practice activities to carry out the humanistic behavior, make students improve the ability to connect theory with practice, while maintaining the continuity and interest in the study of humanistic knowledge. And can arrange the student to carry on the graduation thesis in the practice activity process, and unifies carries on the graduation thesis the instruction to open the related curriculum, through the online-to-offline hybrid teaching method, strengthening the quality education of students' thesis

writing. In addition, in the enterprise to participate in the practice to comply with the enterprise's strict rules and regulations and school learning requirements are relatively loose, the comparison can also promote students to professional quality and professionalism and other humanistic quality of deep understanding and experience.

The combination of humanistic quality education and practical activities in practice can enhance students' humanistic practical consciousness, promote students' self-consciousness of improving their humanistic quality, and promote the internalization of students' humanistic spirit. And it is beneficial to the cultivation of students' humanistic spirit and the improvement of their humanistic accomplishment. Therefore, strengthening the cultivation of students' application ability and combining the teaching arrangement of "gradual integration" mode can promote the cultivation of students' humanistic quality.

Conclusions

For the application-oriented universities, it is very important to adopt the mode of "gradual integration" to carry out the cooperation between universities and enterprises. For application-oriented universities, the "gradual integration" mode can make the connection between theoretical teaching and practical teaching more closely. For the management majors in the application-oriented universities, the "gradual integration" mode has a high degree of agreement with their professional characteristics and educational requirements, and the combination of practical activities to strengthen students' humanistic liberal education, in promoting the cultivation of students' application ability and the improvement of their comprehensive quality, the effect is obvious. The "gradual integration" mode enables students to get to know the basic situation of participating in the practice of enterprise practice at an early stage, and enables students to have a better understanding of the work requirements of the cooperative enterprise and the enterprise culture, etc., the pre-practice activities can cultivate the students' sense of identity to the cooperative enterprise, and improve the students' investment in the follow-up practice activities, and promote the practice effect.

The enterprise can inspect the students through the practice activities, and select the graduates who have high identification with the enterprise and are suitable for the requirements of the enterprise as the enterprise employees. The benefits of this approach to hiring are obvious compared with other approaches to hiring. After various stages of internship and practical activities, the understanding between the enterprise and the graduates will be deepened. These students will join the enterprise directly after graduation, and they will be able to quickly adapt to the requirements of the enterprise, can reduce the enterprise in personnel recruitment and staff training and other expenses, but also conducive to the development of enterprise operation and business. Adopting the "gradual integration" mode can not only provide the cooperative enterprise with human resources in the aspect of staff recruitment, but also enable the enterprise to make use of the intellectual resources of the university to carry out scientific research cooperation, promoting the transformation of scientific research achievements and solving the practical problems of enterprises.

On the basis of cooperation between universities and enterprises in "gradual integration" mode, expanding the field of cooperation between universities and enterprises. It can promote the cooperation between universities and enterprises in the co construction of industrial colleges and enterprise universities. The "gradual integration" model, which focuses on the management of the process of cooperation, can mobilize the enthusiasm and participation of the two sides in cooperation and deepen the cooperation. It will play an important role in promoting the link-up of education, talent, innovation, and industry chains. It lays a good foundation for the university-enterprise co-construction of industrial college and the deep integration of

production and education. In addition, the cooperation between university and enterprise can be expanded through co construction of enterprise university, as an extension and supplement of the “gradual integration” model, to promote the degree of mutual use of resources and complementary ability of both sides, and to strengthen the interests of both sides, deepening the level and content of cooperation between the two sides, as an important starting point to promote the deep integration of production and education.

Therefore, adopting the “gradual integration” mode to carry out the cooperation between universities and enterprises can meet the different demands of both sides, close the relationship between universities and enterprises, and strengthen the cooperation between universities and enterprises, it can play an important role in maintaining the continuity, stability and effectiveness of cooperation between universities and enterprises, and lay a foundation for the deep integration of production and education. With the development of “gradual integration” mode, it can expand the content and perfect the mode of cooperation, extend the space of cooperation, and deepen the field of cooperation, so as to realize the integration of production and education.

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