

Phased Research on Effective School-Enterprise Cooperation

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To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v13-i3/21566>

DOI:10.6007/IJARPED/v13-i3/21566

Published Online: 09 June 2024

Abstract

In the context of China's comprehensive construction of a modern vocational education system with Chinese characteristics and the efforts of higher vocational colleges and universities to promote the construction of "double-high", school-enterprise cooperation, as a mode of school running, has become an important way to meet the needs of economic development, improve the quality of talent cultivation and education and teaching reform. School-enterprise cooperation is the key to do a good job in higher vocational education, and school-enterprise cooperation is an effective way to solve the shortage of technical and skilled talents and to ensure the quality of talents. With the transformation of China's economic mode, industrial structure transformation and upgrading, "Made in China 2025" strategic plan put forward, there are new requirements and regulations on the quality of cultivation of technical talents, and the problem of the lack of high-tech and skilled talents is becoming more and more prominent. In the current situation that the structure, quality and level of talent cultivation cannot fully meet the industrial demand, deepening the integration of industry and education and school-enterprise cooperation has become an important strategy to promote the reform of talent cultivation. Under the new situation, improving the effectiveness of school-enterprise cooperation through the stage study of school-enterprise cooperation and further deepening school-enterprise collaborative education can effectively solve the problems of insufficient teachers, incomplete training bases, low matching degree of students and slow updating of the knowledge system in vocational education, and provide a guarantee for cultivating technical and skilled talents.

Keywords: School-Enterprise Cooperation, Effectiveness, Vocational Education

Introduction

School-enterprise cooperation is a major initiative for the reform and innovation of vocational education in China. In order to establish an environment conducive to the long-term development of school-enterprise cooperation, the government has successively issued a number of regulations and policies. The report of the 19th CPC National Congress points out that it is necessary to "improve the vocational education and training system, deepen the integration of production and education, and school-enterprise cooperation".²⁰²¹ The

Opinions on Promoting the High-quality Development of Modern Vocational Education puts forward that it is necessary to "improve the system of running schools through the integration of production and education" and "innovate the mechanism of school-enterprise cooperation in running schools". The Opinions on Promoting the High-Quality Development of Modern Vocational Education proposed to "improve the system of schooling through integration of production and education", "innovate the mechanism of school-enterprise cooperation", "expand the form and content of school-enterprise cooperation", and "optimize the policy environment for school-enterprise cooperation", which further clarified the tasks, directions and goals of school-enterprise cooperation. In 2022, the new Vocational Education Law was released, emphasizing that vocational education "should focus on the integration of industry and education, and implement school-enterprise cooperation". The report of the 20th Party Congress proposes to promote "the integration of industry and education, the fusion of science and education, and the optimization of the positioning of the type of vocational education," further clarifying the importance of the mode of schooling of integration of industry and education and school-enterprise cooperation, and pointing out the direction of the development of vocational education.

Through the literature and interviews with participants of school-enterprise cooperation, we will discuss the improvement of effective school-enterprise cooperation stage evaluation, and improve the effectiveness of school-enterprise cooperation through the effective school-enterprise cooperation process to prevent the cooperation process from floating on the surface of the form.

Problem Statement

With the promulgation and implementation of policy documents at the national level, China's higher vocational colleges and universities are constantly exploring the mode of school-enterprise cooperation, and there have been some achievements in the level and form of cooperation. HE & TIAN (2023) However, there are still a lot of problems that need to be solved urgently, such as insufficient motivation for school-enterprise cooperation, either the school is hot, or the enterprise is hot, or the early bustling and late coldness, the lack of cooperation enthusiasm; cooperation In form, although it can be involved, but the lack of effective communication and long-term cooperation planning; the depth of cooperation is not enough, the degree of school-enterprise joint research and development, sharing of resources is very low; the lack of potential for cooperation, the main body of cooperation in the investment of school-enterprise cooperation in the management of resources such as funds, personnel, equipment and other resources is not a system, the cooperation has not been established in the long-term cooperation of the interests of the supply mechanism, and so on. Schools and enterprises to cooperate, how to cooperate, how effective after cooperation, how to really play a positive effect of enterprises and schools, to enhance the effectiveness of higher vocational education school-enterprise cooperation and sustainable development, has become an important issue that needs to be resolved. So, what kind of school-enterprise cooperation is effective? What is included in the stage of effective school-enterprise cooperation?

Research Objective

Through the research on the effectiveness of school-enterprise co-operation, to have a certain standard on what is effective school-enterprise co-operation, to determine what are the contents of effective school-enterprise co-operation including the stages, to clarify the

objectives of school-enterprise co-operation, so as to improve the effectiveness of school-enterprise co-operation in the process of the real implementation of school-enterprise co-operation.

This paper adopts the methods of literature review and telephone interviews.

Research Results

(A) The effectiveness of school-enterprise cooperation in higher vocational colleges and universities: School-enterprise cooperation in higher vocational colleges and universities involves various stakeholders such as enterprises, schools, society, students, etc. The cooperation has a process, systematic and dynamic nature, and when exploring the effectiveness, we must start from the expectation, participation and benefit of the subject of the cooperation in the cooperation, and then focus on the positive attitude in the preparation for the cooperation, the scientific and rationality of the cooperation purpose, and the meticulousness and efficiency of the cooperation process. The win-win development of the co-operation results and other factors. Generally speaking, the effectiveness of school-enterprise cooperation in higher vocational colleges and universities is that through the school-enterprise cooperation mode of school running, the cooperation objectives are met or exceeded, the contents and matters of cooperation are fully completed, and all the relevant stakeholders gain benefits, so as to achieve the value of school-enterprise cooperation and maximise the benefits (Hu, 2020).

From the perspective of higher vocational colleges and universities, the schools have improved, optimised and enhanced their professional settings, teaching arrangements, quality of personnel training, co-operation system, education level, practical training and teaching resources, etc.; from the perspective of co-operating enterprises, through co-operation, they can improve the degree of matching between manpower and jobs, get the talents they need, form a stable mechanism of personnel training, enhance the branding effect, and get the corresponding policy dividends; from the perspective of students, they can be equipped with the talent cultivation programme formulated by the school-enterprise cooperation, and have the ability to develop the talents in accordance with the school-enterprise co-operation programme. From the students' point of view, according to the talent cultivation programme formulated by the school and enterprise together, the students are equipped with the professional ethics, technical skills and comprehensive quality required by the enterprise and the society, and have comprehensive growth and development; from the teachers' point of view, the teachers of the school go to the enterprise for attachment and exercise, and the enterprise arranges part-time teachers to teach in the school, so that the full-time teachers and the part-time teachers have grown and progressed, and their teaching ability and practical ability have been improved (Guo & Du, 2022). Specifically, this is mainly manifested in the two aspects of each subject giving full play to their respective functions and effectively utilising other external resources (Zhang & Wang, 2021).

1. Schools and enterprises give full play to their respective advantages and functions to achieve collaborative education in higher vocational colleges and universities, schools and enterprises are undoubtedly the most important main body, in order to achieve effective co-operation, schools and enterprises need to be invested in and paid, and in the co-operation of the active and proactive role. First of all, we should give full play to the educational function of the school as 'educating people for the party', 'educating talents for the country',

'educating people for the society' and 'educating people for the enterprise', and we should explore and make good use of the school's resources such as teachers' strength, teaching venues, teaching facilities and equipment and campus culture, so as to truly cultivate people from the main function of cultivating people. The main function is to cultivate people. Secondly, the cooperative enterprises should enhance the awareness of the main body in school-enterprise cooperation, make good use of the sensitivity to the economic development, industry development and market development, and actively play a dynamic role in talent cultivation, participate in the formulation of talent cultivation programmes of the school, provide internships and practical training, build multi-functional training bases, and build the enterprise tutor or part-time teacher team, and play a role in various aspects. In addition, enterprises and schools form a joint force, consult to formulate scientific and reasonable co-operation objectives, form a co-operation system with mutual constraints and management, establish a trusting co-operation relationship, communicate to reach a comprehensive and systematic co-operation content, and actively and effectively promote it.

2. Fully seek and give full play to the function of resources outside the school and enterprise. In order to achieve effective promotion and sustainable development of school-enterprise co-operation, in addition to the two main bodies of schools and enterprises, the support of the government, society, market, teachers and other parties is also needed. On the one hand, policy support cannot be missing in school-enterprise co-operation, which needs the guidance and support of national finance, tax policy and local policy, and in the implementation, we should actively communicate and co-ordinate with the school's competent units, finance, tax and other departments, and actively seek the support of the local government. On the other hand, adhere to the market demand-oriented, docking local economic development, docking industry development, docking enterprise development, clear market demand for talent and development trends, so that school-enterprise co-operation output 'products' have market competitiveness. In addition, the role of teachers should not be ignored, as the quality and ability of students are closely related to teachers, and full-time and part-time teachers in school-enterprise co-operation should give full play to their expertise to complete their teaching and education tasks and realise their value (Smith, 2019)

(II) The requirements that need to be met for the effectiveness of school-enterprise co-operation in higher vocational colleges and universities

1. The effectiveness of school-enterprise co-operation in higher vocational education before preparation

Before carrying out school-enterprise cooperation, schools and enterprises need to make some effective preparations to ensure that the later cooperation is carried out smoothly. Schools need to be clear in the pre-preparation stage: what is the goal of cooperation? What is the market demand? Which is the leading enterprise in the industry? What are the advantages of the co-operation enterprise? What are the co-operation specialities? What are the contents of co-operation? What are the advantages and disadvantages for the development of schools and students? What are the risks of cooperation? What can the school give to the enterprise? What are the policies and requirements of school-enterprise co-operation? Enterprises need to be clear in the pre-preparation stage: What are the requirements for the positions and abilities of the enterprises? What kind of talents are needed? Does the school have the corresponding specialities? What benefits can the co-operation policy bring? What are the contents of co-operation? What are the objectives of co-operation? How to guarantee the rights and obligations of both parties? What can be given

to the school and is it willing to co-operate? On the basis of full preparations, schools and enterprises negotiate and reach agreement on the purpose of cooperation, content of cooperation, rights and obligations, time limit requirements, etc., so as to ensure that the subsequent cooperation matters are carried out in a scientific and orderly manner.

2. The effectiveness of the process of school-enterprise cooperation in higher vocational education

The process of school-enterprise cooperation in higher vocational education is a pre-set process, but also a dynamic generative, developmental and adjustable process, which requires both schools and enterprises to actively participate in the adjustment while advancing in accordance with the pre-consensus cooperation programme to promote the high efficiency of the process for the high efficiency of the results. The effectiveness of the co-operation process emphasises the joint participation of both parties in professional construction, 'dual-teacher' teacher training, scientific research, talent cultivation, teaching material development, internship and training base construction, etc., to ensure that each co-operation content and link is carried out efficiently.

3. Effectiveness of the results of school-enterprise cooperation in higher vocational education

The effectiveness of school-enterprise cooperation results mainly means that the cooperation content is completed on time and in quality, the expected cooperation goals are achieved, and the main body of cooperation achieves a 'win-win' situation. From the point of view of higher vocational colleges and universities, through school-enterprise cooperation, the schools have optimised and significantly improved their professional settings, talent training, curriculum development and setting, student employment, teacher strength, etc., especially in the quality of talents, the transformation of scientific research results, and the construction of internships and practical training, which have achieved remarkable results. From the viewpoint of cooperating enterprises, through school-enterprise cooperation, the enterprises have made good returns on their investment in talent benefits, improved their social reputation and word-of-mouth, gained support from the state or local government for the introduction of policies on school-enterprise cooperation, and improved their competitiveness. From the students' point of view, through the school-enterprise cooperation, they have mastered the professional and technical operation ability, improved their comprehensive vocational ability, and gained comprehensive development and growth. From the social point of view, school-enterprise cooperation has led to the transformation of scientific and technological achievements, promoted the development of the local economy, and cultivated talents for the society in line with the needs of social development.

4. The effectiveness of the development of school-enterprise cooperation in higher vocational education

Whether the school-enterprise cooperation in higher vocational education eventually continues to develop effectively depends on the development potential of school-enterprise cooperation, which is specifically reflected in the following three aspects: from the school's point of view, higher vocational colleges and universities should combine students' development, teachers' development and school development, fully solicit and respect the opinions of students and teachers in the work of school-enterprise cooperation, clearly define the duties of the school-enterprise cooperation management department and personnel, guarantee funding, establish and improve the work of school-enterprise cooperation. The

school-enterprise co-operation work should be established and perfected by establishing and improving the reward mechanism, so as to form a long-term mechanism (Liu et al., 2023). From the enterprises' point of view, they should attach importance to school-enterprise cooperation, have a strong willingness to participate in it, formulate clear and explicit objectives of cooperation, ensure the protection of human, financial and material resources, arrange for departments or personnel specialised in docking with schools, guarantee special funds, and carry out effective management of students and teachers, so as to realise long-term and effective cooperation. From the government's point of view, it is necessary to formulate scientific, reasonable and operational policy support to guide the development of school-enterprise co-operation, effectively solve the problems and difficulties arising from the implementation of the policy, and provide protection from the system and policy.

Insights and Suggestions

The process of effective school-enterprise co-operation requires the joint participation of the government, enterprises and schools from the pre-preparation stage of school-enterprise co-operation to the process of school-enterprise co-operation, and at the same time, it is necessary to guarantee the effectiveness of the results of school-enterprise co-operation as well as the smooth development of school-enterprise co-operation.

1. Evaluation of the effectiveness of cooperation in the early stage

Before the formal cooperation between higher vocational colleges and enterprises, the main evaluation of cooperation preparation contains three indicators of cooperation willingness and attitude, targeting input and organisational leadership guarantee. (1) Cooperation willingness and attitude. It mainly contains the cognition of schools and enterprises on the policy, significance and value of school-enterprise co-operation, and the willingness and enthusiasm of both parties to co-operate. (2) Targeted input. Higher vocational colleges and universities: overall planning objectives, planned input of teachers, training sites and facilities and equipment, the number of majors and the number of students planned for cooperation; Enterprises: overall planning objectives for cooperation, budget for school-enterprise cooperation, the number of employees planned for part-time teaching at the school, and the planned input of equipment and technology.

(3) Organisation and leadership guarantee. Higher vocational colleges and universities: special institutions, school-enterprise cooperation system, school-enterprise cooperation theory and research institutions and personnel, etc.; enterprises: departments and personnel dedicated to docking and communicating with the school, school-enterprise cooperation related management methods and work assessment mechanisms, etc.

2. Evaluation of the effectiveness of the cooperation process

The effectiveness of school-enterprise cooperation process in higher vocational education is the guarantee of the effectiveness of the cooperation results, and the main indicators of the evaluation of the effectiveness of the cooperation process are the performance of schools and enterprises and the creative initiatives generated by the main body of the cooperation to promote the maximisation of the benefits of cooperation. (1) Performance. The most critical indicator is to see whether schools and enterprises have achieved 'professional co-construction, teacher sharing, talent coeducation, base co-construction and result sharing' in accordance with the cooperation agreement, and jointly promoted the effectiveness of cooperation. Higher vocational colleges and universities: their participation in professional

construction and curriculum, teacher training, practical training base construction, scientific research and other cooperation contents; enterprises: their participation in talent training, professional construction, curriculum development, internship and practical training base investment and construction, and 'dual-teacher' teacher training, etc. in the cooperation. (2) Generative initiatives. In the school-enterprise cooperation, the school and the enterprise according to the actual situation of cooperation, the cooperation goal-oriented, targeted adjustment, give full play to the subjective initiative, the formation of innovative and dynamic generative initiatives, so as to achieve more 'win-win'.

3. Evaluation of the effectiveness of co-operation results

The evaluation of the effectiveness of university-enterprise cooperation in higher vocational education mainly reflects the representative results achieved after a period of cooperation, mainly from the quality of talent training, social service capacity and the overall level of three aspects to evaluate. (1) Quality of talent cultivation. The quality of talent training includes the matching degree of graduates cultivated by school-enterprise co-operation, the ratio of first-time destination rate and contract rate, the coverage rate of students ordered by enterprises, the satisfaction of students, and the satisfaction of employers. (2) Social service capacity. Higher vocational colleges and universities: improvement of vocational training through school-enterprise cooperation, and application of research results to social development; enterprises: improvement of technical skills and production efficiency. (3) Overall strength and level. Higher vocational colleges and universities: the closeness of professional settings and industrial docking, the degree of improvement of practical training conditions and facilities, the degree of improvement in the proportion of 'dual-teacher' teachers, the degree of improvement in the quality of courses jointly constructed by schools and enterprises, and the degree of satisfaction with school-enterprise co-operation; enterprises: the rate of growth of input, the degree of human resource support obtained through school-enterprise co-operation, the degree of support, policy inclination and support, development of patents and other scientific research results obtained through school-enterprise cooperation. enterprises: input growth rate, human resources support obtained through school-enterprise cooperation, government support, policy support, development of patents and other scientific research achievements, enhancement of enterprise brand and image, and satisfaction with the cooperation.

4. Evaluation of the effectiveness of co-operation development

Whether school-enterprise cooperation can form a long-term cooperation mechanism and achieve sustainable development mainly depends on whether there is a 'developmental' potential in school-enterprise cooperation, which is mainly evaluated from three aspects: policy support, guarantee of cooperation mechanism and stability of cooperation. (1) Policy support. Whether there are regulations, policies, documents to regulate school-enterprise co-operation, and whether there is support from the local government. (2) Mechanism security. Higher vocational colleges and universities: whether they have established and improved the management mechanism of school-enterprise cooperation, whether they have scientific and specific management systems and methods, whether they have a sound incentive mechanism for using school-enterprise cooperation, and whether the departments and personnel of school-enterprise cooperation have high efficiency; enterprises: whether they can continue to guarantee the investment of personnel, funds, facilities and equipment, technology and skills in school-enterprise cooperation, and whether they have established and improved the

management system and incentive mechanism of school-enterprise cooperation. (3) Stability of cooperation. Higher vocational colleges and universities: the number of enterprises cooperating continuously, the number of industry leaders in schools and the recognition of the industry, and the recognition of the long-term value of school-enterprise cooperation; enterprises: the subjectivity and dominance in school-enterprise cooperation, the degree of enhancement and development of overall strength, and the recognition of the long-term value of school-enterprise cooperation.

Conclusion and Discussion

In summary, the stages included in the effectiveness of school-enterprise cooperation should include the effectiveness of pre-preparation for cooperation, the effectiveness of the process, the effectiveness of the results and the effectiveness of the development, and the effectiveness of school-enterprise cooperation can be improved by ensuring the effectiveness of the stages. In short, school-enterprise cooperation involves schools, industry enterprises, government, students, teachers, social interests of multiple parties, of which the main body is the school and the cooperative enterprise, only to truly play a positive effect of enterprises and higher vocational colleges and universities to promote cooperation in the long term, to ensure that school-enterprise cooperation in all stages of the effectiveness of school-enterprise cooperation to continuously improve the effectiveness of higher vocational education school-enterprise cooperation, so that the benefits of cooperation are maximized, to achieve the cooperation of the "win-win". "win-win" and promote the sustainable development of cooperation.

Contribution

This study fills the gap in the research on the effectiveness of school-enterprise co-operation stage, and improves the effectiveness of school-enterprise co-operation through the research on the effectiveness of school-enterprise co-operation stage. This study aims to help schools and enterprises, the participants of school-enterprise co-operation, to improve the way of school-enterprise co-operation as well as to improve the efficiency of school-enterprise co-operation to improve the effectiveness of school-enterprise co-operation through the research on the effectiveness stage of school-enterprise co-operation.

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