

Discussion on Profession Development of Higher Vocational Education from The Perspective of Market Principles and Occupational Changes

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Abstract: Higher vocational education is a kind of vocational education, and the professional construction of higher vocational education should meet the market principle. This paper introduces the main points of market principles, analyzes the changes of professions caused by contemporary technological revolution and the requirements of new professions for the quality of talents. Suggestions are made for the professional construction of higher vocational education. The new round of scientific and technological revolution puts higher and more complex requirements on the structure of human knowledge and ability. Under the system of scientific knowledge and technology that integrates multiple disciplines and fields, composite talents with multiple skills are needed. The boundaries of academic talents, engineering talents, technical talents and skillful talents will be blurred more and more, and having system thinking and innovation ability will become the basic requirements for all kinds of talents.

Keywords: Market principle, Career change, Professional setting, Higher vocational education.

1. Introduction

Today, the wave of the new technological revolution is impacting all areas of human society, and under the baptism of the new technological revolution, human society is undergoing unprecedented and profound changes in production and life. The occupational changes caused by the technological revolution are the concentrated manifestation of the influence of technology on people and their compliance with the requirements of technological progress. Education provides labor force with certain knowledge and skills for occupations. Higher vocational education is to carry out education in accordance with the industries and occupations gradually divided into national economic production industries. It focuses on the requirements of a certain occupation in terms of professional settings and teaching contents, so as to train young students to be able to engage in a certain occupation after graduation. The technological revolution and occupational changes also require higher vocational education to make corresponding improvements and changes.

Higher vocational education is a kind of vocational education, employment education, enrollment and employment is the starting point and the footing of professional construction, and professional construction is the support and carrier of enrollment and employment, and the success of enrollment and employment depends largely on the rationality, effectiveness and market adaptability of professional construction.

At present, many majors in higher vocational education lack in-depth market and social demand background research, and do not have sufficient and accurate qualitative and quantitative analysis. Many majors lack foresight and their training programs are more or less "discipline-oriented". This paper introduces the market principles of majors in higher vocational education and the changes of the current vocational market, and makes suggestions for the construction of majors in higher vocational education.

2. The Principle of Marketability of Vocational Education Majors

The UNESCO World Declaration on Higher Education in the 21st Century: Vision and Action states that "the relevance of higher education should be measured by the relevance of what institutions of higher education do to the expectations of society". "As a lifelong source of professional training, knowledge renewal and further education, higher education institutions should systematically take into account the trends in the professional world and in the scientific, technical and economic sectors". According to Qushan, "higher vocational education majors should be set according to the requirements of the market and the development of the industry." It should "set up majors aiming at the market. Pan Qingxiang pointed out that "the setting of higher vocational majors should break through the shackles of traditional thinking, set up according to the actual needs of talents on the front line of social production, service, construction and management, as well as the requirements of job groups and technical fields, and effectively highlight the relevance and applicability of majors."

The above discussion reflects the marketability of professional construction of higher vocational education. Marketability of professional construction of higher vocational education refers to the property that professional construction of higher vocational education is influenced and restricted by market law, market mechanism and market principle. Marketability refers to the property that a particular social category operates according to the market law and market mechanism and the requirements of market principles[1,2].

To adapt to the requirements of the law of value. The law of value is still a law in the economic sense[3]. The basic requirement of the law of value is that the value of a commodity is determined by the socially necessary labor time to produce this commodity. the price of a commodity is the

monetary expression of the value of the commodity. According to the requirements of the law of value, the corresponding concept of time efficiency, that is, the concept of value, should be established.

To adapt to the requirements of the law of supply and demand. Strengthen the concept of demand-oriented. Demand is the logical premise of all production and business behavior. Supply and demand are dynamic changes, to seriously study the demand, from time to time, to study their own supply and market demand correspondence and coincidence[4]. It is also necessary to master the concept of market position and balance between supply and demand. In order for a social organization to gain a foothold in the market competition, it must have a more stable market position and market share in order to ensure its survival and development. Professional construction is market demand-oriented, that is, oriented to the regional and local economic development and the first line of production, service and management: the changing trend of local industrial structure and social talent demand is taken as the basis for determining the main framework of the professional system.

3. Contemporary Technological Change and Career Change

3.1. Technological Change

Since the second half of the 20th century, science and technology have shown an integrated development trend, with science and technology combining with each other, the technologization of scientific development and the scientificization of technological progress, making the integration of science and technology deeper and deeper[5,6]. At the same time, science-based technological progress and industrial innovation have become increasingly important development models, and the integration of science-technology-industry and the transformation of technological achievements into real production have become faster and faster.

Contemporary scientific and technological changes are characterized by the cross-fertilization of multiple technologies and subject areas. "The cross-fertilization of information technology, biotechnology, new energy technology, and new materials technology is triggering a new round of scientific and technological revolution and industrial change." In the new round of scientific and technological revolution, "there is an increasing trend of cross-fertilization between disciplines, between science and technology, between technologies, and between natural sciences and humanities and social sciences." Contemporary scientific and technological changes are in the transition conversion from information civilization to intelligent civilization[7]. With the deepening of the intelligent revolution, information civilization will enter the peak of comprehensive development and gradually give way to an intelligent civilization with the possibility of intelligent interconnection. Emerging technologies are more dependent on application scenarios. In the new round of technological revolution, application scenarios and big data support are increasingly becoming key elements of technological progress and breakthroughs. These technologies will be expected to achieve multi-scene applications in the manufacturing field and service field.

The "Made in China 2025" promulgated by the Chinese government in May 2015 pointed out that the deep integration

of a new generation of information technology and manufacturing industries is triggering far-reaching industrial changes and forming new production methods, industrial forms, business models and economic growth points. the "Outline of National Innovation-driven Development Strategy" released in May 2016 emphasized the accelerated evolution of the new round of scientific and technological revolution, industrial change and military change. The impact on reshaping the world's competitive landscape and changing national power contrasts. In May 2016, the National Development and Reform Commission released the "Internet+" Artificial Intelligence Three-Year Action Implementation Plan". Subsequently, in the two sessions in 2017, "artificial intelligence" was included in the government work report for the first time. It can be seen that the government's decision-making management affirms the accelerated evolution of the new round of scientific and technological revolution, industrial change and military change, and agrees that a new scientific and technological revolution and industrial change cycle is underway, and that intelligent technology is the primary component of the group scientific and technological revolution.

In the industrial change segment, enabling technologies such as artificial intelligence will also become the core driving force of industrial change, relating to almost all industrial technology upgrades and continuous iterations. Currently, its rapid application and penetration into the production and services of almost all industrial fields such as smart manufacturing, smart cars, smart finance, smart healthcare, smart transportation, etc. Artificial intelligence may also affect the original trend of economic globalization and form a new pattern, as shown in the book "Smart Transformation: The Economic Miracle from Rust Belt to Smart Belt", developed countries in Europe and the United States have seen a return of the real economy due to smart technology innovation, as the key to smart manufacturing is no longer mainly the constraint of high manufacturing costs. If this trend continues, the past law of manufacturing shifting in different countries according to the cost gradient may no longer hold true, and any impact like this will be global.

3.2. Contemporary Career Changes

Human development and the development of science and technology have historical synchronization. Modern science and technology provide time and space for modern people to develop actively, so that the connotation of human development is constantly enriched and expanded. Science and technology are renewing the structure of human knowledge and skills, intelligence and innovation ability. Intellectual and innovative labor is gradually becoming the main form of labor. People need to constantly master and improve the relevant capabilities. The new technological revolution has given human development a new connotation and a new quality[8].

In 2017, the McKinsey Global Institute predicted that 400 million jobs could be replaced by robots by 2030. Only the small part of the workforce that involves humanity, ideals, creativity, and thoughtfulness cannot be replaced by machines, which will overturn the traditional concept of talent. In the future, only the workforce that cannot be replaced by artificial intelligence will be called talent. At the same time, the change of science and technology urgently requires the overall improvement of human scientific and cultural quality.

Technological advances have improved the labor skills and

overall quality required for occupations[9]. The new scientific and technological revolution puts higher and more complex requirements on the structure of human knowledge and abilities. Armed with the latest technologies such as information technology, biotechnology, new material technology and new energy technology, the process of production labor will become an automatic system integrating scientific knowledge and technology from multiple disciplines and fields, which requires composite talents who are not only proficient in professional knowledge and skills, but also familiar with multidisciplinary knowledge and master multiple skills.

Technological advances have expanded the variety of objects of labor for occupations. The changes brought about by the new round of technological revolution for production methods will be disruptive: big data and blockchain are becoming key factors of production, and intelligent information technology is redefining the production process. Big data and blockchain are becoming key factors of production and promoting the optimization and upgrading of production factors.

The development of science and technology is the increasing degree of economic globalization development[10]. In order to adapt to the current situation that the manufacturing industry is upgrading to the high-end of the global value chain after the new development of economic globalization, it is necessary to improve the employment structure level of production service industries such as finance and insurance, scientific research, and technical services[11], in order to cope with the trend that the low-cost advantage of labor force in areas with faster industrialization is gradually disappearing. In order to adapt to the rapid transfer of employed people in agriculture, it is necessary to rapidly expand the vocational field of distribution service industries and increase new occupations in order to absorb more. In order to adapt to the rapid transfer of agricultural workers, it is necessary to rapidly expand the occupational field of distribution service industry and add new occupations to absorb more workers of lower quality. stabilize the employment structure level of social service industry such as education, health, press and publication, develop more employment opportunities for newly increased college students and professionals, and alleviate the employment difficulties of high-end labor force. enhance the occupational quality of workers in personal service industry through vocational training, entrepreneurship training and construction of vocational qualification framework system, and improve their employability, occupational adaptability, job switching ability and independent entrepreneurship.

The development of science and technology has accelerated the change of occupations. The National Classification of Occupations (NCoO) has considered the path of dynamic updating of occupations. By examining the path of dynamic updating from the perspective of the diversity of occupational changes, it is possible to reflect on the innovativeness of the existing occupational classifications, as well as to consider the economic consequences of different forms of classifications, and to see the impact of economic factors on occupational classifications. Therefore, a differentiated approach should be adopted in the development of a dynamic updating regulatory path, and different industries, enterprises, and occupations should be subject to either strict or lenient regulatory schemes.

4. Suggestions for Professional Development of Higher Vocational Education

4.1. Meeting Changes in Supply and Demand

The profession of higher vocational education changes with the development of social and economic development and technology, and has dynamic properties. The level of economic development in a certain social stage directly determines the type of talents needed. With the development of technology, the socialization of production has increased and new requirements for the quality of workers have been put forward. From the history of productivity development, laborers initially concentrated in the agricultural sector, then shifted to the industrial sector, and currently to the service sector and information industry. High and new technologies have prompted the change and development of the skill composition of field technology application talents from mainly empirical factors to mainly scientific knowledge factors. Vocational education should strengthen the support for modern manufacturing, modern service and modern agriculture.

The professional setting of higher vocational colleges should also be set according to the characteristics of modern economy and society through interdisciplinary and compound. As the work in the first line of production is often comprehensive and must be solved by multidisciplinary knowledge and multiple skills, therefore, the higher vocational education often needs to set up majors according to the interdisciplinary characteristics required by the first line of production, combine the external requirements of the first line of production and the inner connection between disciplines, and set up compound majors.

4.2. Improving the Ability to Change Careers

The traditional classification of talents believes that these four different types of talents are needed in the whole socio-economic, scientific and technological development. Academic talents are a group of specialized talents who specialize in exploring and revealing the essence and laws of the objective world. Engineering talents specialize in transforming scientific principles, theorems, laws, etc. into engineering designs, schemes, plans or decisions, they are designers or engineers, etc.[12]. Technical talents are those who take designs, plans or decisions as the starting point and reproduce these products of ideas into material products or mass-produced commodities that They are craftsmen, field engineers and so on. skilled talents mainly rely on skilled operation skills and experience to complete products, and they undertake part of the work of transforming designs (drawings) into material products. Higher vocational education is to cultivate a large number of process-oriented and application-oriented senior technical talents and management talents with strong "realizing ability", which are urgently needed by the society.

Technology is renewing the structure of human knowledge and skills, intelligence and innovative ability. The new round of scientific and technological revolution puts higher and more complex requirements on the structure of human knowledge and ability. Under the system of scientific knowledge and technology that integrates multiple disciplines and fields, composite talents with multiple skills are needed. The boundaries of academic talents, engineering talents,

technical talents and skillful talents will be blurred more and more, and having system thinking and innovation ability will become the basic requirements for all kinds of talents.

4.3. The Combination of Production, Learning and Research Is an Effective Means to Adapt to The Market

The combination of production, study and research is the basis of professional setting of higher vocational education. Professional construction of higher vocational education is the key to the development of higher vocational education. Without professional construction, there is no way to talk about the development of higher vocational education. Professional construction runs through the whole process of education and teaching, and gradually becomes the reliance of backing industry and serving society. Continuously develop new majors with comparative advantages, constantly improve the level of majors, create brand majors, form professional echelon and professional reserve, in order to make the development of higher vocational education in the real sense. And professional construction must be based on the combination of production, learning and research, and production, learning and research is the premise and way to implement professional construction planning. Professional construction is carried out according to market demand, so that graduates can meet market demand. rely on industries and enterprises, take the road of combining industry, learning and research, develop and set specialties.

Acknowledgment

This research work was supported by Wenzhou Polytechnic research fund WZYBSZD202105 and WZYD202004.

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