The Research of Rural Talent Revitalization Visualization Based on CiteSpace

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Keywords: Rural Talent Revitalization; Visual Analysis; Research Hot Spot; CiteSpace

Abstract: This thesis aims to explore the current research status and hot trends in the field of rural talent revitalization, based on the visual analysis of Citespace Knowledge Graph. With the continuous development of China's economy and society, the strategy of rural revitalization has received increasing attention, and talent revitalization, as an important support of this strategy, has become the focus of academics and policy makers. This study adopts the CiteSpace Knowledge Graph analysis tool to deeply mine and visualize the relevant literature in the field of rural talent revitalization and discover its important studies in the field of rural talent revitalization.

1. Introduction

As an important part of China's rural revitalization strategy, the revitalization of rural talents has attracted the attention of a wide range of academics and policy makers. With the continuous development of China's economy and society, rural revitalization has become an important task to realize the comprehensive construction of a socialist modern country. As a core element to support rural revitalization, talent revitalization is of strategic importance to achieve sustainable rural development and promote urban-rural integration. In the past few years, academics have conducted extensive research on the revitalization of rural talents [7]. The research covers various aspects such as talent cultivation and introduction mechanism, rural education and vocational training, rural industry and entrepreneurial innovation, rural community and governance. By drawing on domestic and foreign experiences and successful cases, many studies have put forward a series of operable policies and suggestions, which provide important ideas and paths for rural talent revitalization. However, there are still relatively few systematic analyses and comprehensive compendiums on the current situation and hot trends of rural talent revitalization research. In this context, this thesis aims to comprehensively sort out and summarize the research in the field of rural talent revitalization through the visual analysis of CiteSpace Knowledge Graph. Through in-depth mining and analysis of related literature, we will reveal the research hotspots, disciplinary intersection and development trend in the field of rural talent revitalization.

2. Research Methodology

2.1 Sample selection

The research data samples were obtained from the full-text database of Chinese journals, China Knowledge Network (CNKI), from 2010 to 2021, with "theme" = "rural talent revitalization" or "keyword" = "rural talent revitalization", and "journal source" = "core journals". " or "keyword" = "rural talent revitalization", "journal source" = "core journals ", "EI journals", "SCI journals", "CSSCI", "CSCD ", the obtained literature was exported according to the Refworks literature format required by CiteSpace, and the sample database of this paper was obtained. A total of 665 literatures were obtained, with the publication period from January 1, 2010 to December 31, 2021. The number of publications was counted. A total of 685 articles were formatted into CiteSpace software.

2.2 Research method

CiteSpace is a Java-based literature analysis software designed and developed by Professor Chaomei Chen, a computer and intelligence specialist at Drexel University, USA [1]. This software can help researchers to better understand the dynamics of knowledge clustering and evolution in a scientific field. With the help of CiteSpace software, keyword co-occurrence analysis was conducted on 685 selected journal articles to deeply explore the hot issues and cutting-edge progress of rural talent revitalization research. (See Figure 1 and 2)
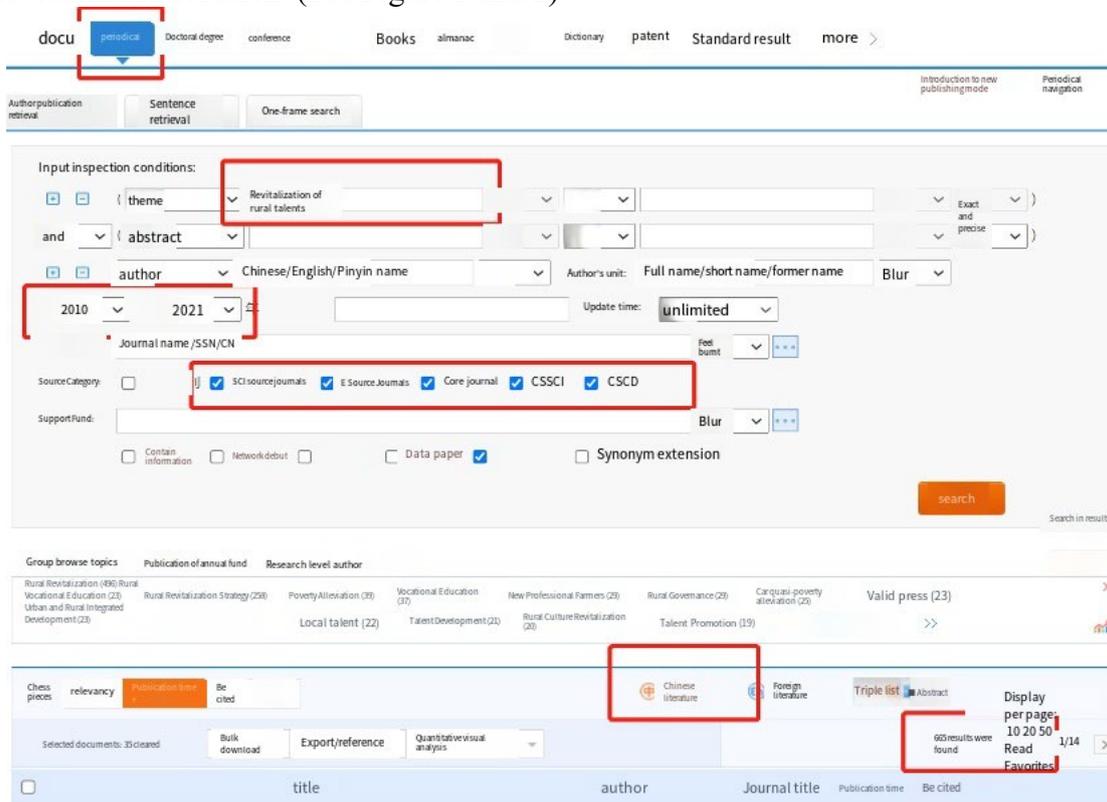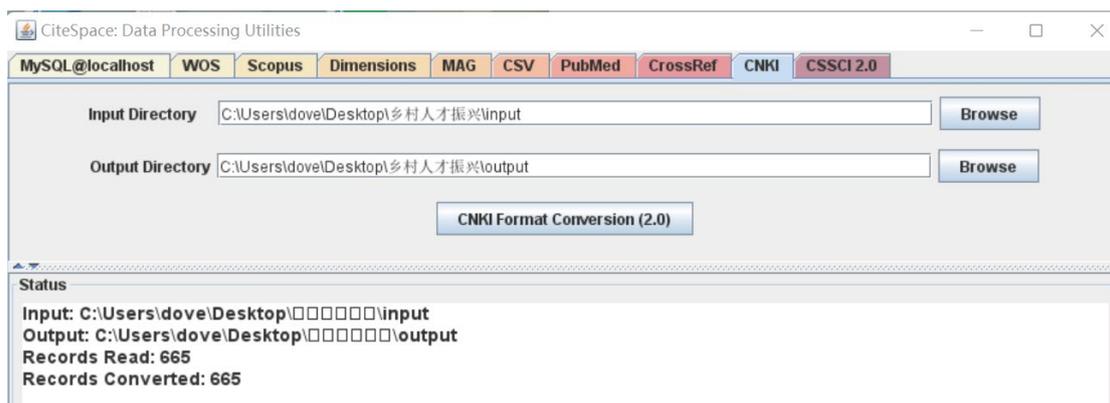

Figure 1 Literature search page

Figure 2 De-duplication page

Time Slicing is set to From2010.01 TO 2021.12, Years Per Slice is selected as 1, i.e., the time span is analyzed once every year to ensure that all keywords in the acquired literature can be counted, Node Types is selected as Keywords, c, cc, ccv thresholds are maintained. The default state, the Pruning panel check Pathfinder and Pruning sliced networks to ensure that the number of nodes remains the same and the number of connections is reduced, with completeness and a unique solution. Finally, click GO, and a pop-up window will appear at the end of the run, select visualize, and the visualization mapping is generated.

3. General overview of rural talent revitalization research

Researchers are the core force to promote the development of the discipline. In Citespace, set the node type as "Author" and the time slice as 1 year for analysis. According to Price's law, the core authors in the field of revitalization of rural talents in China from 2010 to 2021 can be determined. The results of the visualization analysis are shown in Figure 3.

Figure 3 Author co-occurrence diagram

From Figure 3, it can be seen that there are 144 (N=144) authors involved, with a line segment of 24 (E=24),and a density of 0.0023 (Density=0.0023). From the perspective of high-frequency authors, Zhu Dequan, Jiang Changyun and Zhang Xugang are highly productive authors in this field and their published literature has high research value.

Research institutions are also the core force to promote the development of the discipline, so we set the node type as "Institution" in Citespace and the time slice as 1 year for analysis. The results of the visualization analysis are shown in Figure 4.

Figure 4 Institutional co-existence diagram

As can be seen from Figure 4, there are 125 institutions involved (N=125), and China Talents, the Department of Education of Southwest University, Southwest University, and the College of Marxism of North Tianjin Agricultural College are the highly productive research institutions in this

field, and their published literature has high research value.

4. Analysis of research frontiers

4.1 Research Topic Identification

Keywords can quickly and accurately reflect the theme and focus of a paper. The frequency of its appearance in the literature of a research field can reflect the topics of common concern to researchers in a certain time period, which is the hot topic of the whole research field. As can be seen from Figure 5, there are 235 keywords involved (N=235), and there are 322 line segments (E=322). The line segments represent the connection between keywords and keywords, which can be understood as the connection between keywords in the same literature with a density of 0.0117 (Density=0.0117). Among them, "rural revitalization", "poverty eradication", "vocational education", "talent revitalization", and The keywords with higher centrality were "rural revitalization", "poverty eradication", "vocational education", "talent revitalization" and "precise poverty alleviation", with frequencies of 469, 38, 36, 20 and 20, respectively. The keywords with higher centrality are "rural revitalization", "poverty alleviation", "precise poverty alleviation" and "rural governance", with centrality of 1.38, 0.2, 0.17 and 0.15, respectively.
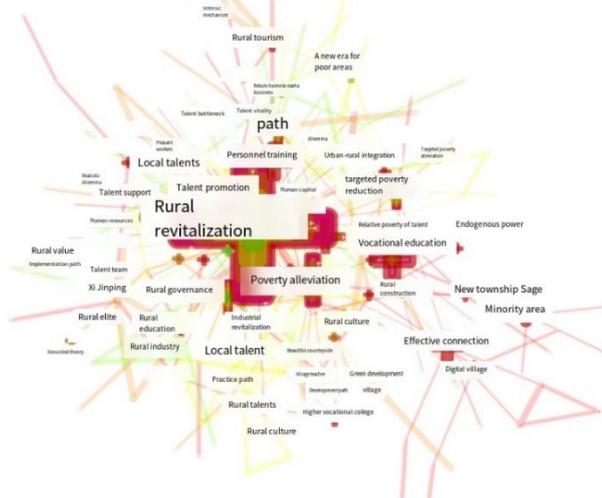

Figure 5 Keyword co-occurrence map

4.2 Research hotspot identification

The software settings were kept unchanged, and Find clusters was selected on the basis of keyword co-occurrence, and then the K option was clicked, i.e., clustering was performed according to keywords, and the generated visualization graph was adjusted and retouched as shown in Figure 6:
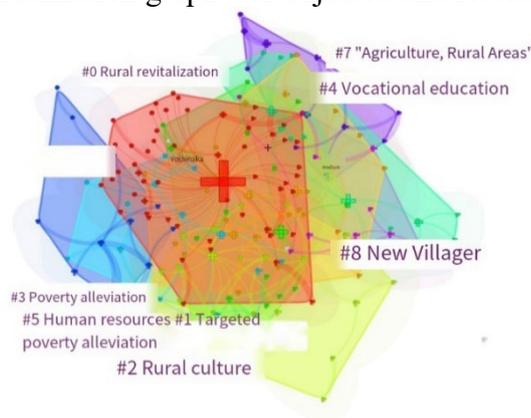

Figure 6 Keyword clustering diagram

Through Figure 6, we can clearly see that the keyword co-occurrence network above is clustered into irregular regions, each corresponding to a label. From the figure, we see that a cluster is grouped into 8 main categories. The smaller the number, the more keywords are included in the clusters, and each cluster is composed of multiple closely related words. In this network we need to pay attention to two values, one is the Q value one is the S value, these two values characterize the clustering think over good or bad, generally considered: clustering module value (Q value), generally considered Q>0.3 means that the clustering structure is significant. The average profile value of clustering (S value), it is generally considered that S>0.5 clustering class is reasonable. The data from the figure show that the effect of this clustering is convincing.

Keyword mutation refers to the change in the level of attention to a topic in a research field in a specific period of time, and its study can analyze the frontier issues in the research field. The following figure shows the 14 keyword mutations in the field from 2010 to the present. (See Figure 7)

Top 14 Keywords with the Strongest Citation Bursts

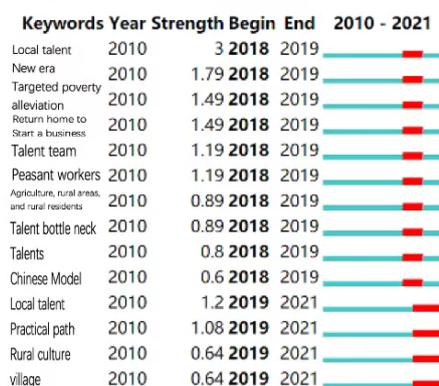| Keywords	Year	Strength	Begin	End	2010 - 2021
Local talent	2010	3	2018	2019	
New era	2010	1.79	2018	2019	
Targeted poverty alleviation	2010	1.49	2018	2019	
Return home to Start a business	2010	1.49	2018	2019	
Talent team	2010	1.19	2018	2019	
Peasant workers	2010	1.19	2018	2019	
Agriculture, rural areas, and rural residents	2010	0.89	2018	2019	
Talent bottle neck	2010	0.89	2018	2019	
Talents	2010	0.8	2018	2019	
Chinese Model	2010	0.6	2018	2019	
Local talent	2010	1.2	2019	2021	
Practical path	2010	1.08	2019	2021	
Rural culture	2010	0.64	2019	2021	
village	2010	0.64	2019	2021	

Figure 7 Keyword mutation mapping

Observing the above figure, we can find that there are 14 keywords in this field from 2010 to 2021, where Year is the starting year of the literature sample, Strength represents the intensity of the emergent keywords, Begin represents the year of keyword emergence, End represents the year of keyword ending, and the red segment of the time bar indicates the duration of the keyword outbreak phase.

Through the keyword mutation mapping, the following conclusions can be drawn:

Observing the above chart, we can find that most of the research hotspot outbreak phases are maintained within 2-3 years, after which they gradually lose their hotness.

The recent hot keywords are countryside civilization and countryside (which broke out in 2019), after which they can be continuously followed up for further research.

(1)About the definition and classification of rural talents. While the policy of rural revitalization is being improved, the classification of rural talents is gradually refined. Based on the scope defined by the policy system, some studies have included new villagers, wealthy and capable people, grassroots cadres and rural technical talents into the category of rural talents. And the problems concerning the loss of rural talents, the weakened structure of grassroots organizations and the imperfect operation mechanism of rural organizations make it difficult for rural talent revitalization to play.

(2)About the current situation of rural talents. Niu Jianlin (2015) believes that the degree of labor skill mastery and the size of proficiency of workers also have a more significant impact on the willingness of talents to return to their hometowns [4]. Scholar Gao Qi (2018) believes that the current situation is mainly reflected in the following: first, the overall education level of local talents is not high, the total number of talents is insufficient, the quality of talents is not high, the structure of talents is not excellent, and there is a serious lack of high-level local talents. Second, some places do not pay enough attention to the cultivation of local talents, and there is a mismatch and a big gap between

local talents and the requirements of rural revitalization [3]. Sun Xiaolong et al. (2015) found that college students are less willing to choose rural employment after graduation, and they are more willing to choose employment in cities in southeastern coastal and central more developed areas, and remote areas and villages are constrained by more factors making college graduates less willing to choose their employment [2].

(3) Research on the role of rural talents for rural revitalization. According to scholars, firstly, rural talents are the main force and talent engine for rural revitalization, focusing on cultivating local talents is the main way to solve the current lack of rural talents, and attracting, tapping and cultivating local talents is fundamental to the implementation of rural revitalization. Secondly, local college students returning to their hometowns and various new business entities such as family farms, farmers' cooperatives and agricultural industrialized enterprises play the main function and leading role in rural revitalization.

(4)In terms of the implementation path of rural talent revitalization. Different scholars have proposed the implementation paths of rural talent revitalization, which can be basically divided into four aspects: cultivation, attraction, utilization and retention. Scholar Wu Wenqiu (2021) believes that the full implementation of the task of rural revitalization should be facilitated by optimizing the educational curriculum and improving the policy mechanism of cultivating local talents in the countryside, taking full account of the actual development of China [5]. Xu Shanshan (2021) proposes to guide talents from all walks of life, such as college students who were once born and raised in the local area, migrant workers from outside and new villagers, to return to their hometowns for employment and entrepreneurship [6]. In terms of talent incentive retention, the local living environment in rural areas should be optimized, infrastructure investment should be increased, a perfect talent assessment and evaluation system and social security system should be established, and advanced individuals or examples should be publicized and promoted to create a good atmosphere that values talents. In addition, it should also strengthen the construction of new agricultural science and create a mechanism for cultivating talents in relation to agricultural development and rural revitalization. Finally, it should aim at key human rights and cultivate more high-quality rural revitalization talents precisely and efficiently.

4.3 Research frontier identification

The keyword timeline is mainly based on the dotted line with the dimension of time, which can be seen more visually in a certain time period. Each circle in the figure represents a keyword. When analyzing the data, the keywords appear in the year of first appearance. (See Figure 8 and 9)
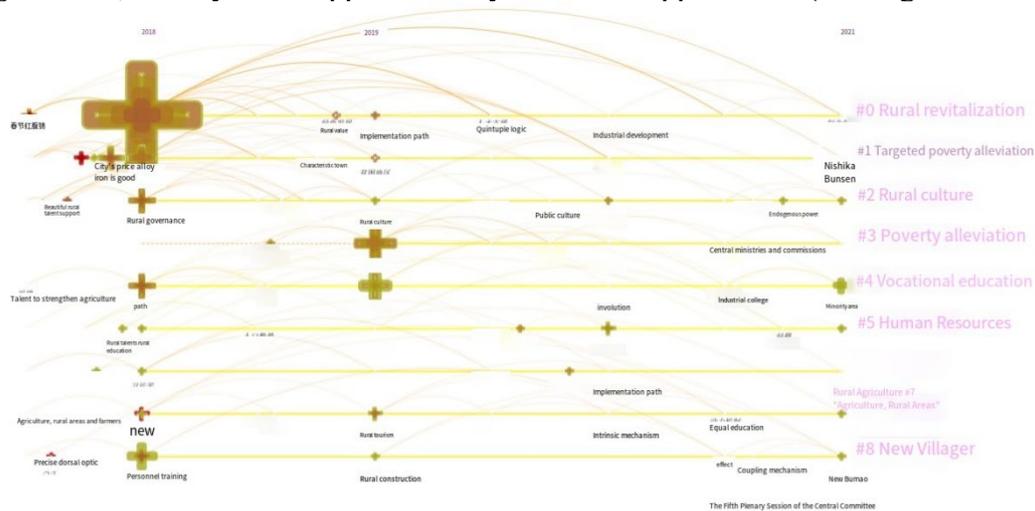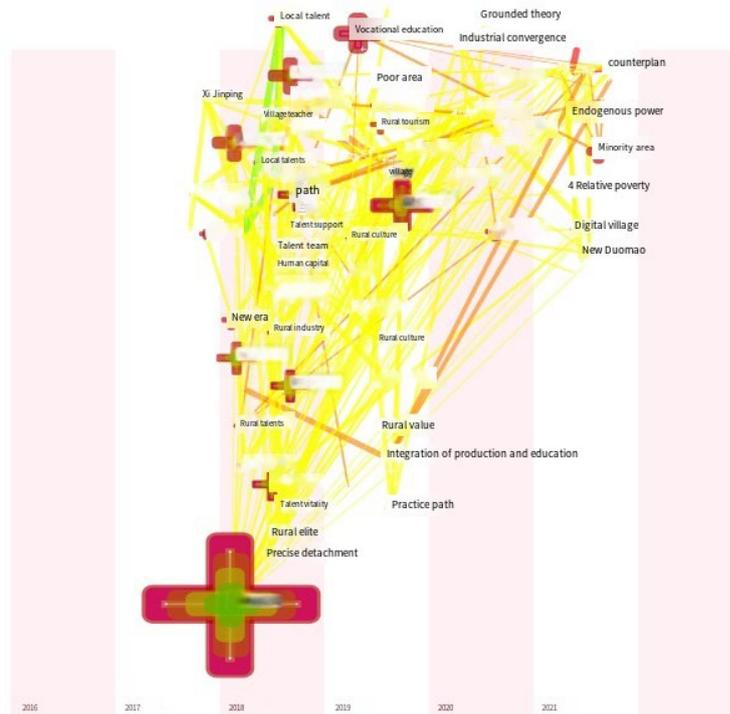

Figure 8 Keyword timeline chart

Figure 9 Keyword time zone map

(1) The budding period of rural talent revitalization research

2017 was the budding stage of the study on revitalization of rural talents. The hot keywords were mainly "industrial prosperity", "thinking course", "three rural areas", etc., and the focus was on the concept of industrial reform. In general, this research stage is still in the preliminary exploration of the reform concept of rural talent revitalization.

(2) Rapid development period of rural talent revitalization research

The period of 2018-2019 is the rapid development period of curriculum thinking and politics research. The hot keywords are "talent cultivation", "rural construction", "local talents", "vocational education", etc., which mainly The main focus was on the implementation measures for the revitalization of local talents in the countryside after the reform. Academics have studied the revitalization of local talents in rural areas from various perspectives, such as cultivation and development, vocational education, talent team and cultural tourism. In general, the implementation path of rural talent revitalization has been explored in many ways during this period, but more focused on the application research of specific specialties.

(3) Breakthrough development period of rural talent revitalization research

From 2020 to the present, it is the breakthrough development period of the research on curriculum thinking and politics. The hot keywords are "industrial integration", "industrial development" and "implementation path", etc. Most scholars advocate that innovative teaching methods such as flipped classroom and hybrid teaching should be integrated into the construction of curriculum thinking and politics with the help of information technology. Most scholars advocate the integration of innovative teaching methods such as flipped classroom and blended teaching into the construction of curriculum thinking. In the context of the new pneumonia epidemic, how to use information technology to integrate the elements of thinking and politics into classroom teaching, and how to make good use of online teaching methods to optimize the construction of curriculum thinking and politics in terms of design, implementation and evaluation have also aroused extensive discussions in the academic field.

References

[1] Chen Chaomei. CiteSpace II .Detecting and Visualizing Emer- ging Trends and Transient Patterns

in Scientific Literature [J]. Journal of the American Society for Information Science and Technology, 2006(3).

[2] Sun S. L., Wang L. M., Jia W. Analysis of migrant workers' willingness to settle in their hometowns and its influencing factors--based on research data of migrant workers in Shanghai, Nanjing and Suzhou [J]. Rural Economy, 2015, 10:101-105.

[3] Gao Qi. Stimulating the vitality of talents to promote rural revitalization [J]. People's Forum, 2018, No. 594 (14):56-57.

[4] Niu Jianlin. Study on the relationship between human capital and the decision to return home of migrant population in the context of urban "labor shortage"[J]. Population Research
Population Research, 2015, 3902:17-31.

[5] Wu Wenqiu. The impact of rural education and training on farmers' income growth in the context of "rural revitalization"[J]. Business Watch, 2022, No.157 (27):29-32.

[6] Shanshan Xu. Research on the revitalization of rural talents from the perspective of rural revitalization strategy [J]. Agricultural Economy, 2021, No.410 (06):109-110.

[7] Anonymous. Research progress, hot spots and prospects of rural revitalization in China in the new era--a bibliometric analysis based on CiteSpace [J]. World Agriculture, 2020(5):76-84.