Metrology and Computer Visualization Analysis of Taijiquan's International Communication Research in the Big Data Era

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Abstract. As a traditional Chinese Wushu integrating various functions such as temperament maintenance, physical fitness, and skill of fighting, Taijiquan takes Taiji thought, the dialectical concept of Yin and Yang in traditional Chinese Confucianism and Taoism as its core ideas. Also, its formation combines the theory of Yin and Yang, five elements of thought in Yi Jing, the theory of TCM meridians and collaterals, as well as the ancient physical and breathing exercises. The international communication of Taijiquan has built a bridge of Chinese excellent Wushu culture and the world. Taijiquan is one of the outstanding representatives of Chinese Wushu culture, and the research of its international communication has a vital significance for understanding the status quo and problems of the traditional culture of our country, and promoting correct understanding of westerns in it. In this paper, the method of computer visualization is adopted to carry out statistical analysis of related journal articles collected in CNKI database in China in the past two decades, which aims at finding the hot topics, research status and research methods of Taijiquan's international communication, and providing references for future research.

Keywords: Taijiquan, Wushu Culture, International Communication, Computer Visualization

1. Introduction

In this paper, the computer visualization method is adopted to carry out statistical analysis. In the quantitative part, the literature measurement visualization software Citespace5.7.R1 is used to analyze statistics of literature publication time distribution, high-frequency keywords, authors and research institutions, of which time span is 2001-2020. And the literature type conforms to the description format and academic research papers. Then, entering “international communication of Taijiquan”, “Taiji” and “traditional Chinese exercises”, “traditional exercises for fitness”, “international communication” or other key words that are related to Taijiquan, there are 358 effective references are rechecked and screened [1-3].

2. Another Section of Your Paper
In the past 20 years, the overall number of papers related to Taijiquan's international communication research has shown an obvious rising trend in the Figure 1, and its growth curve can be roughly divided into three stages: ① the steady growth stage (2001-2010). There are 0-10 papers published each year; ② the fluctuating growth stage (2011-2017). After a rapid increase in 2012, the annual total number of papers published has reached 30 that showed a record level, and then dropped to 25 in 2013; then, the total number of published papers increased to 30 again in 2014. And in 2015, the total number of published papers reached 38, which dropped to 36 the next year and then to 30 the third year. From 2016 to 2017, it keeps in a steady stage, but the lowest total number of papers published during the period was 29. ③ the rapid increase stage (2018-2019). The total number of papers published in 2018 reached the highest point in the previous stage with 51, while the number of papers published broke the record with 54 in 2019. So far, the number has dropped slightly [4-6].

According to the classification and statistics of the 358 papers that have been published in the past 20 years, there are 244 papers belong to periodical literatures, mainly involving 5 types including sports, college journals, Chinese Wushu, news communication, and others, which are shown in Table 1. Among all of them, the number of sports journals accounted for the largest, but the cumulative number of published papers is the college journals, accounting for 41.06% of the total number of published papers. The number of Chinese Wushu papers published is around 26.23%, while the number of news communication is relatively few. It can be seen that the study of Taijiquan's international communication is essentially an interdisciplinary study, which not only belongs to the research category of traditional Chinese sports, but also shows its close connection with news communication, Chinese Wushu research and other disciplines. However, up to now, research on the international communication of Taijiquan is still in the sports field, lacking in-depth cooperation and expansion with other disciplines, which has not received the attention and support from other interdiscipline [7-10].

| Journal Type        | Journal number | Journal Proportion | Paper number | Paper Proportion |
|---------------------|----------------|--------------------|--------------|-----------------|
| Sports              | 79             | 32.38%             | 102          | 28.49%          |
| College Journal     | 65             | 26.64%             | 147          | 41.06%          |
| Wushu               | 64             | 26.23%             | 69           | 19.27%          |
| News Communication  | 8              | 3.28%              | 8            | 2.23%           |
| Others              | 28             | 11.48%             | 32           | 8.94%           |

3. Types of Central Topics in International Communication of Taijiquan
According to the analysis of 358 papers above, it can be found that the central topics can be divided into four parts:
3.1. Research Status on the International Communication of Taijiquan

In the initial stage of the research on the international communication of Taijiquan, 7 papers have been published in these 5 years. And most of the papers are preliminary thoughts or opinions on the international communication of Taijiquan. The contents of Communication theory reflected in the international spread of Taijiquan have been discussed by Yang Xiangquan, a preliminary exploration of the theory of international communication and development of Taijiquan has been discussed by Sun Zhuoyi and Jia Jianming, and the aesthetic thoughts conveyed by Taijiquan in cross-cultural teaching have been proposed by Chang Jing.

3.2. Research on International Communication Means, Communication Theory and Development Strategy of International Communication of Taijiquan

On the basis of the previous stage of Taijiquan’s international communication, the method of skopos theory, the theory of communication, and communication have been used to carry more in-depth research of Taijiquan. Meanwhile, many effective methods of international communication strategy were put forward by researchers. Furthermore, papers about Taijiquan’s international communication were published with research views of Communication, such as the Mass Communication theory, Media Promotion, and Cultural Communication theory. Li Bing and Zhao Feng analyzed the ways of communication in Taijiquan and emphasized that the mass media is the most effective way for communicating Taijiquan culture; Du Xuegong studied the communication strategy under the vision of globalization; Wang Lianghua and Li Shengheng discussed the restraining factors of Taijiquan in the international transmission under the perspective of Communication theory, and put forward corresponding solutions; Li Hong analyzed the development of Taijiquan in foreign countries from the perspective of cultural communication, then he raised that the cultural consciousness is conducive to the Taijiquan culture to go out.

3.3. Research on Translation of Taijiquan Terms on International Communication of Taijiquan

In order to bring Taijiquan culture to the world better, some scholars’ researches also involve the topic on the English translation of Taijiquan terms. For example, Li Bin (2007:76) made a tentative exploration of the English translation of Taijiquan terms from the perspective of intercultural communication, which focused on dealing with the cultural barriers in the English translation of Taijiquan terms properly at the vocabulary level. And Lin Zhiyuan (2013:64) compared three versions of Taijiquan Theory, a masterpiece aims at illustratif the theory of Taijiquan, and he found that transliteration is an important translation method of Taijiquan terms. And the method of Pinyin should be used to translate Taijiquan terms instead of the traditional Wade-Giles Romanization. For example, it translates Taiji into Tai-Chi. Then, Chen Ji (2015:118) compared the translated versions through literature research and comparative analysis, and put forward a translation method combining transliteration, literal translation and free translation with annotation. Qin Qin (202:67), on the basis of summarizing the translation of posture terms and theory terms in Taijiquan, analyzed the translation of Taijiquan terms with descriptive translation knowledge and explored the laws of Taijiquan term translation [11-12].

3.4. Diversified Research on International Communication of Taijiquan

In this stage, scholars not only continued to study the current research status, strategies and the development concept of Taijiquan’s international communication, but also set about researching this topic with a variety of research perspectives and methods. Although Taijiquan and Western sports play the same role in strengthening the human body, there are also differences between them. Western sports originated from ancient Greek culture with thought derived from the European Renaissance. Ancient Greek culture advocates force and appreciates the natural beauty of the human body, which has a direct impact on the development of Western sports in many aspects. As a result, western sports have a strong concept of competition, and people are encouraged to try to defeat their opponents and surpass others in sports. But Chinese Taijiquan is completely different from this. Its ideological
origin can be traced back to the Taoist philosophy in the pre-Qin era. Taoism advocates nature and advocates quietness, inaction and nature. Therefore, it is difficult for foreign audiences to understand and accept the cultural connotation of Taijiquan in the process of international communication. The difference between Chinese and Western sports culture is a challenge that Taijiquan has to face in the process of international communication. Therefore, scholars increasingly focus on researching the modes and the development trend of Taijiquan culture's international communication from different perspectives. In this stage, scholars not only continued to study the current research status, strategies and the development concept of Taijiquan’s international communication, but also set about researching this topic with a variety of research perspectives and methods. In recent years, the breadth of relevant research has also been effectively expanded. Generally speaking, it can be divided into the following three parts:

3.4.1. Research on the international communication and development of Taijiquan culture under the background of “the Belt and Road” strategy. Shi Haiyang (2016:41) analyzed the connotation of the current strategy of “the Belt and Road” and cultural connotation of Taijiquan, in order to make an analysis of its new connotation in culture. And he expounded Taijiquan’s values and historical mission, and thought that Taijiquan culture should become an important content in the historical process of shaping the national image, building a harmonious society and promoting the development of world civilization with its unique humanistic care and philosophy of life. Ye Quxia (2019:63) believed that in the process of communication, both internal and external factors should be taken into account, and emphasis should be laid on the dissemination of Taiji culture at home and abroad. And promoting the spread and development of Taiji culture, as well as building a good national image and national characteristics could serve strategic deployment of “the Belt and Road”; Wang Zi (2019:43) analyzed the significant effect and the existing problems of Taijiquan’s international communication under the background of “the Belt and Road” initiative, and put forward feasible suggestions to the internationalization of Taijiquan culture.

3.4.2. Research on the international communication mode of Taijiquan culture from the perspective of communication. For example, Sun Huaiyu and Liu Lifang combined the international communication of Taijiquan with cross-cultural research, and analyzed the strategies of Taijiquan's international communication under the perspective of cross-culture. Yang Suxiang analyzed the mass media in the United States in the corpus about Taijiquan content based on the Communication theory, so as to provide reference value for the international spread of Taijiquan. Li Hong (2014:79) studied the cultural default of Taijiquan in cross-cultural communication, and proposed that only in the development process of Taijiquan can its unique traditional culture be aroused, which helps to spread Taijiquan culture better. Diao Xiang (2019:57), based on the perspective of Communication theory, he conducted a comparative study on the communicator, communication content, communication media and audiences in the communication process of Taiji culture and Yoga culture.

3.4.3. Research on the international communication of Taijiquan from the perspective of globalization. In the context of globalization, Du Xuegong (2010:56) analyzed cultural ideological trend of culture value and potential of Taijiquan from the perspective of cultural value recognition. Then, it is concluded that only by rationally recognizing its self-value, following the development law and beneficial elements of culture, as well as innovating and developing Chinese Taijiquan culture, can Taijiquan adapt to the needs of multi-culture better. Xin Zhiqiu (2019:201) applied himself to break the routine and seek a new development path for the internationalization of Taijiquan culture through multiple ways. He carried out innovative research from the perspectives of ideology, technology and communication ways respectively, in order to change the current predicament of the internationalization of Taijiquan.

4. Conclusion
This paper investigates the research hotspots and progress of Taijiquan’s international communication, and finds that in the past 20 years as follows: ① The number of papers published is increasing year by year, but the distribution of journals is unbalanced, and the papers are mainly published in sports journals. ② Research on the hotspots in keywords of Taijiquan mainly focuses on Taijiquan, Qigong exercises, communication, internationalization, promotion, “the Belt and Road” strategy, cultural communication, Confucius institute, communication strategy, current situation, etc. ③ The research content is unbalanced, mainly focusing on communication strategies, communication status, cultural communication of Taijiquan, and translation of Taijiquan terms; ④ Research methods are dominated by non-empirical research, mostly by personal opinion statement, experience summary, ramble or thinking, literature analysis and other methods.

Finally, the international communication of Taijiquan is an important research direction of Taijiquan research, which can be expanded in the following aspects in the future: ① Research on the availability of Taijiquan’s international communication. And it can be researched from three levels of communicational effect, including cognition, psychological attitude and action, which aim at discussing and analyzing whether Taijiquan achieves the expected results in the process of international communication. ② Research on the standardization of translation of Taijiquan terms. To form a unified standard for the English translation of Taijiquan terms that refers to the theoretical knowledge of translation, terminology, linguistics and other disciplines, so as to provide a more authoritative model for the international communication of Taijiquan culture, and promote its spread. ③ Research on the current situation of English translation of Taijiquan. To understand the main modes of Taijiquan’s translation, the status quo of Taijiquan terms translation and classics in the process of external communication. Then, collecting, sorting out, discussing and analyzing the historical development of Taijiquan, the situation of translators, etc. ④ Comparative analysis of hot topics on Taijiquan at home and abroad. Discussing the differences of Taijiquan’s spread at home and abroad according to the research progress of domestic and foreign scholars in various fields of Taijiquan, which aims to provide reference for the internationalization of Taijiquan.

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