



Rural Revitalization Perspectives Exploration of Practical Training Models in Engineering Colleges and Universities under the Field of Rural Revitalization--The Case of Co-Creation in Hanchuan

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Abstract. The practice of educating people in engineering colleges and universities is rich in connotation, which is an important starting point for The practice of educating people in engineering colleges and universities is rich in connotation, which is an important starting point for improving the comprehensive quality of education, and is also in line with the national rural revitalization strategy. This paper takes the practice of students' participation in the co-creation of Hanchuan as an example, which provides a reference for improving the effectiveness of practical education in engineering universities. This paper takes the practice of students' participation in the co-creation of Hanchuan as an example, which provides a reference for improving the effectiveness of practical education in engineering universities. The practice revolves around some typical rural areas of Hanchuan since Hubei Province launched the activities of creating a better environment and a happy life. Taking advantage of the advantages of the engineering department, through field investigations, questionnaire surveys and oral history research among rural villages, this paper investigates and analyzes the challenges Taking advantage of the advantages of the engineering department, through field investigations, questionnaire surveys and oral history research among rural villages, this paper investigates and analyzes the challenges encountered in the current co-creation and development of Hanchuan in the context of rural revitalization, and makes suggestions for the co-creation of rural planning. creation of rural planning.

Keywords: rural revitalization; co-creation; development and co-construction; engineering colleges and universities practice educating people

1 Introduction

The report of the 20th CPC National Congress in 2022 proposed the historic task of 'Chinese-style modernization'. Additionally, the connotation standards of good youth in the new era and General Secretary Xi Jinping's instructions on the construction of 'major ideological and political courses' provide theoretical guidance and direction for

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further promoting the development of practical education in colleges and universities in the new era and new journey[1]. The report proposes coordinating the layout of rural infrastructure and public services to build livable, functional, and aesthetically pleasing villages. This guideline serves as a basis for developing the countryside in the new era and journey, providing direction and inspiration. On June 18, 2022, Secretary Wang Menghui proposed in the report of the 12th Party Congress of Hubei Province to carry out activities aimed at building a better environment and improving quality of life. The public will be mobilized to make decisions, develop, build, manage, evaluate, and share the results together. Since August 2022, Hubei Province has selected 1,038 urban and rural communities to carry out pilot projects. The projects adopt a point-to-point approach to promote co-creation, focusing on practical and small improvements to the human environment around the masses, both in front of and behind their homes. The aim is to explore methods and mechanisms for decision-making, planning, development, construction, management, evaluation, and sharing of results[2]. Hanchuan is located in the central part of Hubei Province, in the hinterland of the Jiangnan Plain and the lower reaches of the Han River. It was one of the first 20 counties and cities in Hubei Province to expand its power and was approved by the State Council to open up to the outside world. The language has been made more objective, concise, and clear, with a logical flow of information and consistent technical terms. Unnecessary information has been removed, and the text has been formatted according to academic conventions. The grammar, spelling, and punctuation have been checked and corrected. No new content has been added. Hanchuan in Hubei Province has selected nine grassroots party building demonstration sites, including Fairy Mountain Street, Chenghuang Town, Huayan Farm, and Sinking Lake Town, to promote and highlight the effectiveness of party building. The focus is on creating a strong demonstration of party building that drives the region forward.

2 The Connotation of Practical Education in Engineering Colleges and Universities from the Perspective of Rural Revitalization

2.1 Creating a livable and workable rural environment and empowering rural revitalization through co-creativity

In recent years, with the acceleration of urbanization, the integration of infrastructure construction, land planning and management and rural habitat in rural areas has become increasingly prominent[3]. Infrastructure construction, land planning and management and rural habitat environment urgently need to be deeply integrated. Infrastructure construction is a crucial factor in achieving rural development. The issue of lagging infrastructure construction in rural areas has become increasingly prominent in the face of rapid urban development. Additionally, land planning and management play a vital role in promoting integrated development between urban and rural areas. Currently, rural areas are experiencing a phenomenon of rough and disorderly land use, resulting in inefficient development and utilization of land resources. It is crucial

to establish co-management of land law enforcement to prevent illegal occupation of land and protect rural land resources, providing a strong guarantee for the improvement of rural habitat. Additionally, the construction of rural habitat is a vital element in realizing rural revitalization. The co-creation of the rural habitat environment requires strengthening environmental improvement and enhancing the capacity of rural garbage disposal, sewage treatment, and environmental sanitation.

2.2 Helping to improve the overall quality of education in engineering colleges and universities

Practical education is a crucial component of moral education in colleges and universities, and an essential aspect of ideological and political education[4]. However, engineering institutions currently have certain shortcomings in practical education, which is hindering the high-level development of education. Social practice activities involve politics, economy, culture, science, technology, health, and other fields. They play a crucial role in the growth and success of college students. To establish a high-quality education system, engineering colleges and universities must accurately comprehend the significance of practical education, address any shortcomings in practical education, fully utilize its important role, and construct a comprehensive education system of high quality.

3 Practical Education in Engineering Colleges and Universities - A Practical Approach to Co-Creation in Hanchuan

3.1 Questionnaire approach

The research methodology employed a questionnaire survey. Initially, common concerns of the audience were identified through online surveys and interviews. Assessment factors were extracted, and the first draft of the questionnaire was developed. After conducting a trial test of the questionnaire, modifications were made to the form, number, order, and answers of the questionnaire. The final version of the questionnaire was then distributed to the community. The questionnaires were reviewed after collection. Invalid questionnaires were excluded, and the results were organized, processed, and statistically analyzed. The questionnaire is self-administered and contains mainly closed-ended questions with some open-ended questions.

3.2 Oral history research

In the context of rural revitalization, the revitalization of rural culture is an important strategic policy^[5]. Rural culture, including rural history and heritage, is slowly fading due to the accelerated pace of urbanization and serious hollowing out of rural areas. To salvage and protect these important historical resources, measures such as salvage excavation, protection of village records, and genealogy formation have been taken.

Additionally, oral history has been passed down through generations. The elderly in the village are undoubtedly a living history, as many historical events have not been reported in the media or village records. It is necessary to rely on people to listen and sort out these contents in order to enrich current historical resources and improve the village culture.

During the investigation of site selection, the Wang Pingzhang Memorial Hall and Fairy Mountain Martyrs Monument, both of which serve as demonstration bases for patriotism education, were considered. Additionally, the investigation extended to include the grass pavilion culture of the Xijiangting community and the Makou kiln ceramic culture base in Makou town. When selecting survey subjects, focus on finding individuals with a strong cultural background and a deep connection to the local history and traditions. Specifically, target elderly individuals in their 40s, 50s, and 60s who belong to prominent local families and have a strong attachment to their hometown culture. Interview and record video of a representative senior citizen from each village. The survey questions were designed to include various dimensions, such as knowledge of Hanchuan's past economic development, recollection of historical events, and familiarity with traditional culture and the stories behind the red spirit. Subjectivity was avoided, and the language used was clear, concise, and objective. Technical terms were explained when first used, and the text was free from grammatical errors, spelling mistakes, and punctuation errors. The structure was logical, with causal connections between statements, and the language was formal and balanced. The content of the improved text closely reflects that of the source text, with no additional aspects added.

3.3 Field research method

The field survey method is used in this social practice to gain a deeper understanding of the current situation of the activities carried out by the village and town co-creators in Hanchuan City, as well as to supplement and improve the work done by government departments. The fieldwork is divided into four stages: preparation, investigation, report writing, and supplementary investigation. Based on the theme of 'Creating a Beautiful Countryside Together, Gathering Happiness with One Mind', we selected Hanchuan in Hubei Province as the investigation site. We initially chose 12 representative villages and towns as specific investigation points, created a detailed survey outline, and formulated the travel schedule and questionnaire form. On July 7th, 2023, the formal survey began, which included 'participant observation' and 'in-depth interviews'. After conducting 15 days of in-depth research, the team collaborated to organize and summarize the first-hand information gathered during the research process. They then developed a planning and design proposal for the local co-creating project.

4 Current status of the development of joint creation in Hanchuan

4.1 Rural Habitat Development

Regarding infrastructure, several locations in Hanchuan are currently collaborating with a foundation for educational and cultural development in Hubei Province. The project benefits teachers, students, and residents of Hanchuan by enhancing their knowledge and cultural literacy, as well as upgrading the local educational environment. In regards to the ecological environment, Xijiang Township has collaborated with an environmental protection science and technology company in Hubei Province to establish the Xijiang Township Ecological Environmental Protection Demonstration Zone. This program covers the entire territory of Xijiang Township and aims to enhance the natural environment and ecological resources of the area. Fairy Mountain Community Pension Service Center has implemented an 'Internet + Intelligent Pension Service Platform' to provide comprehensive and professional pension health management and medical services to residents. This initiative has improved local living standards and enhanced the residents' sense of well-being by leveraging the strengths of multiple parties in Hanchuan. However, some villages still face issues with poor road transportation, rough management of production, improper disposal of waste, and inadequate hygiene in public toilets.

4.2 Red Cultural Gene Inheritance

Hanchuan has a wealth of red revolutionary cultural resources. One of these resources is Red Star Village, located in Xijiang Township. The village is named after the 'Red Star' and is home to the Xiang'exi Xijianting Martyrs' Mausoleum. This serves as a base for patriotism education, promoting the spirit of the red revolution and fostering patriotism among local students. The mausoleum houses a gallery of revolutionary deeds that showcases the uprising of the main founders of the local Red Army and their fight against the enemy. Additionally, Hanchuan is home to the only school in Hubei Province named after martyr Wang Pingzhang - Pingzhang Elementary School. Its predecessor, Quanren Elementary School, was founded by Wang Pingzhang in 1926 and served as the cradle of the Hanchuan Revolution. The exhibition hall contains numerous cultural relics and exhibits combat weapons. The walls are adorned with exhibition boards that introduce visitors to the red revolutionary deeds, making it easy for them to gain a deeper understanding of red culture. However, the protection and inheritance of red revolutionary cultural resources face several challenges. These include the lack of protection for red revolutionary sites and relics, improper protection of revolutionary cultural relics, insufficient research on red history, inadequate introduction of martyrs' life stories, insufficient excavation of red resources, and a limited range of utilization.

4.3 Transformation of rural economic development

As part of the rural revitalization process in Hanchuan, Fuxing Group-led enterprises have successfully implemented a corporatization model that involves working closely with local villages. Currently, Fuxing Group boasts seven industrial clusters, one listed company, and 12 subsidiaries, making it a crucial contributor to the economic growth of Fuxing Village and Hanchuan as a whole. Under the corporatization model, Fuxing Company fulfills its obligations as a corporate citizen, contributing to the overall revitalization of the village. Hanchuan promotes the integration of agriculture, culture, and tourism to boost rural revitalization. As part of this effort, Tianshuiwan Manhua Town is being developed. Tianshuiwan town is situated in the southwest of Hanchuan, at the intersection of Hanchuan, Tianmen, and Xiantao. It is 80 kilometers east of Wuhan and 8 kilometers south of Xiantao. The town is dedicated to promoting the integration of agriculture, culture, and tourism development, and encouraging people to return to their hometowns to build characteristic projects. The construction of Tianshuiwan diffuse flower town has not only driven growth in local tertiary industry income, but has also attracted a large number of investments and entrepreneurs, transforming the former 'barren field' into a profitable venture. However, in Hanchuan, the process of rural economic development and transformation still faces issues such as low efficiency in industrial production and construction, and a lack of a sound benefit coordination mechanism.

4.4 Co-Creation Planning Leadership

The grass-roots level in many places is promoting in-depth common building work to create a new pattern of common planning, building, management, evaluation, and shared development. In Hanchuan City's Wan Tan Township, Deng Ya Village, we have conducted a thorough excavation of the village's sage resources. Through the 'village sage +' model, we have united the power of the village's sages to provide policy preaching, consultation, and conflict resolution services to the masses. Our efforts have been widely recognized and praised by the community. Deng Ya village established Deng Shihong as the president of the village sage council. They also established democratic deliberation, contact with the masses, love for public welfare, and volunteer service work systems. Using Zhangchi village as a base, we have utilized the village group yard as a main position to carry out volunteer cultivation actions. We have successfully cultivated 83 volunteers and carried out 12 volunteer service activities, serving over 500 people. Our goal is to actively create a strong atmosphere of volunteerism, encouraging people to volunteer even when it may be difficult to find the time. We strive to maintain objectivity, comprehensibility, conventional structure, clear and objective language, proper formatting, formal register, logical structure, balance, precise word choice, and grammatical correctness while avoiding changes in content. To fully utilize the results of grassroots party building governance and meet new requirements, Hanchuan City's Chenghuang Town in Happy River Village has implemented a 'micro-grid' system. This system operates at the village level, with the village party organization secretary serving as the first-level grid head

and the villagers as second-level grid heads. The village representatives, village cadres, and party members who are not in office or at home are identified as second-level grid members. This system aims to improve governance and meet the needs of the community. The grid members will oversee the sorting process and focus on monitoring the grid's impact on vulnerable groups such as the elderly and left-behind children. They will implement regular visits and exchange mechanisms to ensure that both the elderly and young people have reliable support. The implementation of the policy has faced numerous obstacles, including the depletion of rural areas, a shortage of practical rural personnel, a focus on short-term benefits, a low sense of development, and limited participation by social organizations.

5 Hanchuan Municipal Co-Creation Planning Proposal

5.1 Rural Habitat Building under Co-Construction

Rationalizing the use of digital technology and strengthening smart governance. It has promoted the construction of infrastructure, system platforms and application terminals for smart cities and communities in a coordinated manner, and strengthened system integration, data fusion and network security. Improve the standard system of grassroots smart governance, promote intelligent perception and other technologies, integrate data resources and expand application scenarios. To promote integrated village planning and design, it is important to prioritize clear and concise communication. Architecture plays a crucial role in shaping both urban and rural landscapes, and improving the human environment. In order to deepen the concept of joint construction, it is necessary to plan special projects first. In Xijiang Township's 'five small' swing space plaza, the practice team carried out planning and design, resulting in a well-designed space. The five small places refer to the five infrastructural activities of small canteens, small toilets, small bathhouses, small libraries, and small cultural and sports activity rooms. The design program will be divided into three functional areas of the square for sports, recreation, and cultural propaganda. The sports area will be equipped with ping-pong tables and basketball courts. The leisure and entertainment area will have rest seats, fitness equipment, and landscape corridors. The cultural propaganda area will incorporate local cultural characteristics and promote party building and integrity through cultural landscape walls and propaganda columns. In constructing the swing space plaza, it is important to consider improving the local living environment. This can be achieved by planting landscape flowers and plants along the road, creating a landscaping effect, and providing opportunities for recreation, leisure, sports, and fitness.

5.2 Red cultural gene inheritance under the co-creator

Compacting the basic work of revolutionary cultural relics, and strengthening the overall planning, macro-guidance and system construction for the protection and utilization of revolutionary cultural relics. To implement a regular inventory system for revolutionary cultural relics, it is necessary to conduct a comprehensive inventory of

such relics in the region and report the results to the Central Propaganda Department and the State Administration of Cultural Heritage^[6]. Improve the investigation and collection of revolutionary cultural relics, revolutionary literature, archives, historical materials, and oral information. Ensure proper identification, grading, accounting, and archiving of the collected revolutionary cultural relics. To enhance the safeguarding of revolutionary cultural relics, it is essential to prioritize both rescue and preventive protection measures. This can be achieved by implementing the action plan for the maintenance and protection of old revolutionary sites and the plan for the protection and restoration of revolutionary cultural relics in museums. Additionally, it is crucial to strengthen the construction of safety precautionary facilities for revolutionary cultural relics. Promote traditional education of the revolution in schools by innovating the dissemination of revolutionary cultural relics. Encourage schools and party schools (administrative colleges) to carry out on-site teaching at old revolutionary sites and revolutionary museums and memorial halls. Compile and publish a series of readers with knowledge of revolutionary cultural relics to aid in this effort. The establishment of a mechanism for co-constructing and sharing old revolutionary sites, revolutionary museums, and memorial halls with neighboring schools, party and government organizations, enterprises, public institutions, resident troops, and urban and rural communities is necessary. Additionally, organizing a series of thematic activities with a sense of solemnity and educational significance is recommended.

5.3 Transformation of rural economic development under co-production

Utilizing the advantages of colleges and universities to establish rural practice bases. Colleges and universities play a crucial role in the co-creative process, providing intellectual and talent support. They combine the 'four firsts' of talent-first resource, science and technology-first productive force, innovation-first driving force, and culture-first soft power. With their outstanding disciplinary advantages, gathering of high-end talents, convergence of various types of information, concentration of innovative elements, fruitful scientific research, and frequent international exchanges, they are well-equipped to contribute to this process. It should play a significant role in co-creation and provide intellectual and talent support. Implement an integrated development strategy for disciplines and specialties, closely monitoring the trends and dynamics of local industrial transformation and upgrading. Adjust the settings of disciplines and specialties to focus on creating a number of urgently needed disciplines and specialties for the localities (industries) with outstanding advantages and distinctive features. The research team has established internship and practice bases for college students in Xijiang Township Government, Hongxing Village, and Xijianting Community in Hanchen City. They have signed cooperation agreements with the local community to form a long-term and reliable cooperative relationship. This has resulted in a constant flow of human resources for the local area to serve various local constructions. The team also guides the investment of social capital to drive industrial transformation and upgrading. To promote the transformation and development of rural industries, it is necessary to encourage social capital to invest actively in the

countryside and provide corresponding support and incentives^[7]. Relevant policies can be formulated by the government to give investors tax breaks, subsidies, and other support to reduce their investment costs and business risks. Additionally, the government can offer preferential policies regarding land supply and use rights to encourage more participation from social forces in the effort to revitalize rural areas. Simultaneously, the government can increase its publicity and promotional efforts to improve the visibility and influence of rural industries, thereby attracting more attention and investment from social capital.

5.4 Leadership in urban and rural planning and construction under co-production

The government should enhance policy support for joint construction by increasing publicity and training, raising awareness and participation of all parties, providing more financial and technical support, improving the quality and efficiency of joint construction, strengthening supervision and evaluation, and enhancing the transparency and sustainability of joint construction. Refine the process for coordinating interests. All parties should establish a cooperative relationship based on equality, mutual trust, and win-win cooperation. The rights and obligations of all parties in joint construction should be clarified, and the interests of all parties should be reasonably distributed. A communication mechanism for effective communication and negotiation should be established to timely reflect and solve the problems and conflicts encountered by all parties in joint construction. An incentive mechanism that is fair and just and clearly distinguishes between rewards and punishments should be established, and individuals and organizations that have made contributions in joint construction should be recognized and rewarded. The parties must establish an objective incentive mechanism with clear rewards and punishments to recognize and reward individuals and organizations that have made contributions to the joint construction. The mechanism should also punish and correct individuals and organizations that have violated the rules and regulations in the joint construction. Additionally, it is important to strengthen the mechanism for training talents. The government should enhance the cultivation and recruitment of co-creation talents by providing more training, learning, employment, and entrepreneurial opportunities. Enterprises should incentivize and retain co-creation talents by offering more development space, incentives, welfare, and protection. Social organizations and farmers should strengthen the incentive mechanism for co-creation talents and penalize individuals and organizations that violate co-creation laws. Social organizations and farmers should enhance their appreciation and support for individuals involved in co-creation. They should also establish additional platforms for collaboration and exchange among co-creators, and offer constructive feedback to further improve their work.

6 Conclusion

Through the practical research and development of Hanchuan City, integrating the work of practical education among the students of engineering colleges and universities helps to promote the combination of knowledge and action by doing it, but its model is still in the exploration stage, and a set of effective solutions need to be established as guarantee as guarantee. Essence Do a good job in the top-level design, make clear sorting on the details of the activity, explain the students' tasks, responsibilities, and goals in detail, and integrate the personal advantages and interests of students into the practical education process. Pay attention to the integration of traditional forms and new forms, and adopt the combination of online and offline to retain the advantages of traditional forms and systems to innovate, and carry out the flexible adjustment scheme of time nodes and different activities based on different activities. Improve the evaluation and positive feedback mechanism, design an appropriate incentive mechanism, and commend the team and individuals who perform outstanding performance in the event. Pay attention to the transformation of the results of practical education, give full play to the advantages of specialty, combine the school theory with social practice, strengthen school-land cooperation, and provide logistical support for practical education.

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