



Values Education through Curriculum: A Bibliometric Analysis of Researches in China

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Abstract. Values Education through Curriculum (VEC), which was first introduced in China in 2014, referred to a comprehensive educational concept in which all types of professional curriculums advance alongside ideological and political theory courses, in the form of building an all-person, all-process, and all-curriculum education pattern, to realize the fundamental task of fostering virtue through education. China had actively supported VEC construction in recent years, which had in turn generated a lot of research interest. This study employed the visualization software CiteSpace to give a bibliometric analysis of the current condition, hot spots, and trends in this academic subject based on the Chinese National Knowledge Infrastructure (CNKI) database. The findings revealed a significant growth tendency in the VEC-themed literature, whose authors were more distributed and there were fewer research teams. The results of core research teams and top-cited papers demonstrated Shanghai's "pioneer edge" in VEC research. Higher education journals and vocational education journals, according to CNKI journal classifications, were more likely to publish VEC-themed studies. The literature mostly focused on the implementation paths, teaching method reform, and curriculum construction of VEC, while research in this field remained active.

Keywords: Values Education through Curriculum, Educational Concept, Bibliometric Analysis, CiteSpace

1 Introduction

Shanghai established the Special Plan for VEC Teaching System Construction in Universities in 2014, kicking off China's VEC reform pilot program. On December 8, 2016, the National Conference on Ideological and Political Work in Colleges and Universities proposed that ideological and political work be carried out in all processes of education and teaching, students be educated in all aspects, and all types of professional courses be advanced alongside political theory courses. On September 10, 2018, the National Education Conference emphasized that ideological and political work is the cornerstone of all school-based activities. The Ministry of Education announced the Guideline for VEC Construction in Higher Education in May 2020, which became a general plan to promote VEC construction in all types of universities, colleges, and disciplines throughout China.

While top-level design and institutional arrangement for VEC had been steadily promoted, teaching reforms and practices about VEC comprehensively carried out, academics had also set off a wave of research on VEC, causing research findings to increase rapidly. These findings provided theoretical and practical benchmarks for future VEC improvements. Given this, it was a useful job to do a thorough review of these study findings and to identify their research trend and direction.

2 Data source and methodology

This study selected academic papers themed by VEC and published in all the Chinese core journals (PKU criterion) as the research findings sample. The following was the sample selection procedure: The search scope was confined to Chinese core journals (PKU criteria) in the Chinese National Knowledge Infrastructure (CNKI) database; VEC was used as the keyword to search in the theme, and the search time range was selected from 2014 to September 2022, given that VEC was suggested in 2014. Then those forum or conference reports, reviews, and introductions of universities/colleges/figures were eliminated. The total sample consisted of 1366 academic papers. In this study, CiteSpace (6.1.R3), a quantitative tool for analyzing and displaying a co-citation network, was used. This study intended to analyze the aforementioned articles to investigate the present state, hot spots, and frontier tendencies in VEC-related research.

3 Results

3.1 Overall Research Development

Figure 1 depicted the dramatic increase in the number of research articles on VEC in recent years. As of September, 2022 output had reached 403. The research chronology could be separated into two stages when combined with the reform and policy promotion of VEC in China. From the start of the VEC reform pilot in Shanghai in 2014 to 2018, it was an intermittent exploratory stage with very low annual output. Since 2019, following the National Education Conference, a considerable amount of literature had emerged, propelling VEC research into a concentrated emergent stage.

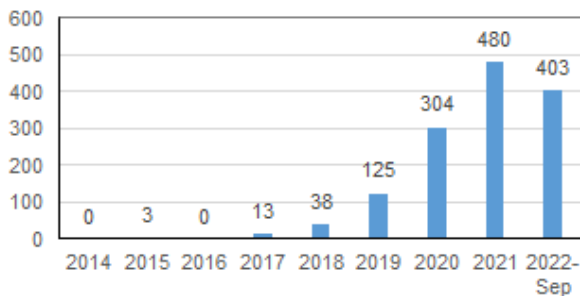


Fig. 1. Annual total publications (self-created)

3.2 Core authors and institutions

This study set the node threshold in CiteSpace to 3 to explore the group of VEC researchers and their collaborative links and constructs the knowledge graph of authors with more than 3 publications and their collaborative networks. Figure 2 showed that there were 193 nodes and 85 links, with a network density of 0.0046 indicating the closeness of these authors' collaboration network. Fuxue Zhao from Wuhan Institute of Physical Education, Cuixiang Dong from East China Normal University, Birong Dong from Nanjing Audit University, and Xiaohui Yang from Nanjing Railway Vocational and Technical College were the top four in terms of co-occurrence frequency. Overall, the VEC research group continued to exhibit more dispersed characteristics. The only core research team with more than three members was Cuixiang Dong from East China Normal University, Sanming Fan and Chunshan Zhu from Henan Normal University. In addition, Deyi Gao from the CPC Shanghai Education and Health Working Committee and Aidong Zong from the Shanghai Student Moral Education Development Center developed a positive working connection.



Fig. 2. Authors co-occurrence map (self-created)

There were 643 productive institutions in terms of author affiliation, with each publishing 2.1 papers on average. As shown in Table 1, the top four institution types in terms of output were comprehensive colleges and universities, science and engineering colleges and universities, higher vocational (specialist) colleges and universities, and normal colleges and universities, accounting for 73.4 percent of the total number of publications. When it came to individual institutions, 12 colleges and universities published more than 10 papers each, totaling 166 papers which account for 12.2 percent of the gross output. This showed that the amount of VEC papers published was more

distributed across institutions. Jilin University, Southwest University, and East China Normal University were among the top three, with each having close to 20 publications. The number of "985 Project" universities among the 12 colleges and universities was 7, demonstrating that prominent colleges and universities were the leading force in VEC research.

Table 1. Publications according to authors' first institutions (self-created)

Type of Institutions	Record Count	Most Productive Institutions	Record Count
Comprehensive Col & Univ	351	Jilin University	19
Science and Engineering Col & Univ	249	Southwest University	19
Higher Vocational (Specialist) Col & Univ	230	East China Normal University	18
Normal Col & Univ	173	Nanjing Audit University	16
Finance, Economics and Law Col & Univ	74	Nanjing University	13
Medical Col & Univ	70	Shanghai Jiao Tong University	13
Agriculture and Forestry Col & Univ	52	Northeast Normal University	13
Arts, Sports, and Minzu Col & Univ	44	Zhejiang University	12
Language Col & Univ	38	Tsinghua University	11
Educational Authorities & Research Institutions	34	South China Agricultural University	11
Secondary Vocational (Specialist) and High Schools	17	Wuhan Sports University	11
Else	34	Sichuan University	10

3.3 Top cited papers and leading journals

Table 2 listed the top ten papers in terms of citations according to the CNKI database. Two publications co-authored by Deyi Gao and Aidong Zong were cited up to 2886 and 1877 times [1][2], ranking in the top two. They were followed by Xuejian Wang & Yan Shi (2019) and Yan Gao (2017), both of which had over 800 citations [3][4]. Six of the top ten most cited publications came from Shanghai institutions, demonstrating the city's "pioneer edge" in VEC research. In terms of study content, Deyi Gao & Aidong Zong (2017a, 2017b) and Xiwen Gao (2017) concentrated on Shanghai's experience with VEC reform [1][2][9], whereas Yan Gao (2017) refined the processes and routes of VEC construction based on Shanghai, Hubei, and other experiences [4]. Xuejian Wang & Yan Shi (2019), Guojuan Li (2017), Renfu Qiu (2018), Yueqi Wu (2018), and Haiwei Wang and Bocheng Wang (2018) were mainly concerned with the connotation, key aspects, and countermeasure paths of VEC [3][5][7][8][10]. Jiangtao Yu et al. (2018) sought to synthesize the challenges of VEC in science and technology courses [6]. Four of the top ten cited pieces were published in "The Party Building and Ideological Education in Schools", which was the only journal in the national education system devoted to CPC construction. Furthermore, "China Higher Education," China's No. 1 journal of higher education, published three highly cited papers, suggesting a certain level of publication concentration.

Table 2. Top 10 cited papers (self-created)

Literatures	Institutions	Journals	Times Cited (CNKI)
Deyi Gao & Aiding Zong (2017a)	CPC Shanghai Education and Health Working Committee	China Higher Education	2886
Deyi Gao & Aiding Zong (2017b)	CPC Shanghai Education and Health Working Committee	Leading Journal of Ideological & Theoretical Education	1877
Xuejian Wang & Yan Shi (2019)	Lanzhou University	Journal of Xinjiang Normal University (Edition of Philosophy and Social Sciences)	848
Yan Gao (2017)	Zhejiang Gongshang University	China Higher Education	807
Guojuan Li (2017)	Shanghai Institute of Technology	China Higher Education	663
Jiangtao Yu et al. (2018)	China University of Geosciences (Wuhan)	The Party Building and Ideological Education in Schools	602
Renfu Qiu (2018)	Shanghai University	Studies in Ideological Education	569
Yueqi Wu (2018)	Zhejiang Yuexiu University	The Party Building and Ideological Education in Schools	428
Xiwen Gao (2017)	Tongji University	The Party Building and Ideological Education in Schools	326
Haiwei Wang & Bocheng Wang (2018)	Shanghai Maritime University	The Party Building and Ideological Education in Schools	288

Table 3 listed the journals that had published more than ten VEC-related papers. "Teaching Reference of Middle School Politics," "China Higher Education," and "The Party Building and Ideological Education in Schools" were the top three, with 109, 90, and 80 papers on VEC topics published, respectively. According to CNKI's journal categories, 6 journals were classified as Higher Education, 1 as Higher Education & Foreign Language, 1 as Higher Education & CPC Construction, 3 as Vocational Education, 2 as Secondary Education, and 1 as Educational Theory and Management, indicating that higher education journals and vocational education journals were the main platforms for publishing VEC-themed papers. Seven of the 14 journals were CSSCI (Chinese Social Science Citation Index) source publications, while one was simultaneously indexed by American Chemical Abstracts (CA) and Japan Science and Technology Agency (JST).

Table 3. Journals with more than 20 publications (self-created)

Journals	Type of Journals	No. of Articles
Teaching Reference of Middle School Politics	Secondary Education	109
China Higher Education	Higher Education	90
The Party Building and Ideological Education in Schools	Higher Education, CPC Construction	80
China University Teaching	Higher Education	70
Chinese Vocational and Technical Education	Vocational Education	51
Theory and Practice of Education	Educational Theory and Management	39

Technology Enhanced Foreign Language Education	Higher Education, Foreign Language	36
Vocational and Technical Education	Vocational Education	29
Leading Journal of Ideological & Theoretical Education	Higher Education	27
Chinese Journal of Chemical Education	Secondary Education	24
Jiangsu Higher Education	Higher Education	22
Studies in Ideological Education	Higher Education	21
Education and Vocation	Vocational Education	21
Heilongjiang Researches on Higher Education	Higher Education	20

3.4 Research hotspots and trends

This study identified hotspots in this topic by statistically analyzing the keywords of the sample papers and producing a co-occurrence map. The larger the font of a node in the co-occurrence network, as illustrated in Figure 3, the higher the frequency of the corresponding keywords. VEC, foster virtue through education, ideological and political course, ideological and political education, higher vocational college, teaching reform, ideological and political building, coordinated education, professional curriculum, and colleges and universities were the top ten keywords in terms of frequency of occurrence. VEC, main channel, the new era, ideological and political course, ideological and political building, optimization road, impart knowledge, building path, vocational colleges, and case study were the top ten keywords in terms of centrality. The findings revealed that the literature primarily focused on discussions about the importance of strengthening ideological and political education and achieving the fundamental task of fostering virtue through education, with their entry point primarily falling on specific aspects of teaching reform and curriculum construction. Furthermore, VEC in higher vocational colleges had emerged as a hot topic in this research field.



Fig. 3. Bibliometric network map of keywords (self-created)

This study used CiteSpace software to identify keyword bursts in order to investigate the evolution of trends in VEC research. Table 4 displayed the top ten terms with the strongest citation bursts. If the keyword burst strength was high and the length was stable, it indicated the emergence of a new research hotspot at that time. Because of the small sample period, the Minimum Duration was set to 1, the Gamma was set to 0.7,

and the remaining parameters were left at their default levels. "Ideological and political course" which appeared in 2014 and lasted for 5 years, had the highest burst strength. It was followed by the keywords "advance side by side" and "coordinated education" which appeared in 2018 and 2017, respectively, indicating that they had become strong terms in the field of VEC research following the National Conference on Ideological and Political Work in Colleges and Universities in December 2016. The fourth most powerful burst keyword was "online teaching" which appeared in 2020, showing that how to apply VEC in online education became a major subject following the onset of the COVID-19 pandemic. The keywords "ideological and political course" and "educational methods" both lasted for 5 years after their first bursts, meaning that they were consistently concerned themes in VEC-related studies. After 2021, the keywords "ideological and political theory" and "translation and interpretation major" burst, indicating that scholars began to transition from teaching practice to core theory and instill a research passion for VEC among translation and interpretation majors.



Fig. 4. Top 10 keywords with the strongest citation bursts (self-created)

4 Conclusions

This study retrieved the VEC-themed academic papers published in Chinese core journals (PKU criterion) from the Chinese National Knowledge Infrastructure (CNKI) database. A bibliometric analysis of the current situation, hot spots, and trends in this research field was performed using the visualization software CiteSpace. Literature had grown rapidly in recent years, despite being scattered among more than 600 institutions. Comprehensive colleges and universities, science and engineering colleges and universities, and higher vocational (specialist) colleges and universities were found the most productive institutions. There were fewer research teams and more dispersed writers. The results of core research teams and top-cited papers demonstrated Shanghai's "pioneer edge" in VEC research. Higher education journals and vocational education journals were the primary platforms for publishing VEC-related studies, according to CNKI journal categories. Furthermore, prestigious colleges and universities, as well as leading journals, placed a high value on VEC research. The majority of the literature concentrated on VEC implementation paths, teaching method reform, and curriculum construction. Recent keyword bursts revealed that researchers started to stress the essential

theory of VEC, and translation and interpretation professionals became more involved in the VEC research field.

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