Theoretical Research and Path Exploration of Vocational Education Serving Rural Revitalization

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Abstract: To enhance the adaptability of higher vocational colleges to the development of agricultural and rural modernization, improve the level of Vocational Education in serving "agriculture, rural areas and farmers", and better empower and increase efficiency for rural revitalization, higher vocational colleges need to play a main role and constantly explore the path of serving rural revitalization. This paper discusses the research orientation of vocational education service for Rural Revitalization from three dimensions: improving the construction level, promoting action improvement, and creating type characteristics. Around the main problem domain, rural demand domain, and government policy domain of vocational education service for rural revitalization, this paper proposes to use the methods of traceability research, model research, and case study to explore the feasible path of Higher Vocational Colleges' service for Rural Revitalization. The practical experience and achievements of Zhejiang Higher Vocational Colleges in Promoting Rural Revitalization can provide useful reference for other colleges.

Keywords: Vocational education, Serving rural revitalization, Research on Rural Revitalization, Zhejiang practice.

1. Introduction

As scholars have said, vocational education, as an important endogenous force to support the development of rural society, "has more and more advantages in the comprehensive revitalization of the countryside in terms of industry driving, talent training, technology accumulation, social services, production transformation, ecological reconstruction, organization construction and so on" [2]. The value transformation of this advantage needs the research and practice of higher vocational colleges.

2. Research Orientation of Vocational Education Serving Rural Revitalization

In the past 10 years, some higher vocational colleges in Zhejiang Province have taken the lead in Establishing Farmers' colleges, carrying out research and Practice on the training of farmers' college students, new professional farmers and rural practical talents, and achieved theoretical and practical results. In the new era, higher vocational education has entered a new stage of building Chinese characteristics. The connotation development of higher vocational colleges needs more and more research to support. With the implementation of the Rural Revitalization Strategy, some higher vocational colleges have set up Rural Revitalization colleges, Rural Revitalization research institutes, Rural Revitalization research centers and so on. Higher vocational education research and Rural Revitalization research are organically combined to explore new ways for higher vocational colleges to Serve Rural Revitalization in research and practice. Combing the research and practice of Rural Revitalization in Higher Vocational Colleges in recent years, this paper expounds the positioning of Rural Revitalization research from the following three dimensions.

2.1 Research on Rural Revitalization to Enhance Construction Ability

2.1.1 Educational research on talent training for Regional Rural Revitalization

It is undoubtedly the key to the development of Higher Vocational Colleges in the new era to study talent cultivation, self construct ability and improve the level. On the one hand, in the research, we should constantly innovate the new experience of running higher vocational colleges, constantly improve the ability to serve the regional social and economic development, and continuously enhance the influence of Higher Vocational Education in the rural revitalization, which requires the school to have higher and higher ability and level of independent construction; On the other hand, to improve the ability and level of independent construction, we need to combine the actual situation of colleges and universities, use the theory of higher vocational education, learn from advanced experience, carry out research on rural talent training, and highlight the characteristics of running a school. The technical logic of vocational education serving rural revitalization is to cultivate rural technical talents as the logical starting point and core function, and promote rural revitalization through the core fulcrum of rural technical talents [3]. After the emphasis on the cultivation of students' professional and technical skills in higher vocational colleges, the task of training talents for everyone and for the countryside has become more and more prominent, and has become one of the key tasks in the new era. To carry out educational research on School rural talent training, rural localized farmer college students training, rural practical talent training and other aspects [4], accurately grasp the positioning of Rural Revitalization research in talent training is an important positioning for higher vocational colleges to promote the revitalization of rural talents, and also the basis for improving the school's independent construction ability and level.

2.1.2 Applied research on industrial transformation for Regional Rural Revitalization

The key to the development of rural economy is the transformation and upgrading of industries. Agricultural industry, rural e-commerce, rural tourism, rural culture and so
on play an important role in promoting the development of rural economy. In the process of transformation, new ideas, new technologies are introduced to serve and promote the upgrading of rural industries with industrial technology. The integration of production and education in higher vocational education is not only reflected in the service for cultivating rural industrial talents, but also should be integrated with scientific research. The research on the application of technology in industrial transformation is an important content of Rural Revitalization research. Actively study the complex matching relationship between the professional technical services of higher vocational education and the technical needs of regional rural industries, and grasp the connotative development of the application of new technologies in rural industries from a broader perspective.

2.1.3 Research on Countermeasures for Regional Rural Revitalization governance structure

China's Regional Rural Revitalization and development is not only reflected in the differences between the eastern and western regions, but also in the diversity and imbalance of Rural Revitalization governance in the region. The five revitalization of talent, industry, culture, ecology and organization need the support of good policy environment. The introduction of policies is also based on investigation and research, problem discovery, cause analysis and countermeasures. Higher vocational colleges give full play to the characteristics of specialties and teachers, cooperate with relevant government departments, undertake the research project of the five revitalization of regional villages, obtain first-hand information in the research, sort out problems and propose solutions, provide advice for local governments, and provide basis for the formulation of sustainable development policies for rural revitalization [5].

2.2 Research on Rural Revitalization of Promoting Action to Improve Effectiveness

2.2.1 Combination of research and action improvement

Over the years, the educational research carried out by colleges and universities in China generally has the situation of "more speculative research, less empirical research; more macro problem research, less specific practical problem research; more experience summary, less scientific and systematic research" for solving the practical problems of the connotation development of colleges and universities [6]. Such problems also exist in the research of Rural Revitalization in higher vocational colleges. Because the research on Rural Revitalization of Higher Vocational Education in China has not lasted long, the accumulation of research and practice is obviously insufficient. Many practical problems at the school level, such as the professional counterpart rate of agricultural professionals training and the role of non-agricultural professional services in rural revitalization, need to be better solved through long-term research and action improvement. Therefore, the research on Rural Revitalization in higher vocational colleges needs to further deepen the comprehensive understanding of how to promote the connotative development of schools, accurately grasp the direction of the combination of Rural Revitalization research and action improvement, acquire knowledge and experience in the research, and promote action improvement; Acquire scientific and systematic theories and methods in action improvement.

2.2.2 Team learning and research at work

The research on promoting action improvement of Rural Revitalization needs the input of teachers and managers, and needs to form the working state of learning and research. Joseph A. Leilin, a professor at Boston University in the United States, studied the mechanism by which individuals and organizations improve practice through learning and research from the perspective of the realization of learning organization. He established a comprehensive model of "thinking conceptualization experiment experience thinking" for learning and research at work [7]. He believed that such learning and research was based on the in-depth understanding of the background of solving practical problems by individuals and teams, and innovative exploration and improvement of work in combination with the situation. It is the combination of theory and practice, and the unity of knowledge and experience. It includes not only individual learning that repeatedly reflects on practice, but also peer support and challenges, and the competition faced by the team, so as to promote organizational learning and research. Similarly, to carry out the research on Rural Revitalization in higher vocational colleges, we should not only strengthen the learning in work, but also give full play to the advantages of the team to carry out research, learn in research, think in learning, carry out research experiments in combination with problems in thinking, put forward improvement ideas in repeated experiments, and form the research and practice model of Rural Revitalization.

2.3 Research on Rural Revitalization by Creating Characteristics of Vocational Education Types

2.3.1 Research on the mode from practice

As a type of education, vocational education needs type characteristics, and the formation of characteristics comes from the research in practice. Most of the world's famous vocational education models come from educational practice. They are constantly improved and advanced in research and practice, and have become the school running characteristics of colleges and universities such as technical colleges, specialized colleges and community colleges. For example, the famous competency based education and training (CBET) vocational education theory originated from the training of technical personnel in the United States during World War I. CBET theory was applied to apprenticeship training in 1922, and gradually formed its own characteristics through the practice of the school, the promotion of the government and the participation of American colleges and universities. Another example is the dual system in Germany and the apprenticeship system in Britain, which have been produced in the research of practice and become a famous vocational education model. When the theory of higher vocational education with Chinese characteristics is about to emerge, how to create type characteristics in the research and practice of Rural Revitalization in China's higher vocational education needs to introduce and learn from the world's advanced vocational education theory, digest and improve to form a
new model. On the other hand, higher vocational colleges are at the forefront of the interaction between education and society, industry and talents, and between schools and villages. They are faced with a large number of practical problems that need to be solved from practice. Different regions and types of higher vocational colleges have different modes of serving the Rural Revitalization, which will fully enrich the theory and practice of higher vocational education with Chinese characteristics.

2.3.2 Action research on practical innovation

Practical innovation needs to be based on action research. A practical and innovative research achievement includes collecting information, raising questions, analyzing problems, condensing innovation points, and formulating project action plans; Inspect, record, monitor and adjust actions according to action items; Reflect on the results of the project action, analyze and explain the reasons, evaluate the action, and correct the mistakes of the project, and constantly improve the implementation of the project. Innovation in practice is the ability to enhance the sustainable development of schools. For example, the “rural renaissance” model in the United States, the “maching movement” model in Japan, the “rural new town” model in France, the “new town movement” model in Britain, the “urban-rural equivalence” model in Germany, the “rural plan” model in Norway, the “new Village Movement” model in South Korea, the “growth pole” model in Brazil, and the “kakomo” model in India all have excellent reference value [8]. These rural vocational education models in developed and developing countries are formed through action research in practice and innovation. The research on Rural Revitalization in higher vocational colleges is accompanied by the practice of teaching reform. The development of research activities will inevitably continue to promote the improvement of teachers’ quality, the improvement of management ability, and the renewal of education and teaching philosophy. Research and action go together in the same direction, resonate in the same frequency, research in practice and innovate in research, which has become the action power of continuous innovation of the school.

3. Research Contents, Methods and Paths of Rural Revitalization in Higher Vocational Colleges

The research on promoting the connotative development of school Rural Revitalization should be guided by theory and action oriented by the rural demand domain, and the research content should be condensed; In terms of research methods, scientific research methods reflecting the characteristics of higher vocational education should be used to form the norms of academic research; In the implementation path, we should strengthen the top-level design of research, formulate research and action goals, and carry out research and practice scientifically and systematically.

3.1 Concise Research on the Revitalization of Schools and Villages

Teaching research centered on talent cultivation. Cultivating, cultivating and training professional talents for Rural Revitalization is the main content of higher vocational education. Dewey expounded the position of occupation in education. He believed that “occupation is the organization principle of information and ideas; it is the organization principle of knowledge and intellectual development. Occupation gives us an axis, which penetrates a large number of varied details, and makes the details of various experiences, facts and information in order” [9], and accordingly proposed the teaching method of “learning by doing”. Do what? What to learn? It is the key problem to be solved in the research. Chinese scholars believe that the working system is the theoretical and logical basis of vocational education [10]. Therefore, to cultivate rural talents, we should establish work oriented professional courses and teaching theory. The first is to cultivate high-quality technical and skilled talents in agricultural specialty. With the concept of integration of production and education, we will study the professional setting of regional new farmers’ occupations, focus on the “axis” of occupations, and study the agricultural quality education of new farmers, the working system based on modern agricultural professional posts, the effective integration of new agricultural technology in professional courses and the coordination of basic courses, the application of information technology and the innovation of curriculum teaching mode, the practice teaching environment and the reform of base construction, etc. And effectively integrate the theory, experience and results of research and practice, so as to enhance the sustainable development of students' knowledge and intelligence. The second is to cultivate local peasant college students. Most of the local farmers have entrepreneurial experience and their own careers. The continuous enrollment expansion and continuing education of Higher Vocational Colleges help them realize their college students' dreams. This cultivation mode should focus on the study of curriculum and course learning methods, the effective combination of theoretical depth and practice of teaching, the creation of course training and practice base, and the relationship between course assessment and teaching quality. The third is to train new professional farmers and rural practical talents. Study the formulation and identification of new professional farmers’ standards, investigate and study the practical technologies urgently needed by farmers, the selection or compilation of training courses and teaching materials, and the acquisition of vocational skill level certificates.

Application research for the purpose of serving the countryside. Talent cultivation, applied research, social service and cultural inheritance are the four major functions of Higher Vocational Colleges in the new era. The applied research with agriculture, rural areas and farmers as the main objects is the main content of the research on Higher Vocational Colleges’ service for Rural Revitalization. Relying on the advantages of specialties and teachers, agricultural higher vocational colleges study crop production, farming and animal husbandry breeding, agricultural product circulation, etc., and apply the project achievements of new products, new technologies, new methods, etc. to the development of rural industry, so as to provide more advanced application technologies for the development of rural economy, thus promoting the revitalization of rural industry. Beautiful rural construction is the foundation of new rural construction. Non
agricultural higher vocational colleges apply professional characteristics to carry out applied research on rural environmental beautification, Party building park design, courtyard sketch layout, cultural auditorium, village history museum construction, village rules and regulations, family motto and cultural inheritance, and develop teaching projects to promote the organic integration of students' field work in rural areas and beautiful rural construction. The development of new industries in rural areas needs the support of a new generation of farmers, who need to master practical technologies with professional skills, such as the service and management skills of farmhouse accommodation, the trademark design of agricultural products of farmers' enterprises, the online marketing of farmers' local products, and so on. Go deep into the countryside to investigate their needs, and provide them with applied technologies to solve practical problems by using the specialties and teachers' specialties of the school.

Countermeasure research based on Rural Research. Problem-Oriented Rural Revitalization research needs extensive and in-depth research to find the root cause of the problem. Investigation and research is to obtain the current situation, information and their needs of the countryside in a certain field, summarize the existing problems, analyze the causes of the problems, and put forward countermeasures and suggestions, so as to provide the basis for the local government to issue relevant policies, so as to solve the actual problems faced by the countryside. Higher vocational colleges give full play to the characteristics of the major, combine with the requirements of government departments, set up special topics around the revitalization of five major villages, and carry out targeted investigation and research. Regional talent training strategy for rural revitalization, rural science and technology service system, social capital participation in rural revitalization, service mode for rural revitalization, elements of people, land and money circulation, etc., which need to be solved at the local government level, through the professional advantages of higher vocational colleges, investigate the current situation, sort out the problems, analyze the reasons, and put forward countermeasures and suggestions, so as to provide beneficial reference for the government to formulate Rural Revitalization development plans and solve problems. This is also the main content of Rural Revitalization research in higher vocational colleges.

3.2 Looking for the Research Methods of School Rural Revitalization

Traceability research--Due to the short history of the research on Rural Revitalization in higher vocational colleges, the research on many problems is still superficial. When we hope to solve the practical problems of school service for Rural Revitalization and improve the connotation level through research, we need to improve the depth of research by tracing to the essence. “Qualitative research explores the understanding of the three-dimensional nature of objects in a highly situational overall environment” [11]. Rural Revitalization has a high degree of correlation with economic society and industry, and is closely integrated with vocational education, involving a wide range. Therefore, there are still many new areas of research on it. It is also necessary for higher vocational colleges to carry out research from the four key points of planning, implementation, analysis and application in combination with the specific school environment and rural situation. Through the direct contact, face-to-face communication and on-the-spot investigation between researchers and the subjects (events, activities, characters, etc.), we can understand the environment of the subjects and the impact of the environment on them, go deep into the interior of the subjects, see the essence through the phenomenon of the subjects, and understand their behavior and the interpretation of their significance from the representation of the subjects. Understand and explain their behavior and meaning construction in the interaction with the research object, and further deepen the understanding of Higher Vocational Education helping rural revitalization.

Mode research--The service mode for Rural Revitalization in higher vocational colleges is diverse and complex, such as the Regional Rural Revitalization service mode, the cooperation mode between government and school and rural enterprises, the rural talent training mode, the teaching mode of the organic integration of professional courses and rural revitalization, and so on [5], which determines the establishment of ideas and methods to solve problems by mode research. The research content of the model includes concept, model construction, system and mechanism, operation mode, achievements, model improvement, summary and refinement, demonstration and promotion, etc. In terms of methods, educational theory, model construction theory, urban and rural overall planning theory and so on are applied to grasp the essential characteristics of the problem. By using the methods of investigation and research, qualitative research, action research and so on, combining qualitative and quantitative research, and combining theoretical and practical research, we carried out a multi-level and multi-faceted coordinated research on the Rural Revitalization model of running schools and talent training, and condensed and summarized the basic ideas and general methods of solving the practical problems in rural areas to form a model, so as to promote and be used for reference by other relevant colleges and universities.

Case study--Combining with the reality of rural revitalization, the school carries out typical case studies to solve the practical problems of running schools and educating people. This research method is conducive to setting up a model, forming a benchmark, from point to area, and promoting rural revitalization. In case study, we do not regard cases as isolated contents, but build theories in the process of case study, become a part of qualitative research and model research, and become an empirical of theory and model. In addition, the case study follows the recurrence logic, and the results of the case can be reproduced under the same conditions. Thus, "if such a recurrence is found in multiple cases, the research structure is considered to be solid and tenable"[12], which has reference significance for solving similar problems.

3.3 Explore the way of School Rural Revitalization Research

Strengthen the research on Rural Revitalization of top-level design and school planning. The top-level design of Rural Revitalization research is the logical starting point of the
research. Due to the differences in the regional location, school running orientation, professional settings, teaching staff and so on, the top-level design of Rural Revitalization research should adapt to the development of schools, and establish the research action goal of coordinating rural research and improvement practice; Focus on the key and difficult issues of regional rural revitalization, and scientifically plan the research field of Rural Revitalization in combination with the actual situation of the school; We should plan to revitalize full-time research institutions in rural areas and establish a working system in which full-time and part-time researchers coordinate with educators; Construct the safeguard policy and mechanism of research. Improve relevant management methods and measures to achieve the action goal of "research" to promote "improvement".

Research on Rural Revitalization by establishing cooperative synergy and self incentive mechanism. The research on Rural Revitalization is no longer confined to the school itself, but also needs to cooperate with external cooperation, such as the cooperation between schools and the government, schools and research institutions, schools and rural enterprises, and so on. The realization of the research goal of school rural revitalization is driven by the self motivation mechanism and value of researchers (teams), mediated by the improvement of researchers' understanding of the research and ability structure, highlighting that schools and researchers deepen their understanding of the significance of Rural Revitalization research in a breakthrough or success, maintaining the same interest and attention to the wrong and correct things, so as to make the research process continue and deepen. And establish a cooperative, collaborative and open learning and research process, establish a realistic desire for Rural Revitalization research, and build a working mechanism of "research" service "improvement" in the open learning process and exchange of research experience.

Research on Rural Revitalization to improve academic norms and research quality. First, pay attention to the topic selection of Rural Revitalization research, pay attention to the topic research of common problems in higher vocational colleges, expand the source of problems, and form the thinking of the source of research problems. Pay attention to the scientificity and standardization of the subject, strengthen the preliminary design of the subject, standardize the design process, select reasonable research methods, and design a scientific research scheme. Secondly, we should strengthen the theoretical and literature research, improve the predictability of the theory, and prevent the phenomenon that school researchers only explore in "trial and error". Systematically use, revise and change the experience and understanding gained from the research, and create various programs, policies, systems, methods, practical operations or materials that help improve the practice of Rural Revitalization. Thirdly, we should not only carry out the Rural Revitalization research related to the school itself, but also combine it with regional research and the same type of research, so that the research results have universal significance and popularization and application for higher vocational colleges to serve the rural revitalization, and improve the theoretical and practical value of the subject.

4. Research and Practice Path of Promoting Connotative Development of Rural Revitalization

At present, Zhejiang Province has 9 higher vocational colleges offering Agricultural Majors and agriculture related majors, including 1 national "double high construction" college, 3 national high-quality schools for Rural Revitalization talent training, covering various types of schools such as regional industries, prefectures and cities. A number of non-agricultural higher vocational colleges have continuously improved their ability and level of serving the Rural Revitalization in research and practice, which has promoted the connotative development of the school.

The Agricultural College of Jinhua Vocational and technical college gives full play to the advantages of agriculture related majors, cultivates and trains all kinds of talents for the countryside, and makes full use of the scientific research advantages of teachers to carry out research on the application and promotion of agricultural projects [14]. Jiaying Vocational and technical college gives full play to the advantages of agricultural vocational education and comprehensive colleges, and cooperates with Agricultural Higher Vocational Colleges in the Yangtze River Delta integration demonstration zone to lead the establishment of the "Yangtze River Delta ecological green integration Demonstration Zone Rural Practical Talent Training Alliance" to carry out research on talent training and technical services. Relying on three national scientific research institutions such as the national rice original seed breeding base and the Key Laboratory of crop breeding in southern Zhejiang Province, Wenzhou Vocational College of science and technology has set up 11 pure agricultural research institutes in the school to carry out the application research of agricultural technology projects [15]. Taizhou Vocational College of science and technology has established the first Rural Revitalization Research Institute among Higher Vocational Colleges in the country, and has established a collaborative innovation center for Rural Revitalization with many government departments, township enterprises, towns and villages in Taizhou.

Through the research and development of talent cultivation, technical services, skills training and other aspects, it has greatly promoted the characteristic development of Higher Vocational Colleges' service for Rural Revitalization. A "Zhejiang Model" has been formed, with rural talent training research as the core, the development of rural industrial application research as the focus, and the provision of decision-making advice for regional governments as the support.

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