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Research on Operation Mechanism of Higher Vocational Colleges Modern Apprenticeship in Shandong Province

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Abstract: Taking the modern apprenticeship in Shandong Province as the research object, this paper systematically studies and investigates the experience, problems and current situation since the trial implementation of the modern apprenticeship in Shandong Province, systematically analyzes the problems, and puts forward some suggestions on the operation mechanism of the modern apprenticeship in Shandong Province.

Keywords: Shandong Province; Modern Apprenticeship; Operation Mechanism; Stakeholders

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1.Introduction

As the world enters into the era of industry 4.0, which marked by information-based intelligent production, and the grand background of "made in China 2025", the contradiction between supply and demand of skilled workers become increasingly prominent. Especially in China, there is a huge insufficiency in skilled talents, so accelerating the training of qualified skilled tatents has become a national significant strategy. In order to achieve this strategic objectives smoothly, the Ministry of Education of China has been carrying out the pilot work of modern apprenticeship since 2015, trying to accelerate the training of skilled talents in the way of school-enterprise combination, two subjects' synergistic education.

2. Current situation of modern apprenticeship operation mechanism in China

Since China launched the pilot of modern apprenticeship system, each pilot unit summed up the abundant experiences, but from the point of pilot practices, the defects in the operation mechanism of modern apprenticeship, the most effective operation mechanism, the needs and motivation of stakeholders whether got fully meet, these problems haven't yet formed a unified understanding in the theoretical level. In the process of pilot "modern apprenticeship with Chinese characteristics", there is no clear direction on how to establish a coordination mechanism and linkage mechanism of stakeholder groups, so as to use modern information technology to solve the practical problems timely. This study aims at the above problems, on the basis of summarizing the experience of modern apprenticeship in Shandong province, optimizing an efficient operation mechanism, has great practical significance.

3. Analysis on the operating mechanism of apprenticeship in Shandong Province

This paper summarizes the latest research results of modern apprenticeship in Shandong Province, finds out and analyzes the shortcomings of modern apprenticeship in the operation mechanism, and makes an extensive exploration on the causes of the problems of operation mechanism. On this basis, using the effect guidance evaluation theory evaluate the performance since modern apprenticeship pilot, and considering the related stakeholders of modern apprenticeship pilot as a whole system, using system theory analyzes and clears the demands and relationship between each other of them, the coordinated development theory as the instruction, optimizing the model of the coordinated development of main body, including the government, industry, schools, enterprises and the apprentices and their families, puts forward the operation mechanism of modern apprenticeships that co-construction, co-condominium, sharing, co-working by all of the main bodies.

3.1. Master aspect

The investigation of modern apprenticeship in Shandong province shows that qualified enterprise masters are in a state of shortage, training and selecting qualified enterprise masters is a big challenge for modern apprenticeship in Shandong Province. Another prominent problem in the aspect of business masters is that their contribution is out of proportion to their income, the incentive methods to them are single, and their incentive degree is insufficient, which makes it difficult for teachers and business masters to maintain their enthusiasm in training apprentices for a long

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time. The main reasons are as follows: first, the policy coordination and incentive mechanism is not perfect, and the legal system lacks sufficient guarantee. Secondly, the industry association participation management is not in place, there is no professional coordination management organization; Thirdly, the teaching responsibilities of schools and enterprises are not clearly regulated, which makes it difficult to obtain ideal teaching effects. Students who learned skills from enterprises quit their jobs once they feel a little dissatisfied, which mean enterprises "doing the work for others" and insufficient motivation for them to participate in the modern apprenticeship system. Fourth, the school teaching management is not standard, the separation of employment oriented educational goals in the actual teaching implementation does not reach the designated position, against the original intention of need to develop appropriate talents for the society and the concept of service for the society, also makes the teaching of vocational colleges from the source deviated from market track, namely the social skills required talents should possess professional knowledge skills and school teach students professional knowledge is not consistent; Fifth, the absence of responsibility and interest protection among all stakeholders, and the lack of resource investment and government support for schools and enterprises lead to low enthusiasm for participation.

3.2. Interests

From the point of the results of the survey of Shandong province, the modern apprenticeship interests have not been fully safeguard the interests of the interested parties, the absence of government dominant responsibility part, inadequate investment, some policies and measures are non-correspondence, such as tax policy, the consequences is that the government expected effect of talent training, employment and other social benefits is bound to be at a discount. The reasons are as follows: from the perspective of the government, there is a lack of the overall design of modern apprenticeship at the national level, there is no system and mechanism that has incentive and binding force on enterprises, and the cooperation between schools and enterprises is relatively mechanical, so the integrated education cannot be realized. Meanwhile, relevant laws and regulations of modern apprenticeship are absent, and the legal boundaries are unclear. For example, the legal identity of "apprenticeship" is unclear, the rights, responsibilities and interests of enterprises are unclear, and the government has insufficient investment in modern apprenticeship. From the social cognitive level, social prejudice against modern apprenticeship training mode is still very deep, the traditional education ideas the most parents and students think, school education is the formal, " alternation of work and study" is unreasonable, "the apprentice" is the symbol of lower level social identity, some people even doubt that the school is in for the enterprise to recruit cheap labor. From the perspective of enterprises, the interests of enterprises are not effectively guaranteed, which affects their enthusiasm to deeply participate in modern apprenticeship. After graduation, with solid skills, there are more employment options, and once apprentices choose other units, thus, the companies responsible for training them "make clothes for others", which is the last thing companies want. These conditions bring risks to enterprises' investment in training apprentices, thus affecting enterprises' enthusiasm to participate in modern apprenticeship system. From the school level, the main problems of the higher vocational colleges in Shandong province are that the related system is not established in time, the curriculum development is slow, and the salary of teachers cannot be guaranteed. At present, the management system of some pilot higher vocational colleges in Shandong province is still in use of the previous old system, and there is no new talent training mode that adapts to the modern apprenticeship system, and no flexible teaching management system, such as flexible schooling system and credit system, etc. Adapts to the characteristics of modern apprenticeship system in time. In addition, the development of professional courses is still led by schools, and the degree and depth of enterprise participation are limited.

4. Policy suggestions and Solutions

Based on the in-depth investigation and analysis of modern apprenticeship in Shandong Province, this paper puts forward pertinent policy suggestions and solutions.

4.1. Strengthen government top-level design and system formulation.

To improve the legal system to ensure the smooth progress of apprenticeship, the state should organize forces to find out the constraints to the development of modern apprenticeship, do a good job in top-level design, formulate relevant laws and regulations, so that local governments follow in promoting modern apprenticeship. Shandong province also needs to formulate appropriate local laws and regulations within the framework of the national legal system to provide a guarantee for the extensive and in-depth implementation of modern apprenticeship. The special coordination and management organization of modern apprenticeship to be set up, which is responsible for the coordination of various interest subjects of modern apprenticeship and the management of the cooperative education mechanism

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of modern apprenticeship. In the process of promoting modern apprenticeship, the government needs to increase the investment of resources, especially the investment of funds (mainly used for the subsidy of enterprise masters). At the same time, the government also needs to encourage school teachers to promote their professional titles to ensure the smooth development of apprenticeship.

4.2. Strengthen the institutional guarantee of industry participation in management.

The industry association influences the modern apprenticeship from a unique perspective. Its main field of participation in management is the requirements of the industry development direction, mode and trend on the quality, skills, knowledge and ability of practitioners. It guides the school to set the curriculum system according to the trend of talent demand and provides suggestions on the optimization of talent training scheme. Guide enterprises to set up training course system according to the actual needs of the industry for talents, so as to meet the current needs of enterprises for talents' skills, knowledge, ability and quality. The government needs to legislate to clarify the dominant position of industry association in modern apprenticeship, and the industry association needs to take the initiative to set up the cooperation information platform between schools and enterprises to realize the co-construction, co-management and sharing of resources between them, so as to facilitate the communication between the two sides. It is necessary to give full play to the evaluation ability and function of vocational education, to participate in the evaluation of personnel training in vocational colleges by reconstructing a scientific and reasonable evaluation index system, and to play a leading role in the evaluation as an independent third party. The trade association should establish a good sense of service and provide professional consulting services for vocational colleges to develop talent training programs that keep pace with the times.

4.3. Reform the operation mechanism of collaborative education between enterprises and colleges.

From the perspective of industry development and corporate social responsibility, we should re-understand modern apprenticeship, and actively promote the in-depth development of modern apprenticeship under the encouragement of government policies. On the premise of obtaining short-term economic benefits, we should focus on long-term benefits, such as talent reserve and school-enterprise technical cooperation, and make overall plans for relevant work. Vocational colleges and enterprises should jointly design professional curriculum system, carefully design teaching content, integrate national vocational qualification standard into curriculum system and teaching content, and implement target operation mechanism.

e optimal PID control method, and transmits the control quantity to the lower computer through serial port, while the lower computer transmits the collected temperature value to the upper computer as the input of the control system.

4.4. Improve the management system of teaching process in Colleges and universities.

Speed up the construction of enterprise culture apprentice process standards, optimize the running mechanism of colleges teaching process, strengthen the talent training mode reform, further study of students' learning rule and hobbies, design more training mode, formulate training mode form "menu", students can self-help according to the "menu", choose suitable training mode, adjust training mode according to their own status, even to improve the effect of apprenticeship training. Although self-service cultivation can bring management challenges to enterprises and schools, the concept of "student-centered" is better implemented and more conducive to the growth of students.

4.5. Guide the society to correctly understand the apprenticeship system.

The key is to strengthen publicity and deepen people's understanding of the benefits of modern apprenticeship for students, which is an important part of reversing social misconceptions, expanding the scope of modern apprenticeship, and making students truly accept and aspire to become apprentices. Government departments should promote modern apprenticeship into force, digging typical those successful students who through modern apprenticeship, prove the superiority of modern apprenticeship to the society with practical, to guide people understanding the modern apprenticeship correctly, promote the whole society to accept apprenticeships, sets up the idea of "modern apprenticeship is a shortcut to higher vocational students on the road to success".

5.Conclusion

This paper clarifies the process and effectiveness of the current operation of modern apprenticeship in Higher Vocational Colleges in Shandong Province, clarifies the shortcomings of the current operation mechanism of modern apprenticeship, and explains the causes of the problems by using relevant theories such as stakeholder theory and

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synergy theory, which can provide important methodological guidance and theoretical explanation basis for studying the implementation effect and management status of modern apprenticeship, and build a relatively perfect operation mechanism based on synergy theory, In order to provide ideas for the overall development of modern apprenticeship in Higher Vocational Colleges in Shandong Province and even the whole country.

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