Study on countermeasures to enhance adaptability of vocational education in Hubei higher vocational colleges

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Abstract: Adaptability of higher vocational education in Hubei province has experienced three stages of the early germination, the expansion of the denotation, the ascension of the connotation. But the management system of higher vocational education is not perfect, which hinders the in-depth development of higher vocational education in Hubei province. The integration of industry and education is not deep enough, and school-enterprise cooperation is still at a low level in Hubei province. The teaching mode of higher vocational colleges is backward, which can not support the development of modern industry and high-quality economy of Hubei province. Higher vocational education has failed to highlight the type characteristics, and higher vocational education is still in a secondary position. Hubei Province should promote the reform of higher vocational education system and promote the development of higher vocational education governance to depth. The higher vocational colleges in Hubei province should take the idea of service adaptation as the core and enhance the adaptability of the basic point of higher vocational education. Hubei Province should take the reform of the integration of industry and education as an opportunity to promote the transformation and upgrading of Hubei industry and enhance the adaptability of the education mode of higher vocational colleges. The higher vocational colleges in Hubei province should strengthen the adaptability of all factors in running schools and consolidate the foundation of talent training quality. The higher vocational colleges in Hubei province should strengthen adaptability to improve the modern vocational education system.

Keywords: Hubei Vocational colleges; Vocational education; Adaptability; Countermeasure research

1. Introduction

As an important type of education system, higher vocational education promotes economic and social development by training a large number of skilled talents for the country to meet the employment needs of enterprises. The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China clearly put forward specific requirements for enhancing the adaptability of vocational education. At present, Hubei is speeding up the construction of the national construction of a new development pattern of the pilot zone, economic and social development has formed a great demand for technical skills talents. As a major vocational education province with the overall scale of higher vocational education and the average scale of higher vocational education in China, enhancing the adaptability of higher vocational education is of great practical significance to strengthen the training of technical talents in higher vocational colleges in Hubei, promote school-enterprise cooperation and the integration of industry and education, optimize the type positioning of vocational education, and promote the high-quality economic development of Hubei.

2. The development process of adaptability of vocational education in vocational colleges in Hubei

Based on the educational development of vocational colleges in Hubei Province, this paper divides the adaptive development of vocational education in Hubei province into three stages.

2.1 The embryonic stage of adaptability development of higher Vocational education in Hubei Province (1980-1998)

Higher vocational education in Hubei Province started in the 1980s. In September 1980, Wuhan
Municipal Government held a symposium to study the necessity and possibility of building a new type of vocational university. In September 1981, the Hubei provincial government approved the establishment of Jianghan University under its administration in Wuhan, and in October 1981, the Ministry of Education approved the establishment of Jianghan University. After several years of development, Jianghan University has shown great vigor and vitality and made great progress in running a school. The higher vocational education in Hubei, represented by Jianghan University, is in the forefront of the whole country. It has played a leading and promoting role in vocational education. At this stage, due to the short development history, weak foundation, lack of experience and the incompatibility of relevant policies of the national and local governments, the overall strength of higher vocational education in Hubei is weak, the characteristics of running a school are not obvious, and the adaptability of vocational education is poor.

2.2 The extension and expansion stage of the adaptive development of vocational education in Higher Vocational colleges in Hubei (1998-2012)

From 1998 to 2012, higher vocational education in Hubei Province developed rapidly. Higher vocational education in Hubei Province has made great progress in enrollment scale, number of students, teachers, educational resources and other aspects. The total number of higher vocational colleges in Hubei Province increased from 3 in 1998 to 56 in 2012, an increase of nearly 18 times. In 2012, the enrollment of higher vocational colleges was 157,000, 33.4 times of the enrollment of 4700 in 1998, and the number of students was 446,800, 45 times of the number of students in 1998.

At this stage, the types of higher vocational education in Hubei Province have increased, the ways of running schools have broadened, and the scale of running schools has expanded. In terms of running schools, the pattern of running schools has changed from a single government-run school pattern to a more diversified pattern of running schools' main body and mode, and a market-oriented diversified school-running pattern has been formed, which is led by the government, with the participation of industries, enterprises and society. Private higher vocational colleges also began to appear in Hubei province, and its rapid and healthy development has injected new vitality into higher vocational education in Hubei, and formed diversified investment channels and forms of higher vocational education. Hubei Province adopts various forms, modes and mechanisms to actively develop higher vocational education. The macro policy environment of higher vocational education in Hubei Province is gradually improving, and the development ideas are becoming clearer. During the period from 1998 to 2012, after more than ten years of development after standardization in the 1990s, vocational colleges in Hubei Province have continuously developed and improved themselves by adhering to the society-oriented, market-oriented, employment-oriented, and vigorously promoting the school-enterprise cooperation and work-integrated education mode and personnel training mode. The ability of higher vocational education in Hubei to adapt to the needs of economic and social development has been significantly enhanced, and the benefits of running a school have been significantly improved.

2.3 The connotation improvement stage of the adaptive development of vocational education in Higher vocational colleges in Hubei (2012 to present)

Up to now, the total number of vocational colleges in Hubei Province has reached 61, an increase of 5 compared with 2012, ranking ninth in the number of colleges and universities in the country. The province is building 1 high-level school with Chinese characteristics and 7 high-level professional group construction units with Chinese characteristics. It has built 4 national demonstration higher vocational colleges, 5 national backbone higher vocational colleges, 10 national quality vocational colleges, 7 provincial demonstration higher vocational colleges and 15 provincial quality higher vocational colleges. According to the types of schools, the province's higher vocational colleges cover comprehensive, finance, normal, art and other 10 types, including a total of 26 comprehensive colleges, a total of 24 science and technology colleges, comprehensive and science and technology colleges are the main vocational colleges, other colleges as a supplement to the development pattern. In 2021, Hubei Province will set up independent vocational colleges to enroll 231,300 students, an increase of 47.32% over 2012, 560,800 students, an increase of 25.51% over 2012, 162,900 graduates, 12 schools with more than 15,000 students. The total number of students in these 12 schools accounts for 19.67 percent of the total number of students in vocational colleges in Hubei province. On the whole, the province's higher vocational colleges have a large scale, and the concentration of students' distribution has increased, and gradually showed a trend of two-level differentiation.
3. Problems existing in adaptability of vocational education in Hubei higher vocational colleges

After more than 30 years of development, the adaptability of vocational education in Hubei has been enhanced continuously, but there are also many problems in the process of development.

3.1 The management system of higher vocational education is not perfect, which hinders the development of higher vocational education in depth

First of all, the management system of higher vocational colleges has the problems of multiple management and cross-functional. At present, the administrative organs of higher vocational colleges in Hubei Province include education administrative organs, industry competent organs and other departments, and the definition of powers and responsibilities of education administrative organs and industry competent organs and other departments coincide with the management authority, which makes the phenomenon of multi-direction and multi-administration often appear in the management of higher vocational education. At the same time, due to the different functions of educational administrative organs and industry competent organs, the various departments are more likely to have differences when facing the management problems of higher vocational colleges, and it is difficult to form collaborative governance effectiveness. Secondly, the independent power of higher vocational colleges in Hubei Province is still small. The implementation of the reform of "delegating control and service" has increased the autonomy of higher vocational colleges in Hubei Province, but the autonomy of higher vocational colleges is still small in all important matters related to their management. Moreover, the trend of administration in the internal management of colleges is obvious. Hubei public higher vocational colleges belong to the national institutions, the internal management of the administrative color is relatively strong, and higher vocational colleges often use administrative means to deal with the teaching and research business, the school administrative department has long intervened in the evaluation of teachers' teaching performance, the evaluation of teaching and research topics and the evaluation of teachers' professional titles⁴.

3.2 The integration of production and education is not deep enough, and the school-enterprise cooperation is still at a low level

First of all, the school-enterprise cooperation system is incomplete, which makes the integration of industry and education unable to be further promoted. At present, the rules, regulations, laws and regulations for school-enterprise cooperation in Hubei are relatively lacking, resulting in greater risks for school-enterprise cooperation. At the same time, the consultation and decision-making mechanism of school-enterprise cooperation is also relatively lacking, and the two sides often stop cooperation because of big differences, so that the integration of industry and education cannot be further promoted. Secondly, both higher vocational colleges and enterprises fail to benefit from the cooperation continuously, and enterprises have low enthusiasm to participate in the school-enterprise cooperation. Enterprises' participation in school-enterprise cooperation has obvious positive externalities, and the students jointly cultivated by higher vocational colleges and enterprises may be lost from enterprises, and enterprises cannot obtain stable benefits from cooperation. However, the technical support provided by higher vocational colleges and the skilled talents trained by enterprises are limited, and the enthusiasm of enterprises to participate in school-enterprise cooperation is not high. Thirdly, the guidance of industry organizations to higher vocational colleges is obviously absent, and they fail to play their due role in school-enterprise cooperation. Industry guidance is an important step for the smooth advancement of school-enterprise cooperation, and it is also the main way for industry organizations to participate in higher vocational education. At present, the strength of industry organizations in Hubei province is weak, and it is difficult to guide the integration of industry and education in higher vocational education.

3.3 The teaching mode of higher vocational colleges is backward and fails to support the modern industrial development and high-quality economic development of Hubei

First, The teaching materials used by higher vocational colleges in Hubei have not been updated in time, resulting in teachers' teaching content lagging behind. At present, with the rapid development of science and technology and the acceleration of knowledge update, the teaching materials of Hubei higher vocational colleges have not been updated in time. The content of teaching materials in many higher vocational colleges lags behind the development of vocational skills in enterprises, resulting in students' practical skills unable to truly meet the needs of enterprises. The number of teaching materials
developed by vocational colleges and enterprises is small and the quality is low. The teaching content of the teaching materials deviates from the actual business of the enterprise and the development of new technology and new technology of the enterprise, which greatly reduces the training quality of technical and technical talents in vocational colleges and fails to achieve the goal of win-win cooperation between the two sides and common development. Second, the teaching methods of higher vocational colleges are solidified and the teaching methods are backward. The teaching methods and means greatly affect the teaching effect of teachers in higher vocational colleges. However, most teachers in higher vocational colleges lack of innovation in teaching methods, some teachers still use the traditional cramming teaching methods, ignore the two-way communication with students in class, and the students' enthusiasm to participate in class teaching is not high, and can not highlight the students' main position in class teaching. Third, there are many shortcomings in the construction of teachers in higher vocational colleges, and the proportion of "double-qualified" teachers is small. At present, there are many problems in the construction of the teacher team in Hubei higher vocational colleges, especially in the aspects of imperfect teacher career access standards and title evaluation system, imperfect teacher training, incentive mechanism and high-level talent introduction mechanism, and poor teacher career development path. At the same time, the source of teachers in Hubei higher vocational colleges is too single, most of the teachers in higher vocational colleges are fresh graduates from undergraduate colleges, and most of these teachers have never worked in enterprises after graduating from undergraduate colleges, resulting in a general lack of "double-qualified" teachers in Hubei higher vocational colleges.

3.4 Higher vocational education has failed to highlight the type of characteristics, and higher vocational education is still in a secondary position

First, the training ability of higher vocational colleges in Hubei needs to be improved, and enough attention is not paid to vocational training. The main function of China's higher vocational colleges is academic education and vocational skill training, but Hubei higher vocational colleges can not carry out vocational skill training and academic education at the same time. Hubei higher vocational colleges lack the ability to carry out vocational training, and do not have the conditions to carry out large-scale vocational training. In general, vocational colleges in Hubei are lacking in vocational training resources, teachers, curriculum construction, facilities and other aspects. At the same time, many higher vocational colleges still attach too much importance to academic education and neglect vocational training, resulting in less investment in vocational training and weakening of vocational skills training functions in higher vocational colleges.

Second, Hubei higher vocational colleges lack distinctive school-running characteristics and have limited social influence. Because of the different industrial structure in different regions, higher vocational education presents different modes of running schools in different regions, which requires higher vocational colleges to adopt different characteristics of running schools according to the characteristics of different regions. However, many higher vocational colleges still follow the mode and concept of ordinary colleges and universities, ignoring the important role played by the characteristics of running schools in the process of improving the quality of higher vocational education. Higher vocational colleges rely too much on expanding the scale and number of students, but neglect to improve the quality of students' education. The professional setting of higher vocational colleges focuses too much on quantity, wide range and blind expansion, and the running mode is identical. This is not conducive to the training of diversified technical and technical talents in Hubei higher vocational colleges.

4. The specific path for Hubei higher vocational colleges to enhance the adaptability of vocational education

At present, higher vocational education in Hubei has entered a new stage of development, and the adaptability of vocational education should be constructed from the aspects of the system mechanism of higher vocational education, the integration of production and education, and the whole process, the whole chain and the all-round adaptability, so as to continuously promote the state of "optimal adaptation" of higher vocational education in Hubei. In serving the construction of the new development pattern of Hubei province, higher vocational education should further highlight its basic functions, constantly enhance its adaptability, and take the initiative to make a difference in deepening the construction of Hubei into an important strategic fulcrum for the rise of the central region.
4.1 Hubei should promote the reform of higher vocational education system and promote the development of higher vocational education governance in depth

Under the background of "double high" construction, Hubei should integrate the management authority of various departments, constantly promote the innovation of higher vocational education running system, and improve the governance capacity of higher vocational colleges.

First, optimize the management system of higher vocational education, establish and improve the joint decision-making mechanism of related subjects of higher vocational education. The education department of Hubei Province should promote higher vocational colleges, trade associations, enterprises and other relevant institutions to construct a joint decision-making mechanism for the relevant subjects of higher vocational education, and make decisions on important business in the management of higher vocational colleges through joint meetings.

Second, deepen the reform of "delegating control and service", so that the autonomy of higher vocational colleges in running schools will gradually increase. Hubei Province should promote the reform of "decentralization and management of service" and reduce unnecessary administrative approval as far as possible, so as to give higher vocational colleges sufficient autonomy in school positioning, student training, professional setting and appropriate decision-making power. Secondly, the government should change the management mode of education business, make the management of education business from micro to macro, and from direct to indirect, perform the functions of top-level education design, education policy formulation, and education resource allocation, and at the same time provide guidance and services for the running of higher vocational colleges.

Third, improve the management framework of higher vocational colleges, and establish a sound multi-party management of higher vocational education management system. Education departments at all levels in Hubei should guide higher vocational colleges to continuously optimize the management framework and mode, promote higher vocational colleges, enterprises and other subjects to establish a multi-management board of directors and council and other management institutions, to establish a sound multi-collaborative governance system. At the same time, it should build a pluralistic supervision mechanism formed by education departments, competent departments, industry organizations, enterprises, and teachers and students of schools, and supervise higher vocational colleges by combining regular and irregular inspections, regular inspections and random inspections, and establish and improve the supervision and evaluation mechanism of multiple co-management.

4.2 Hubei higher vocational colleges should take the idea of service adaptation as the core, and enhance the adaptability of the basic point of higher vocational education

First of all, Hubei higher vocational colleges should take serving the important development strategies of Hubei and the country as the focus of running schools. Under the background of accelerating the construction of an important strategic fulcrum for the rise of central China and a leading area for the construction of a new development pattern in the country, Hubei higher vocational colleges should follow the "big vocational education concept" and determine the development orientation of the school based on its own strength and external competition pattern. Serve Hubei's major development strategies such as "one leading and two wings driving strategy", "innovation-driven development strategy", "one core, two belts and three districts" and industrial development strategy accurately, give full play to the utility of Hubei higher vocational education in economic and social construction, and highlight the inherent value and realistic function of Hubei higher vocational education. The higher vocational colleges in Hubei should make targeted efforts to continuously enhance the adaptability of higher vocational education in the major development strategies of serving the economic and social construction of Hubei and the country[5].

Secondly, Hubei higher vocational colleges should focus on how to meet the needs of students' life development cycle. The scale and quality of skilled talents are the external manifestation of the function of higher vocational education, and the quality of talents includes the quality of internal suitability and the quality of external suitability. These two quality concepts should be based on meeting the needs of students' life development. The education provided by higher vocational colleges should be personalized education suitable for students' characteristics, which is conducive to students' employment and enhance their career development ability. Therefore, Hubei higher vocational colleges should take students' needs as the center to revise the professional personnel training program and carry out teaching and scientific research activities, and focus on cultivating students' practical job skills, so as to cultivate students' spirit of labor and craftsman, so as to comprehensively cultivate students' key
4.3 Hubei should take the reform of the integration of industry and education as an opportunity to promote industrial transformation and upgrading in Hubei, and enhance the adaptability of the educational mode of higher vocational colleges

4.3.1 Establish a platform for the integration of industry and education to enhance the adaptability of higher vocational colleges to promote industrial transformation and upgrading

Hubei higher vocational colleges should establish a platform for the integration of production and education, anchor key areas of economic development in Hubei, accurately serve the regional and industrial development strategy of "one core, two belts and three regions", adapt to the transformation and upgrading of traditional industries and the development trend of enterprises in Hubei, and make the education chain of Hubei higher vocational colleges accurately connect with the industrial chain of Hubei enterprises. First of all, Hubei higher vocational colleges should continue to innovate talent training methods, and cooperate with enterprises to train industrial talents to meet the needs of enterprises. Hubei higher vocational colleges should innovate the talent training mode, focus on cultivating diversified talents, promote the implementation of 1+X vocational skill certificate pilot, project module teaching mode, school-enterprise collaborative education, etc., and carry out the work of defining, accumulating, transforming and exchanging the learning performance embodied in vocational skill certificate, English level certificate, computer level certificate and other certificates in higher vocational colleges. Encourage students to participate in various continuing education and training through various means, and constantly expand the development space of technical skills talents. Secondly, Hubei higher vocational colleges should promote technological innovation and industrial transformation and upgrading of Hubei enterprises through innovation and entrepreneurship education. Hubei higher vocational colleges should cooperate with enterprises in planning new occupations, jointly developing professional personnel training programs and setting job skills standards, and derived technological innovation projects based on majors, so as to shape the successful examples of students' entrepreneurship. Hubei higher vocational colleges should rely on research fund projects, innovation and entrepreneurship competitions and other carriers to provide strong support for students' innovation and entrepreneurship, improve students' innovation and entrepreneurship ability, and rely on school-enterprise cooperation to incubate innovative projects and build entrepreneurial teams, and promote Hubei enterprises' technological innovation and industrial transformation and upgrading[7].

4.3.2 Innovate the integration mechanism of production and education to enhance the adaptability of Hubei higher vocational colleges' educational mode

At present, Hubei is in the stage of accelerating the construction of a leading area for the construction of a new development pattern in the country. We should adjust the running mode of higher vocational colleges in the following aspects to enhance the adaptability: First, school-enterprise cooperation enables the integration of production and education to develop in depth. Enterprises should fully participate in the training of technical skills in higher vocational colleges, and cooperate with higher vocational colleges to set up professional courses, carry out course teaching and practical training, and increase investment in higher vocational colleges through capital, technology and equipment and other factors, so as to achieve mutual benefit and win-win cooperation between schools and enterprises. Second, the government should constantly improve the policy of integration of production and education in higher vocational education, and give appropriate incentives to the advanced models of integration of production and education in higher vocational colleges and enterprises through the cooperative policy system formed by fiscal policy, financial policy, land policy and credit policy. Third, the government should coordinate education planning, industry planning and talent planning, improve the suitability of talent supply in higher vocational colleges to industrial demand, establish national and regional platforms for predicting the demand for technical talents, regularly release information reports on the demand for talents in various industries, formulate pedigrecharts of production and education in higher vocational education and university-enterprise connection, and optimize the structure and layout of higher vocational education. Increase the supply of technical talents in key areas. Fourth, Hubei education department should improve the demand-oriented talent training mode, improve the mechanism of industrial structure optimization to promote professional reform, industry technology progress to promote curriculum reform, and enterprise practical application to promote teaching reform, guide higher vocational colleges to align professional standards with job demands, and improve the pertinence and applicability of talent training in higher vocational colleges[8]. Fourth, Hubei higher vocational colleges should strengthen the adaptability of all factors in running schools and lay a solid foundation for the quality of talent training.
There are many factors of running a school in Hubei higher vocational colleges, but the key to enhance the adaptability of higher vocational education is professional construction, curriculum setting, teacher staffing, teaching and practice training arrangement.

(1). Optimize traditional majors around the frontier of technology, and enhance the adaptability of professional construction in higher vocational colleges

First, Hubei higher vocational colleges should keep up with the progress of science and technology and revise the specialty catalog in line with Hubei's development strategy. Vocational colleges should adjust their majors according to the technological change. The specialty setting of vocational colleges should match the development layout of Hubei industry and the trend of technological innovation, shut down backward majors and set up new majors in line with the industrial development trend, so as to create a professional pattern consistent with the industrial chain, value chain and supply chain of Hubei Province. Second, Hubei higher vocational colleges should improve the guarantee system of multi-cooperation and co-construction of mutually beneficial professional development by government, higher vocational colleges, industries and enterprises. Higher vocational colleges should anchor the high-end industry, make good use of the resources of multiple subjects such as government and enterprises, vigorously promote the integration of faculties and majors, continuously improve the layout of majors, use the autonomy of running schools to set up new majors, and improve the adjustment system of majors in higher vocational colleges along with industrial transformation and upgrading, so as to adapt to the economic and social development pattern of Hubei.

(2). Promote the reform of teachers, teaching materials and other fields to speed up the innovation of higher vocational education and enhance the adaptability of higher vocational education teaching

First, Hubei higher vocational colleges should improve the system of teacher recruitment and training, and strengthen the construction of teachers. Vocational colleges should carry out system innovation around teacher recruitment, improve personnel management mechanism to absorb various high-level technical and skill talents, appropriately increase the number of part-time teachers, continuously optimize the structure of the teaching team, select solid and experienced technical and skill talents to build a part-time teacher pool, and form a technical innovation consortium with teachers of vocational colleges through school-enterprise collaboration. Higher vocational colleges should improve the teacher training mechanism, expand the teacher training mode through on-campus training, off-campus training, study abroad and other ways, and improve the regular training mechanism for teachers, in order to improve the normal entry system for teachers in vocational colleges to engage in post practice, technical guidance and other modes, and improve the teacher training mechanism; Second, Hubei higher vocational colleges should promote the reform of professional courses, focus on business scenario simulation and practical skills improvement to improve curriculum teaching problems, promote vocational colleges, enterprises and other subjects to jointly develop characteristic courses, and improve the spatial and temporal adaptability of professional courses in vocational colleges. Third, Hubei higher vocational colleges should promote the innovation of teaching materials, and higher vocational colleges should promote the innovation of teaching materials writing and use system, so that the teaching materials will be updated with the development of enterprise business. Hubei higher vocational colleges should ensure the good quality of teaching materials used in the classroom and make good use of teaching materials. Higher vocational colleges should organize well-known scholars, full-time teachers, industry and enterprise experts to co-write textbooks. Fourthly, Hubei vocational colleges should promote the innovation of teaching methods, promote teachers to change from cramming teaching to digital and intelligent teaching, teachers should apply intelligent environment and intelligent technology in teaching, so that teachers and students can interact with intelligent devices, and jointly build intelligent education resources. Higher vocational colleges should continue to promote the innovation of teaching methods and carry out the "classroom revolution" of higher vocational education.

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