

Analysis of Research Hotspots and Progress of Major Construction in my Country——Based on the Quantitative Analysis of Citespace and Spss Maps

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Abstract: Major is the basic teaching unit for colleges and universities to demonstrate the characteristics of education, improve teaching quality, optimize the professional structure, and upgrade the school level, which is also a hotspot of higher education research. By using the knowledge graph visualization tool, the research finds that: the domestic core network to study major has not yet formed; the current research mainly focuses on the connotation development of major construction, the integration of production and education, the construction of vocational education courses, and the construction of feature major, etc., presenting research characteristics of “three stages, two directions”. It is necessary to further encourage undergraduate colleges and universities to attach importance to the theoretical research of major construction, promote the research of feature major construction under the collaborative background, and make better use of the frontier and diversification led by scientific research knowledge.

Keywords: Major construction; Citespace; Knowledge graph

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China’s professional construction has achieved remarkable results in the process of theoretical research and practical exploration. Understanding the research path, hot topics and cutting-edge topics of professional construction is of great significance for clarifying the future research direction in this field and deepening and innovating the research ideas in this field. With the gradual implementation of “double first-class” construction and “double hundred plan”, the position of professional construction is self-evident. However, the current research in the field of professional construction is in a dilemma of lack of stamina, especially after 2017, the research results in the field of professional construction show a downward trend. Therefore, through sorting out the research achievements in the field of specialty construction, this paper explores the time track of the research in the field of specialty construction, explores the research theme, and understands the research frontier, so as to provide ideas for the research in the field of specialty construction and theoretical basis for the practice of specialty construction.

1. Data and research methods

1.1 Data This research

Uses the “CSSCI” database and the Chinese core database in the CNKI as the research data. Because these two databases collect the most cutting-edge and important research achievements in each period, they have become the most important two databases in the field of quantitative literature research with their authority and cutting-edge. The first step is to use “professional construction” as the

key word for advanced keyword search, and finally 874 documents with the key word “professional construction” were screened out; The second step is to manually screen out non research documents such as conference information, conference reviews, book reviews, film reviews, character introductions, and news information, and finally determine 862 documents as data for this study. The following will focus on the theme and characteristics of professional construction from multiple perspectives.

The full name of research method:CiteSpace is CitationSpace. Its main function is to intuitively present the knowledge structure, rules and distribution of data and information in the form of charts by means of visualization and scientific metrology. The application principle of CiteSpace is to use the length of plane distance to express the closeness of the relationship between words. Words with small differences can form a large category.

2. Results and Analysis

2.1 The distribution of the number of documents over the years

From the number of published documents, the research focus of professional construction in China can be divided into three stages. The first stage: 1999 and 2003, the achievements in this stage were extremely limited. In 2003, the year with the most achievements, only 13 papers were published, even 4 papers were published in 2000, and only 5 papers were published in 1999 and 2001. The second stage is from 2004 to 2010. The research achievements in this stage are increasing year by year, with 12 achievements in 2004 and 85 in 2010, more than 7 times of that in 2004. The third stage is from 2011 to now, and the relevant literature in this stage shows an overall decreasing trend. In 2011, there are 73 literatures, and in 2019, there are 42 literatures. However, the literature in 2019 is higher than that in 2018, and it is difficult to judge the future trend of literature publication. From the perspective of relevant literature published from 1999 to 2019, the number of research literature published on professional construction has shown an increasing decreasing trend in the past two decades^[1].

2.2 Analysis of authors and organization

An important indicator of the research status of institutions or authors in a certain field is the number of papers published. The status of core authors or institutions is often reflected through the cooperation of authors or institutions in the field. Core authors often form mature research teams centered on them. The more stable the team, the more it reflects its core status. From the author’s point of view, Zhou Jiansong has the most achievements, with 8 papers published, followed by Guo Fuchun, Shi Weiping and Qiao Yi. There are 12 people with more than three achievements, a total of 44 papers, accounting for 5.03% of the total papers. From the perspective of sending institutions, Zhejiang Vocational College of Finance sends the most papers, followed by Wuxi Vocational and Technical College and Changzhou Engineering Vocational and Technical College. The lack of contact between sending institutions indicates the lack of cooperation between institutions.

2.3 Research hotspots in the field of professional construction in China

SPSS multidimensional scale analysis is carried out on the keywords of professional construction to obtain the linear fitting scatter diagram of keywords in the field of professional construction. The centripetal degree and density of the first quadrant are relatively large, which is at the center of this research field; The centripetal degree of the second quadrant is small, but the density is large, which indicates that the theme structure is relatively complete, but the research center is not prominent, so it has potential development momentum; The theme density and centripetal degree of the third quadrant are small, and the research enthusiasm is low and the research team is immature; The theme of the fourth quadrant has a large centripetal degree and a small density, indicating that the theme is of low importance, but the internal structure is relatively complete, and there are continuous research teams participating in the research of this theme^[2].

2.4 Research level of literature

The research level of literature in the field of professional construction research in HowNet is roughly divided into seven categories, of which the number of basic research (social science) literature is the largest, 318, followed by higher education literature, 297, followed by industry guidance (social science) literature, 34 basic and application research (nature) literature, 21 engineering technology (nature) literature, and 16 industry technology guidance (nature) literature, There are 16 articles on vocational guidance

(social science).

2.5 Analysis on the development stage of the field of specialty construction

Specialty is the product of social and economic development. According to the high-frequency keywords in the stage of social and economic development and the field of specialty construction research, the research field of specialty construction is divided into three stages: the initial stage from 1999 to 2005; The period of vigorous development from 2006 to 2011; Deepening stage from 2012 to 2019 (as shown in Figure 5). The first stage is the initial stage of specialty construction (1999-2005): vocational education curriculum construction. The main link of professional construction in vocational colleges is professional planning and development, and the curriculum system is designed and adjusted according to the talent training objectives. In addition, the professional construction of vocational education is not a castle in the air, but adapt to social needs and set up a curriculum system according to the characteristics of the school. The second stage is the vigorous development stage of professional construction (2006-2011): the reform of talent training mode. The training mode of vocational colleges should be based on school enterprise cooperation, with the combination of work and learning as the core; Summarize the successful experience in the talent training process of our school, and give play to the experience advantage in this process. The third stage is the deepening stage of professional construction (2012-2014): research on the new trend of professional construction. It is reflected in two directions: new engineering construction and professional certification. To study the internal laws of the construction of new engineering disciplines and explore their connotation and approaches. New engineering courses in different types of universities have different construction goals and paths. Promote professional construction with professional certification, and carry out reform in training mode, curriculum content, teaching supervision, etc.. The concept of professional certification should also be introduced into the field of vocational education to build a professional certification system with vocational education characteristics.

2.6 The Frontier Analysis of China's Specialty Construction Research

Citespace's salient words indicate that some influential events have occurred in a certain field for a period of time, thus forming the topic focus of some keywords. At present, the research focus in the field of professional construction is "new engineering", "professional certification", "integration of industry and education", "talent training", "industrial transformation and upgrading", "vocational education" and other hot words. "Training objectives" and "curriculum setting" were hot topics of research from 1999 to 2008, while "Educational Technology", "Higher Vocational Colleges", "Characteristic Major", "Talent Training Mode", "Discipline Construction", "Educational Technology", "Higher Vocational and Technical Education", "Information Management", "Higher Vocational Education" and "Information Management and Information System" were intermittent hot topics from 2000 to 2012. "Action plan" and "sports colleges and universities" are hot topics of research in 2016 and 2017 respectively. Among them, "training objectives" and "curriculum setting" are the hot topics with the longest duration so far.

3. Conclusion and prospect

Through sorting out the research achievements in the field of professional construction in China, combining with the research hotspots and research paths in this field, the problems and countermeasures in the field of professional construction are analyzed and summarized in the following three aspects:

3.1 Research on Encouraging Undergraduate Colleges to Attach Importance to Specialty Construction

According to the knowledge map research jointly presented by Citespace's research institutions and authors, the issuing institutions are concentrated in Zhejiang Vocational College of Finance, Wuxi Vocational and Technical College, Changzhou Engineering Vocational and Technical College and other vocational and technical colleges. However, there is little research on specialty construction in ordinary undergraduate schools, but ordinary undergraduate schools pay special attention to the research on discipline construction. Professional construction plays an obvious role in promoting discipline construction. In terms of teacher team, it is shown that teaching promotes discipline and a high-level discipline construction research team is formed. In terms of professional construction content, the innovation of curriculum content promotes the clear direction of scientific research and forms a unique scientific research direction. At present, some undergraduate colleges are eager to cope with the government performance assessment and

accelerate the output of changeable achievements, which will lead to some newly established undergraduate colleges and universities as well as some lower level undergraduate colleges, regardless of their own limitations, blindly pursue breakthroughs in discipline construction, eager to achieve a high level in discipline construction, and paying too much attention to discipline construction will lead to the dilemma of emphasizing scientific research over teaching. Therefore, undergraduate colleges and universities should correctly handle the internal relationship between discipline construction and specialty construction. The two should integrate, support and support each other, and should not be separated. In addition, the situation that undergraduate colleges pay more attention to disciplines than majors should be broken, and perfect relevant policies, reasonable evaluation mechanisms and scientific use of various incentive means should be formulated to imperceptibly transfer the achievements of discipline construction to students and promote the connotative development of majors^[3].

3.2 Research on characteristic specialty construction under the background of promoting collaboration

Course teaching is the core content of teaching, an important means in the process of talent training, and the substantive content of professional construction. In dealing with the relationship between professional construction and curriculum construction of vocational education in the context of integration of industry and education, first, the curriculum of vocational education should be based on the needs of social and economic development, and then introduce the curriculum content required by the specialty; Secondly, the curriculum of vocational education should conform to the educational law of combining work with study, reflecting the requirements that the teaching content and the post ability need meet; Thirdly, the planning and setting of courses meet the needs of professional construction; Finally, take the construction of high-quality courses as the leader to improve the overall course quality and achieve the purpose of improving the level of professional construction^[4]. The research on the construction of characteristic specialties should be the first mover and guide for the construction of first-class specialties. For the research in this field, we should encourage the research team to join, use incentives such as scientific research awards to enhance the enthusiasm of the new forces, optimize the research structure of specialty construction, form a wide field and multi-level structure, and develop cross field and cross level research.

The reasons are as follows: First, scholars in different fields are likely to study the construction of the specialty, which makes more researchers in the specialty construction. However, for these scholars, the research on the specialty construction can only be regarded as the research results of the teaching reform of the specialty, so their relevant research results are limited. Second, in the context of the current double first-class construction, undergraduate colleges and universities pursue a high level of discipline construction, pay too much attention to discipline construction and neglect professional construction, and the research achievements related to discipline construction are far more than those in the field of professional construction.

3.3 Give play to the leading edge and diversity of scientific research knowledge

From the perspective of research frontier, the research frontier topics in recent years are all around the national education policy and social hot topics. Although the research on frontier topics can promote the research development in this field, the blind spots of research can still promote the deepening of research in this field and improve the height of theoretical research in this field. The highly deepening of theoretical research has always been the goal of scholars' research. Therefore, while studying cutting-edge topics, we should also pay attention to the blind spot problem, and constantly improve the research height and depth in this field. In recent years, the blind spot topic mainly focuses on the research of vocational education talent training mode. The Ministry of Education's Several Opinions on Improving the Teaching Quality of Higher Vocational Education in an All round Way put forward that higher vocational colleges should take the combination of work and learning as the starting point for the reform of the talent training mode, and take this as the key consideration factor for specialty construction and adjustment. The establishment of the talent training mode of the combination of work and learning has become an important breakthrough in the specialty construction of higher vocational colleges, so the research on the talent training mode of vocational education is crucial. The research on talent training mode and specialty construction complement and promote each other. At the same time, we should take theory as the guide and talent training as the goal to promote the establishment and reform of the curriculum system^[5].

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