

Analysis of Teaching Management Mode in Colleges and Universities under the Background of “Integration of Production and Education”

Yun HUANG

Xinglin College, Nantong University, Nantong, 226236 Jiangsu, China

179640510@qq.com

Keywords: “integration of industry and education”, College teaching, Management model

Abstract: Based on the continuous improvement of the teaching system in university, the humanistic management model has been widely used in the teaching management of university. Relevant educators follow the basic principle of people-oriented and realize the goal of optimizing the teaching process and carrying out macro-teaching activities, which is also of great utility for cultivating talents for the society. In the process of teaching management in university, it is necessary to speed up the reform of traditional management system and deeply understand the connotation of people-oriented management, so as to ensure the overall control effect. The educational model of integration of production and education is playing a more and more active and effective role in personnel training in modern vocational education, so it has been vigorously promoted by the state. Based on the reality of the industry-teaching integration support system in China's university, this paper studies the industry-teaching integration support system in university, taking the industry-teaching integration as the main line, drawing on the beneficial practices of the industry-teaching integration in foreign application-oriented universities. Through a large number of literature reading, this paper summarizes and analyzes the characteristics of school-enterprise cooperation at home and abroad, and establishes a support system for the integration of production and education in general university by using multi-disciplinary perspectives, such as pedagogy, management, and other methods such as literature analysis, comparative analysis, and interview.

1. Introduction

In the future teaching management process, people-oriented management belongs to an important teaching management concept. Doing a good job of people-oriented management can not only improve the teaching level, but also enable college students to understand theoretical knowledge and intense practical experience, which is also directly related to the gradual improvement of the education system[1]. In order to adapt to the pace of social development as soon as possible, university need to build teaching management rules and regulations, and strengthen teaching management and to achieve a perfect combination of students' study, practical work, school teaching and enterprise needs[2]. Therefore, it is also an inevitable requirement for the development of vocational education to actively establish and deepen the educational model of integration of production and education in higher vocational education. Judging from the current situation, the number of application-oriented university in ordinary undergraduate university in China has occupied half of the country, which plays a decisive role in the cultivation of undergraduate talents in China. However, the current scientific research level of application-oriented undergraduate colleges in the transitional period is relatively low, which is not conducive to promoting the improvement of teaching quality, effectively improving the quality of applied talents, and is not conducive to the accumulation and final transformation of scientific research results to serve the economic and social development of local industries[3].

Scientific research management is the basis for ensuring the effective play of scientific research services. How to break through the limitations of conventional management methods, keep abreast of the needs of the times, innovate the management system, broaden the management path, overcome management difficulties, and achieve a substantial improvement in the scientific research

strength of application-oriented universities is a difficult problem to be solved at present[4]. The education department and all sectors of society should make an in-depth summary and analysis of the current industry-education integration model, study the solutions to problems, promote the new model to better serve the growth of students, and provide more high-quality compound talents for society and enterprises. Therefore, everything needs high-quality education, upgrading of advanced science and technology, and cultivating more high-quality labor with modern scientific and technological skills[5]. At the same time, new changes have taken place in the scale, quality and other aspects of the social demand for talents, which directly presents new opportunities and challenges to the ability of higher education to serve the economic development, and becomes the motivation for the integration of industry and education in China's universities under the background of transformation[6].

In order to more easily adapt to and meet the urgent demand for talents from the transformation of economic development mode and the transformation and upgrading of industrial structure, China's higher education structure is in the stage of in-depth adjustment, and an educational reform that takes the establishment of a modern vocational education system and guides the transformation and development of local universities to applied technology universities is gradually emerging. With the concept of collaborative innovation, deepening school-enterprise cooperation, integration of production and education, and promoting the transformation and development of local undergraduate universities will be of great significance to give full play to the functions of universities and increase social benefits[7]. With the help of transformation and development, it will help to solve the characteristics of homogeneous development of higher education in China, emphasizing quantity over quality, and also help to solve the problem of lack of vocational education and talent training level at undergraduate level in China. These are common problems in local universities at present. Promoting the transformation and development of local undergraduate universities and realizing the coordinated development of high-level applied technical personnel training, regional industrial upgrading and technological progress are not only the inevitable requirements for deepening the comprehensive reform of the education sector, but also the urgent needs for the economic transformation and upgrading, quality and efficiency of China.

2. Construction of a New Mode of Actual Combat Teaching under the Background of Integration of Production and Education

2.1 Collaborative Construction of Practical Teaching System

The curriculum system is an effective carrier for schools to cultivate application-oriented talents. The realization of talent training objectives depends largely on the reform results of the curriculum system[8]. Under the background of deep education, it is an important prerequisite for application-oriented undergraduate university to improve the quality of practical teaching, cultivate application-oriented talents in line with the school's talent training objectives and social needs, integrate the resources of schools, enterprises, industries and other parties, and adjust and improve the curriculum system of practical teaching. The development of the integration of industry and education has not been guaranteed by policies. There are four aspects as follows: First, the responsibilities and obligations of non-educational institutions represented by enterprises, universities and industry associations to participate in the school-enterprise cooperation and the integration of industry and education are not obvious, and the rights of enterprises, universities and industry associations to participate in the integration of industry and education, as well as the necessary supervision and laws and regulations, are not sufficiently protected; Second, the government did not issue a reward and punishment mechanism, set specific standards, supervise and inspect the integration of industry and education, and did not reasonably design various reward and punishment measures[9]. Human-oriented, as the name implies, is to take teachers and students as the absolute subjects, make them clear their master status, and then intuitively understand the actual needs of students and teachers[10].

Fully consider from the perspective of the subject to improve the teaching design management

system. Based on the people-oriented management model, a real democratic management environment should be formed. Teachers and students are no longer each other, but actively participate in the process of teaching management, so as to create a good learning environment, impart more knowledge to students, and to a certain extent ensure the teaching effect. Under the background of traditional teaching management, the evaluation of teaching quality in university is often not comprehensive, most of which are based on teaching hours, without the evaluation of students' actual knowledge, and cannot meet the basic requirements for improving teaching quality. By establishing a people-oriented management model, we can use a scientific system to formulate clear teaching quality evaluation standards, so as to achieve the core goal of improving the level of teaching management in university. Strengthen the practical teaching courses, design the courses and activities simultaneously, and build an advanced practical teaching system that integrates theoretical teaching and practical teaching, combines both inside and outside the school, and has a four-year continuous line of “basic - professional - comprehensive”. In this process, we should strengthen the close relationship between schools, enterprises and industries, let them deeply participate in all links of practical teaching, provide guidance and share resources. Constantly improve and optimize the practical teaching system to ensure that it meets the needs of the school and the society and reaches the goal of cultivating application-oriented talents.

2.2 The Construction Path of Humanistic Management Mode in College Teaching Management

For the management of university, it is very important to optimize the campus environment, which mainly refers to the sum of all the teaching management activities in university. In the process of teaching management, relevant managers need to take people-oriented management as the core and constantly optimize the internal environment of university. For managers, it is necessary to promote cultural construction based on scientific and technological research and pursue knowledge connotation as the core in university by using typical propaganda cases, example influence and evaluation, and help students and teachers establish a correct outlook on life and value. Only in the actual management process, the idea of people-oriented management will be infiltrated into students and teachers imperceptibly, and their ideas will be completely changed, so as to lay a good foundation for the construction of people-oriented management mode. Carry out the improvement and perfection of conventional systems such as scientific research project management, fund management and achievement transformation management from the perspective of law and technology development trend; Abandon the concept of “paper only”, in line with the concept of science and technology serving the economy, adapt to the concept of integration of industry and education to promote the development of science and technology, innovate the scientific research incentive system from the perspective of encouraging scientific research initiative and creativity of scientific research personnel in the application and transformation of scientific research achievements, and at the same time, incorporate the incentive of scientific research management staff into the scientific research incentive mechanism, and give full play to the best effect of the incentive mechanism from the implementation level of the specific system; For the horizontal project management system and the internal and external scientific research platform management system, which are generally absent in application-oriented universities, it is more necessary to comply with the system supplement of the effective operation of the industry-university-research cooperation mechanism, and standardize the relevant scientific research cooperation management system, especially in the case of imperfect management mechanism, non-standard cooperation signing, lack of process management and conclusion management in the horizontal scientific research project management, we must improve the management mechanism From the perspective of improving the quality of management team, strengthening process management and conclusion management, a set of scientific and rigorous horizontal scientific research project management system is formulated and implemented.

Application-oriented undergraduate colleges can establish a cooperative teaching quality monitoring system with industries and enterprises, combine the evaluation of schools with

industries and enterprises, and integrate the talent demand standards of industries ability to communicate and solve practical problems, and test teaching achievements and quality in practice. In order to be employment-oriented, higher vocational colleges must use computer technology and big data technology to monitor the job market. There are some brand recruitment websites on the Internet, as well as the employment data published by the government of official website, and the offline research data of higher vocational colleges. Through the analysis of these data, higher vocational colleges can find the correct professional orientation.

3. Establishment of Comprehensive Evaluation Support System for the Integration of Production and Education in University

3.1 Design Principle of Comprehensive Evaluation System of Integration of Production and Education

In the process of cooperation between enterprises and universities, many functional departments will be involved. When there is competition for interests in these departments, a special coordination organization. The main function of the coordinating body for the integration of production and education is to coordinate the interests of enterprises, universities and other subjects, provide specific details management and coordination in capital investment, cooperation methods and innovative channels for the integration of production and education, and supervise the production and implementation of projects. School-run enterprises can let students practice while studying. Although higher vocational colleges will arrange internships for students, they lack practical operation in their usual teaching activities. One of the important reasons is that it is a waste of time for students to travel between schools and enterprises. On the other hand, this kind of internship arranged alternately with the curriculum will affect the normal operation of enterprises. If the study of theoretical knowledge is completely separated from practical operation, the efficiency of teaching will be greatly reduced, and school-run enterprises can solve this problem well. In particular, it is difficult to attract enterprises to participate in cooperative training of talents because it can not meet the real needs of enterprise development in helping employees in enterprises to carry out continuing education. This result is mainly due to three reasons: in terms of teachers' strength, there are few teachers in vocational colleges who can guide students to learn new technologies; In terms of technical equipment, the teaching equipment of higher vocational colleges generally lags behind the production equipment of enterprises; In terms of content setting, the teaching content setting of higher vocational colleges is always far behind the actual production of enterprises. In addition, from the perspective of structure, B/S is a mode to upgrade the C/S mode. In the framework of this mode, the user's operation interface is realized through the system browser function, and almost no transactions are processed in the front end (Browser). The main transaction processing place is on the server side (Server), forming the so-called three-tier structure. The three-tier system's WEB program puts all the operation rules, data access requests, and legitimacy verification into the business layer for processing, The client establishes a connection through the business layer, and then interacts with the database through the business layer. Figure 1 describes the system logic structure diagram.

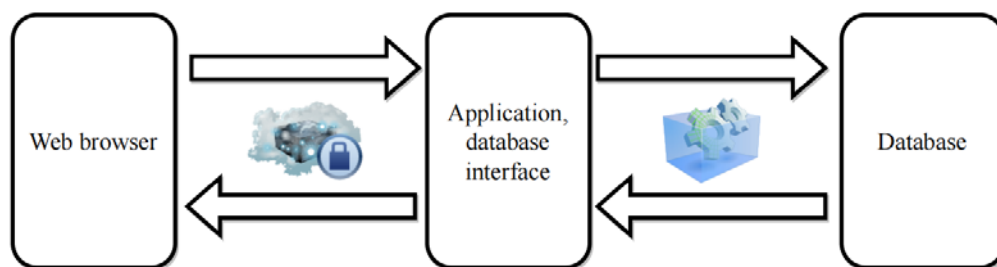


Fig.1 System Logic Structure Diagram

The integration of production and education and innovative funds are the driving force for enterprises to move forward and lay the foundation for cooperation with universities. Special funds for small and medium-sized enterprises mainly adopt the method of financial allocation, 50% ~ 60% of which are projects supported by the central government, and the rest are provided by local governments and enterprises. Another key point is special funds to support cooperation between large enterprises and universities. This is aimed at the fact that although large enterprises have certain innovation resources and capabilities, they often lack the motivation to support cooperative innovation. Special funds for large enterprises can speed up higher-level cooperation between universities and enterprises through free or subsidized loans.

3.2 Improve the Operational Mechanism of Integration of Production and Education

Scientific research managers are the implementers and important participants of scientific research management, and play an important role in scientific research management. Their scientific research literacy, professional level, management concept and service consciousness have a direct impact on the effectiveness of scientific research management. With the progress of science and technology and the continuous integration of Industry-University-Research, the original scientific research managers have been unable to meet the requirements of scientific research environment and market economy. Especially for emerging application-oriented undergraduate colleges, due to the lack of attention to scientific research, some schools don't even have specialized scientific research managers, and scientific research management is affiliated with the educational administration department. The scientific research management is only at the transactional level, and its professionalism is low.

In the process of establishing a people-oriented teaching system, in order to ensure the overall effect, the following aspects need to be done well: (1) Shaping common management objectives is mainly to ensure that the values and objectives of the organization members are the same. It is not only the development goal of university, but also the goal of teachers and students. In this process, leaders need to actively adopt the opinions of all members, so as to ensure the rationality of the objectives and decisions. (2) Take advantage of management by objectives. After the construction of the people-oriented management model, the institutional constraints of university have been significantly reduced. In order to ensure the scientific direction of students and teachers' efforts, we can use the management by objectives to guide their behavior and evaluate their actual contributions. Therefore, the following three points should be achieved: first, perfect and precise evaluation standards should be formulated at any time to realize the supervision of all links of teaching and student practice; 2, Build a diversified comprehensive feedback mechanism, and timely reflect relevant problems to schools or teachers according to students' learning and practice. 3, Introduce enterprise technicians as supervisors to supervise students' learning and practice. If the university's control of scientific research project management is out of line, the management of

project progress and phased achievement quality assessment is insufficient, the acceptance assessment indicators are not clear, the project achievements are not strictly controlled, and the scientific research personnel are not supervised as they should, it will directly affect the quality and level of scientific research project, and hinder the in-depth development of industry-university-research cooperation. University scientific research management must strictly control all links of the scientific research process, strengthen supervision and ensure the quality of project research.

Under the background of the integration of production and education, Industry-University-Research's cooperation is oriented by market demand and pays attention to the application of scientific research results, which requires the corresponding scientific research incentive system to combine this feature, change the concept of "only papers", innovate the evaluation form based solely on the number of nuclear papers and scientific monographs in the traditional model, attach importance to the evaluation of the transformation and popularization effect of scientific and technological achievements, and stimulate the initiative of scientific researchers to carry out scientific and technological development and transformation, so as to improve the applicability of scientific research results and conform to the concept of scientific research serving social development. Effective incentives should also pay attention to rewarding scientific research institutions and individuals who have made outstanding contributions, and fully mobilize the enthusiasm and creativity of scientific research personnel.

4. Conclusions

The educational management mode of integration of production and education came into being on the basis of adapting to the development goal of vocational education in the new era. Therefore, vocational colleges should attach great importance to its enrichment, improvement and popularization, speed up the pace of professional examination and selection, school-enterprise cooperation mode, teacher selection, examination system improvement and ideological and political course reform, and actively conform to the education system of integration of production and education to promote the high-quality development of vocational education. The research puts forward some original viewpoints, but due to the limited relevant literature that can be used for reference, the theoretical level is not deep enough, the method level is not mature enough, and the application level is not concrete enough, leaving some contents that need to be improved in the future. In addition, in the interview process, due to the lack of experience, the author will be driven by the interviewees, and some questions cannot be timely feedback and answered. To sum up, this study has only carried out a preliminary study on the research topic of university industry-teaching integration support system, which has great theoretical and practical significance. In the future, it will continue to study and improve.

References

- [1] Li H, Rong W. Study on problems and countermeasures of ideological and political teaching in university under the background of new media era[J]. Journal of Intelligent and Fuzzy Systems, 2021,2021(1):1-9.
- [2] Liu F, Gong Q, Zhou J. Reform of the Practice Teaching System of Entrepreneurship Education Based on 5G Fog Computing in Colleges and Universities[J]. Scientific programming, 2021,2021(8):13-14.
- [3] ZhaoWei. Construction and Application of E-Government Simulation Network Experimental Teaching Practice Environment under the Background of Machine Learning[J]. Mobile Information Systems, 2021,22(1):13-17.
- [4] Feng C. An intelligent virtual reality technology in the teaching of art creation and design in university1[J]. Journal of Intelligent and Fuzzy Systems, 2020, 40(2):1-12.

- [5] Wu D, Shen H, Lv Z. An artificial intelligence and multimedia teaching platform based integration path of IPE and IEE in university1[J]. *Journal of Intelligent and Fuzzy Systems*, 2020, 40(115):1-10.
- [6] Liu Y, Li J. Study on the application and teaching strategy of multimedia technology in music teaching in university[J]. *Journal of Intelligent and Fuzzy Systems*, 2021(1):1-8.
- [7] Ma H. Research on the application of the flipped classroom in the teaching of music education major in university[J]. *Basic & clinical pharmacology & toxicology*. 2019(S2):12-15.
- [8] Blaskovits F, Bayoumi I, Davison C M, et al. Impacts of the COVID-19 pandemic on life and learning experiences of indigenous and non-Indigenous university and college students in Ontario, Canada: a qualitative study[J]. *BMC Public Health*, 2023, 23(1):21-23.
- [9] Wang X. The practice teaching of regional cultural expression in rural landscape planning and design under the background of urban–rural integration[J]. *International Journal of Electrical Engineering Education*, 2021,23(10):26-28.
- [10] Song S. Research on the Training and Teaching Model Framework of Tourism Management Major in Higher Vocational Colleges Based on Social Market Demand[J]. *Basic & clinical pharmacology & toxicology*. 2020,30(1):12-17.