Literature Review on Tennis Education Based on Citespace

Zongwen Yan[1], Zhili Wen[2], Baozheng Luo[3]

[1]Xihua University, Chengdu, Sichuan Province, China

[2]Chengdu University of Information Technology, Chengdu, Sichuan Province, China

[3]Sichuan Normal University, Chengdu, Sichuan Province, China

Keywords: tennis; education; citespace.

Abstract: With the increasing recognition of tennis in the world, tennis has gradually been promoted from the world's sports venues to people's daily sports venues, and people's cognition and love for tennis have been further deepened. Tennis has been incorporated into the school sports teaching in our country, and had a good development in all kinds of schools. Therefore, tennis education has become a new topic of actual research value. Based on hownet and domestic literature, this paper applies the citespace software to carry out the research. On the basis of data output results and analysis conclusions, the authors intend to arrange researches on tennis education comprehensively, dig the commonness and individuality of the research papers, to draw a tennis education core research point, and make predictions on the future research trend.

1. Introduction

Through the collation and analysis of the research papers on tennis education, this article has an overview of the research results for many years and arranges these research conclusions through Citespace for a scientific integration, so as to get a clear research trend in the tennis education field and highlight the research focus, which can provide a solid research foundation and scientific research direction for the following researches.

2. The Research Method

In the specific operation process, we made an information retrieval through the CNKI literature database under the subjects of both "tennis" and "education", founding 551 results in which the earliest research was in 1994. We exported the Keywords, Abstract and other subjects in the selected documents after removing the magazine catalog, news and irrelevant documents as 'Refworks' format, which was then imported into Citespace software.

3. Keywords of the Research

3.1 The cluster view

In Citespace, the time slice is one year. The term source includes the title, the Abstract, the keywords and the node type selection. "Trim slice network", "trim merge network" and "pathfinder" are ticked in the pruning option, and then a dialog box comes out after clicking the "OK" button. After choosing the "visualization" to get the default view in which click "Find Clusters" and "Use Index Term" to mark a "Cluster Button, we can get the following cluster view (Figure 1).

As shown, the keywords in the selected references are divided into 10 clusters, namely "countermeasures", "students", "teaching reform", "tennis", "teaching quality", "general university", "step training", "tennis education", "strategy" and "tennis culture", among which there are high-relegated keywords. There is a bigger cross intersection between "tennis" and "tennis education", which means a higher adjacency between these two keywords and other keywords. The dark purple halo around the basic field of research: "general university", "status quo", "tennis",

"tennis course" and "countermeasures" indicates that they are important interconnecting nodes in different research directions and also in the center of the whole research. While the scattered nodes around are not in any direction in this study indicating that they have little to do with the study.
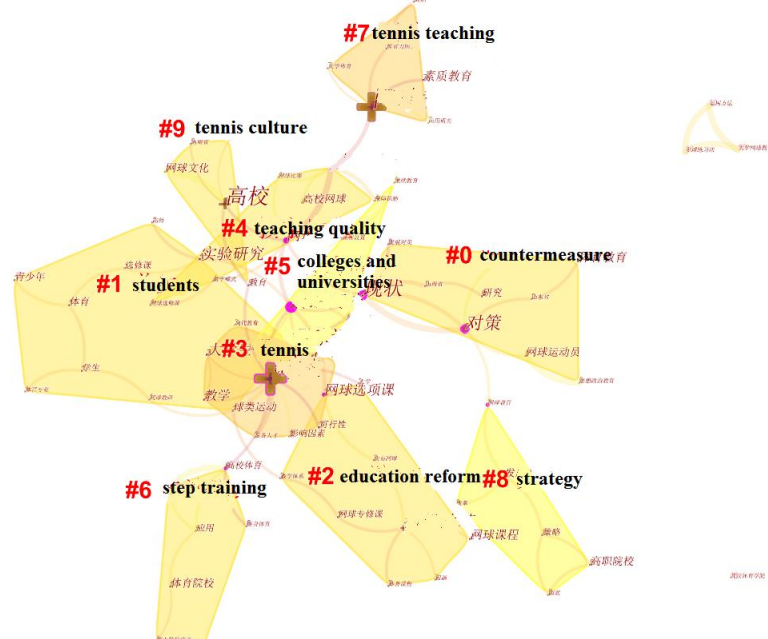

Figure 1: Cluster View

3.2 Details of keywords

In the keyword detail Table automatically generated by Citespace (Table 1), "Count" indicates the number of the total mutual occurrences between the keyword and other keywords; "Centrality" means it is in the center of the network and "Year" shows that the mutual time those keywords first appeared. It can be seen from Table 1 that "tennis" is the highest-frequency keyword, followed by "tennis teaching", "university" and "tennis sport", which fully demonstrates that the tennis education is currently concentrated in university but it is not popularized in the compulsory education.

Table 1: Table of Details of Keywords

Count	Centrality	Year	Keywords
103	0.58	2005	tennis
85	0.21	2005	tennis teaching
53	0.14	2007	universities
37	0.15	2009	tennis sport
34	0.68	2007	status quo
27	0.94	2008	general universities
27	0.33	2007	teaching quality
27	0.16	2007	teaching reform
23	0.44	2009	countermeasures
17	0	2011	physical education major
16	0.2	2006	experiment research
13	0	2007	undergraduate
11	0.22	2009	tennis elective course
11	0.56	2007	status quo
9	0	2010	general universities

4. Changes of Research Direction

In Citespace, click the timeline view button in the menu bar, and then we can get a view in which the keywords arranged linearly according to the time axis of the co-occurrence (Diagram 2). It can

be seen that the specific research content varies in different research directions and changes with the time.

In the figure, each arc represents the co-occurrence of connected keywords. The explosive research on tennis began in 2005, after which keywords such as "tennis teaching", "student" and "teaching quality" appeared. In the research direction of tennis itself, in 2018, it has developed into the level of "tennis modern education".
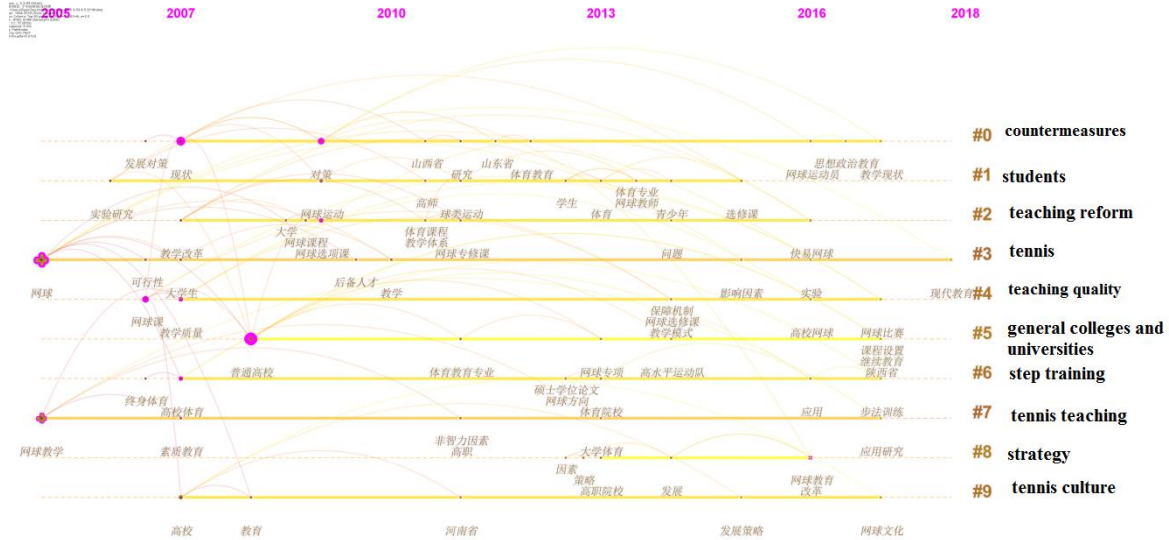

Figure 2: Timeline View

Figure 3 shows that in the "Tennis Education" relevant papers between 1994 and 2018, the two keywords "tennis" and "status quo" appeared quite frequently between 2005-2009 and 2010-2013, respectively. The intensity of "Tennis" reached 7.6 during 2005-2009, which currently reached 3.35 during the period of 2010-2013, indicating that scholars were very concerned about the research related to these two keywords during this period.
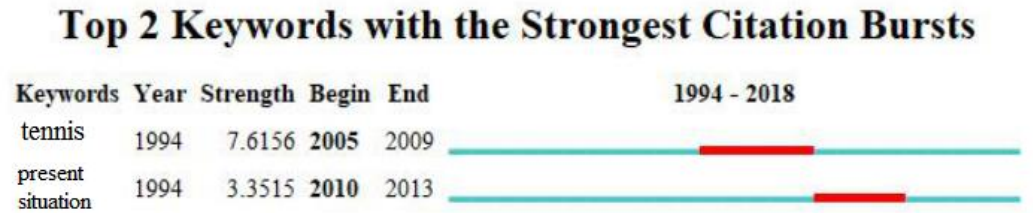

Figure 3: Keywords with the strongest citation bursts

5. Research Perspectives

Scholars have considered the issue of tennis education from different perspectives. Yi-ping Jiao proposes that tennis course teaching needs to apply modern teaching techniques such as modern information technology, teaching equipment and teaching methods. Xue-ling Hua believes that physical education teachers must adapt to the new concept of modern education reform. That is to say, their quality-oriented education needs to meet the new standards and requirements. University physical education teachers should adapt to the modern education reform by studying the modern pedagogy and psychology theories and exploring new teaching methods. Based on the characteristics of university tennis teaching and footwork training, Zhong-hua Lin proposes a step-oriented training whose purpose is to improve rapid response, mobility, accuracy and rationality. In university tennis teaching, Jun Yang analyzes the current status of multimedia application and its function, discusses the multimedia courseware on design principles, methods and application, puts forward the matters and suggestions that should be paid attention to when using multimedia. For the tennis teaching in general universities, Shi-jun Liu analyzes and explains the

extreme phenomena on teaching objectives, teaching subjects and teaching safety. He supposes that tennis teaching should also fully analyze its fundamental and realistic goals, and resolutely put an end to the only "health theory" or the only "happiness theory".

6. Conclusion

Summarizing the research on tennis education, it is found that scholars mainly focus on methods which can improve the tennis education quality. These papers can be divided into three categories. The first group of research aims to improve the teaching infrastructure equipment, and ensure the development of tennis education; the second category of papers focus on upgrading the comprehensive quality of education practitioners, especially on their teaching skills, to as to ensure the teaching quality and improve the effectiveness. Tennis teaching is competitive. Excellent coaches can help students to improve their abilities quickly, and even surpass their teachers. Then we can realize a virtuous circle between teachers and students on tennis education. The third kind of scholars try to strengthen the policy support for tennis education, including the support at national and university levels. With national policies, the teaching environment will be improved and the teaching process will be guaranteed to carry out successfully. As for teaching policies inside universities, the school should focus more on the tennis education to promote its improvement and popularization. Based on the conclusions from Citespace, we can predict that the following researches will mainly focus on these aspects: teaching quality, teachers' development, confronting problems, practical possibilities, association between tennis and student activities, development on Internet and tennis education, and the technical methods to improve efficiency.

References

[1] Huang F, Shang F. Analysis on the New University Tennis Culture [J]. Youth Sports, 2018 (08):133-134.

[2] Hua X L. Preliminary Study on University Physical Education Administration [J]. Sports Science Research, 2005(03): 86-88.

[3] Wang Y H. Reform and Innovation Research on University Tennis Teaching Model [J].Bulletin of Sports Science and Technology, 2013 (10): 74-75.

[4] Zhu W W. Reform and Innovation about Tennis Teaching Methods on University Physical Education [J]. Contemporary Sports Technology, 2018 (29): 63+65.

[5] Jiang X H. Application Research on Multidimensional Tennis Teaching Method in First-Class University [J]. Contemporary Sports Technology, 2018, 8(28):115+ 117.

[6] Jiao Y P. Analysis on the Tennis Teaching Resources from the Perspective of Modern Education Reform [J]. Sports World (Academic), 2018(02): 14+16.

[7] Lin Z H.A Comparative Study on the Receive of Service of Chinese and Foreign excellent Female Player [J]. Journal of Hubei University of Economics (Humanity and Social Sciences), 2009, (09):198-199.

[8] Sun X J. Reaserch on Tennis Teaching Theory and Teaching Design---Comment on 'Tennis Teaching' [J]. Journal of the Chinese Society of Education, 2018 (11):126.