
RESEARCH ARTICLE

Visualization Analysis of the Translation and Dissemination of *The Analects* Based on CiteSpace (2013-2023)

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ABSTRACT

Bibliometric methods and CiteSpace software have been used to analyze the research trends and hotspots in the translation field of *The Analects* over the past 11 years. The results indicate a gradual decline in the volume of publications, yet keyword analysis reveals that 论语 (the analects), 翻译 (translation), and 辜鸿铭 (Gu Hongming) remain focal points of research. Collaboration among authors is relatively limited, suggesting a need for enhancement in both the depth and breadth of research. Furthermore, there is a growing body of research on the translation and dissemination of *The Analects*, reflecting an increased interest in the inheritance and innovation of traditional culture. Through this study, the developmental trends and academic hotspots are comprehensively presented, offering comparatively valuable references and insights for future research endeavors.

KEYWORDS

The Analects, translation of classics, CiteSpace, visualization analysis, translation.

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1. Introduction

The Analects is a record of the words and deeds of Confucius, an ancient Chinese philosopher, and his disciples. As one of the classics of traditional Chinese culture, *The Analects* has had a profound influence on China. It is one of the core texts of Confucianism, emphasizing ethical values such as benevolence, righteousness, propriety, wisdom, and faithfulness, which have deeply impacted Chinese society and politics. As early as the late 16th century, *The Analects* began to be translated into Western languages (Wang, 2006), providing an important reference for the world to understand Chinese traditional culture. It has had a positive impact on human intellectual civilization, becoming one of the important bridges for global cultural exchange.

In existing research, Yang and He (2013) conducted an analysis of the status quo and deficiencies in the translation research of "*The Analects*" in China from 1990 to 2012. Zhang (2017) employed co-word visualization analysis based on CNKI academic journals to delve into multiple dimensions of domestic scholars' research on the translation of *The Analects* from 2001 to 2017. These studies have yielded fruitful results, providing significant references for further research.

This article aims to systematically analyze the research trends and emerging hotspots over the past 11 years using bibliometric methods and the visualization software CiteSpace. By analyzing and summarizing factors such as publication volume, keyword clustering maps, and high-frequency and high-centrality keywords, a comprehensive understanding of the research dynamics and academic trends can be achieved. This endeavour is expected to provide new insights and directions for future research, further enriching and expanding the scope of study and promoting disciplinary development and advancement.

2. Methodology

This study adopts the method of Knowledge Mapping, which is a graphical tool that visualizes the development process and structural relationships of scientific knowledge, with scientific knowledge as its object. Through Knowledge Mapping, individuals can gain an in-depth understanding of various fields and structures within the human knowledge system, construct complex knowledge networks, and predict the frontier development trends of science, technology, and knowledge. It serves as both a visual representation of knowledge and a serialized knowledge lineage, demonstrating the complex relationships such as networks, structures, interactions, intersections, evolutions, or derivations among knowledge elements and knowledge clusters (Chen et al., 2015).

The visualization research tool selected for this study is CiteSpace. Developed by Professor Chaomei Chen from Drexel University in the United States, CiteSpace is one of the most distinctive and influential visualization software tools in recent years in the field of scientometrics. Since its launch in September 2004, CiteSpace has been widely utilized in research conducted by various institutions and individuals (Li & Chen, 2016). This software enables the analysis and visualization of large volumes of literature data, offering a rich array of features and tools to assist researchers in identifying research field hotspots, trends, and correlations. Its functionalities primarily include author collaboration analysis, keyword co-occurrence analysis, institution collaboration analysis, author co-citation analysis, and literature co-citation analysis. Furthermore, it can analyze the research frontiers at different stages of a particular research field over time, as well as the relationship between research frontiers and foundational knowledge (Chen, 2006). This aids researchers in better understanding the structure and evolutionary patterns of the research field, thereby guiding future research directions and decisions.

China National Knowledge Infrastructure (CNKI) is utilized as the data source. Employing the advanced search function of CNKI, a fuzzy search was conducted using the keywords “《论语》” (*The Analects*) and “译” (*translation*) within the time frame of 2013 to 2023. To ensure the academic rigor of the research, only academic journals were selected as the research objects, resulting in a total of 527 papers retrieved, including 119 from core journals. Subsequently, through manual screening on a per-paper basis, irrelevant or academically low-quality studies were removed, leaving a final selection of 426 valid research papers. Finally, the data was formatted and visualized using the CiteSpace software for analysis.

3. Analysis of Publication Trends

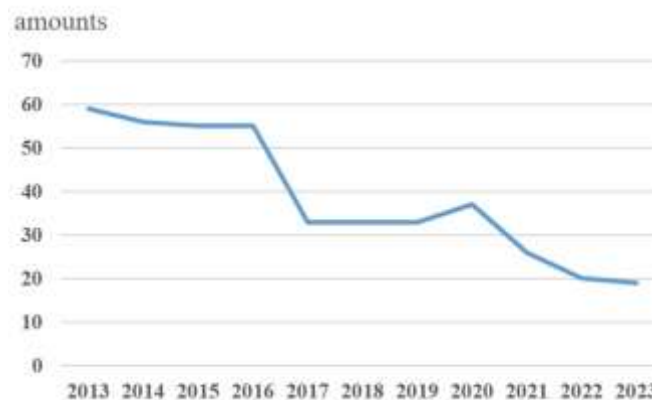


Figure 1: Annual Distribution of Publication Volume (2013-2023)

From Figure 1, it can be observed that the volume of publications showed a slight decline from 2013 to 2016, with a relatively small decrease. However, in 2017, the decline in publication volume significantly increased. Subsequently, from 2018 to 2020, the publication volume remained stable, with a slight upward trend. However, starting from 2021, the publication volume began to decline again, dropping to below 30 papers in 2021. Overall, the research publication trend shows a gradual decline year by year. The data collection for this study only extends until December 2023, and it is anticipated that there will be a limited increase in publication volume in 2024. This reflects a decreasing research interest or possibly saturation of research within this domain. Additionally, changes in academic trends and global research focus may also influence the development of this field.

4. Analysis of the Authors

By selecting the “Author” node in the “Node Types” column of CiteSpace, a collaboration knowledge map among 271 authors in the research field is generated, displaying 69 connections with a density value of 0.0019. This map illustrates the collaborative relationships among authors. Utilizing CiteSpace for analysis of publication quantity and author collaboration networks can reflect the research status and collaboration intensity of each author.

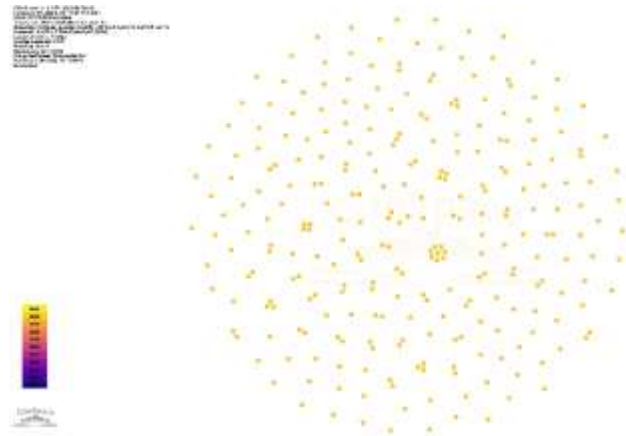


Figure 2: Collaboration Network Diagram of Research Scholars

From Figure 2, it is evident that collaboration among authors is relatively scarce, with most papers co-authored by two individuals or written independently. This phenomenon may reflect the research style and collaboration patterns among scholars. Despite the limited collaboration, data compiled from the Summary Report indicates that Zhang Xiaoman is the most prolific author, having published 8 papers. Following closely behind are Li Gang and Cai Xinle, with 7 papers each. Additionally, there is a group of authors, such as Li Jinshu, Yang Yan, Yang Lin, and Jiang Zhe, who have published 5 papers each. Furthermore, authors like Dong Dong, Li Yuliang, and Zhang Defu have each published 4 papers, while the remaining authors have published 3 papers or fewer. Particularly noteworthy is Zhang Xiaoman's publication of 6 papers in the last 3 years, indicating her prominent position with consistently high-quality contributions.

The level of attention and depth of research by domestic scholars still appear insufficient. While a few scholars have made outstanding contributions, overall, there is limited collaboration among researchers, and the depth and breadth of research need further enhancement. This may require strengthening academic exchanges and collaborations, promoting the sharing of resources and experiences among scholars, and encouraging more scholars to engage in research, collectively advancing the development and progress of this field.

5. Analysis of Research Hotspots

Keywords are typically the essence and summary of academic papers, accurately reflecting the thematic characteristics of research outcomes (Yu & Hu, 2018). Therefore, keyword analysis can help identify research hotspots and themes in a specific academic field.

5.1 Keyword Cluster and Frequency Analysis

By selecting the "Keyword" network node in the "Node Types" column of CiteSpace, a keyword co-occurrence graph like Figure 3 is generated. This graph illustrates the co-occurrence relationships among 267 keywords in the research field, with 559 connections and a density value of 0.0157. In the graph, the size of keyword nodes represents the frequency of occurrence. By observing the distribution of these keyword nodes and the pattern of connections, one can reveal information such as research hotspots, the intrinsic connections between keywords, and research trends in the field.



Figure 3: Keyword Clustering Graph

CiteSpace enables cluster analysis of selected literature keywords, generating cluster identifiers where each cluster represents a relatively closely connected independent research area. In this study, the co-word analysis method was employed, and CiteSpace information visualization software was used to conduct cluster analysis on high-frequency keywords in the current domestic translation research. As shown in Figure 3, the modularity value (Q value) is 0.5095, and the average silhouette value (S value) is 0.894. According to clustering standards, when the Q value is between 0 and 1 and the S value is greater than 0.7, the results of cluster analysis are convincing (Chen et al., 2015). Therefore, the data results obtained in this study have high reference value. Based on the clustering diagram in Figure 3, research hotspot topics can be determined. The 10 clusters are 论语 (*The Analects*), 辜鸿铭 (Gu Hongming), 典籍翻译 (Classic Translation), 翻译 (Translation), 君子 (Noble Person), 孔子 (Confucius), 典籍 (Classics), 传播 (Dissemination), 典籍外译 (Translation of Classics), and 典籍英译 (English Translation of Classics). The label for each cluster represents the total co-occurrence network of keywords. From the graph, it can be observed that most connections are concentrated within clusters, but there are also some cross-cluster and multi-intersection connections. Particularly noteworthy is the presence of numerous cross-cluster connections between keywords such as *The Analects*, Gu Hongming, translation of classics, and Translation. This indicates a high level of co-citation between these research directions and strong interdisciplinary interaction between research perspectives.

Table 1: Keyword and Frequency

Rank	Keyword	Frequency	Year	Rank	Keyword	Frequency	Year
1	论语 (<i>The Analects</i>)	263	2013	10	典籍英译 (English translation of classics)	11	2014
2	翻译 (transalction)	50	2013	11	君子 (Noble Person)	11	2013
3	英译 (English translation)	37	2013	12	语料库 (Corpus)	10	2013
4	论语英译 (English translation of <i>The Analects</i>)	37	2013	13	译介 (translation studies)	8	2015
5	辜鸿铭 (Gu Hongming)	34	2013	14	副文本 (paratexts)	8	2014
6	翻译策略 (translation strategy)	29	2013	15	变异 (variant)	6	2014
7	理雅各 (James Legge)	17	2014	16	刘殿爵 (LAU Din Cheuk)	6	2013
8	典籍翻译 (translation of classics)	14	2013	17	安乐哲 (Roger T. Ames)	6	2013
9	孔子 (Confucius)	13	2014	18	传播 (dissemination)	6	2018

Combining the data from Figure 3 and Table 1, it can be observed that besides the four major keywords, *The Analects*, Translation, English Translation, and English Translation of *The Analects*, the top five keywords in terms of frequency ranking and extraction over the past 11 years are Gu Hongming, Translation Strategy, James Legge, translation of classics, and Confucius. These keywords represent the research hotspots, indicating researchers' attention and focus on different aspects.

Gu Hongming and LAU Din Cheuk, as domestic translators, have attracted considerable attention and recognition. Their translations are highly regarded in the domestic academic community and among readers, making significant contributions to the translation career of *The Analects*. These translations often delve into the original text, emphasizing the conveyance of cultural connotations and providing important reference materials for understanding and studying *The Analects*.

Translators from abroad, such as James Legge and Roger Ames, have also received significant attention, demonstrating the collaborative contributions and influence of domestic and foreign translators. Their translations typically integrate Western research methods and perspectives, providing new perspectives and modes of thinking for cross-cultural communication and understanding. This cross-cultural translation work has facilitated the dissemination and communication of *The Analects* internationally, enriched dialogues and exchanges between different cultures, and promoted the inheritance and development of the influence and value of *The Analects* globally.

Translation Strategy, as a high-frequency keyword, reflects researchers' continuous exploration of how to improve the quality of translation practice and accurately convey the cultural background knowledge inherent in *The Analects*. Additionally, the Translation of Classics as a recent research hotspot has also garnered significant attention from experts and scholars. By utilizing translation research tools such as paratext and corpora, researchers have delved deeper into relevant issues in classic translation, driving the development and progress of this field.

5.2 Research Hotspot Distribution Based on Intermediary Centrality Statistics

In addition to counting keyword frequencies, CiteSpace can also measure the importance of a keyword in the co-occurrence network through the analysis of keyword centrality. Generally, nodes with high centrality play a crucial role in the co-occurrence network and have a significant influence on other nodes. Considering both the frequency and centrality of nodes helps to understand the key issues in the discipline (Li & Nong, 2016). In this study, CiteSpace was also used to calculate the top 14 keywords with high frequency and centrality. These keywords reflect the main research areas and topics of domestic translation studies of *The Analects*.

Rank	Centrality	Keyword	Rank	Centrality	Keyword
1	1.27	论语 (The Analects)	10	0.03	读者评论 (readers' comments)
2	0.17	论语英译 (English translation of The Analects)	10	0.03	传播 (dissemination)
3	0.12	翻译 (translation)	10	0.03	中国文化 (Chinese culture)
4	0.08	孔子 (Confucius)	10	0.03	典籍翻译 (translation of classics)
4	0.08	辜鸿铭 (Gu Hongming)	14	0.02	典籍外译 (translation of classics)
6	0.05	理雅各 (James Legge)	14	0.02	典籍英译 (English translation of classics)
7	0.04	翻译方法 (translation methods)	14	0.02	副文本 (paratexts)
7	0.04	中国典籍 (Chinese classics)	14	0.02	英译 (English translation)
7	0.04	翻译策略 (translation strategy)	14	0.02	卫礼贤 (Richard Wilhelm)

Table 2: Centrality of Keywords

Further observation reveals that the frequency of keywords is not entirely positively correlated with centrality. Some keywords such as *The Analects*, English translation of *The Analects*, and translation have both high frequency and centrality, indicating their significant importance and status as research hotspots in domestic translation studies. On the other hand, keywords like Confucius and Gu Hongming, although they have lower frequency compared to the aforementioned keywords, possess relatively high centrality. This reflects their strong relevance and importance in the co-occurrence network, indicating their influential role in specific research areas despite their lower frequency of occurrence in the articles. Lastly, there are keywords like classical literature translation and translation strategies, which, despite their high frequency, exhibit relatively lower centrality. This may suggest that these keywords play more of a descriptive or background role in the research rather than being the core focus.

Continued analysis of the cross-cluster connections among these keywords reveals that researchers' exploration in the field of translating *The Analects* not only involves the study of *The Analects* itself but also encompasses discussions on translation theories and methods, as well as reflections on the history and practices of translating ancient Chinese classics. Gu Hongming, as a renowned translator, his translation work on *The Analects* and his contributions to translation theory have become one of the focal points of researchers' attention. This interdisciplinary and cross-domain research not only enriches the content of *The Analects* translation studies but also promotes the development of translation theory and practice, further driving academic progress in related fields.

6. The Development and Interpretation of the Timeline Graph.

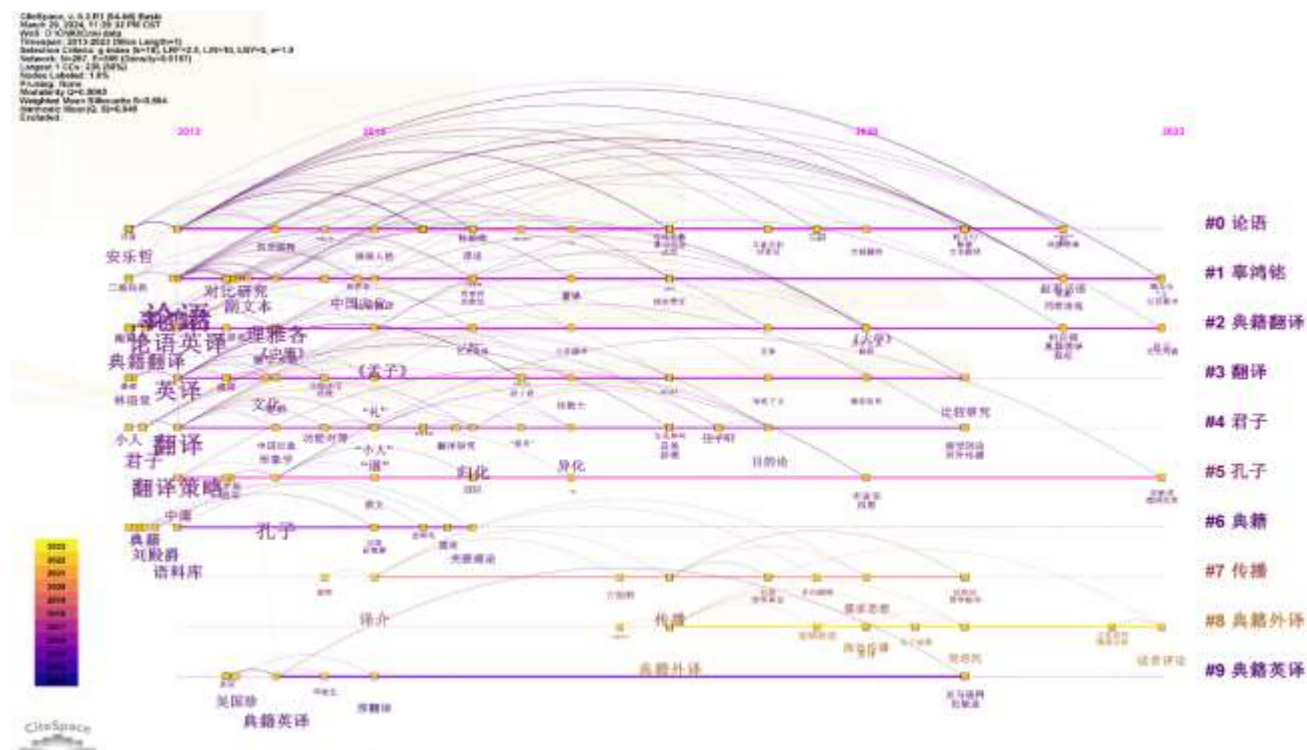


Figure 4: Timeline Spectrum of Keywords from 2013 to 2023

Based on the analysis results depicted in the above figure, it is evident that since 2013, scholars have continuously delved into discussions regarding *The Analects*, its English translations, and translation strategies. The focus of the research primarily revolves around accurately translating and conveying the ideological concepts of *The Analects* while also preserving its original essence and adapting it to different cultural backgrounds during the translation process. In recent years, with the deepening of globalization, the issues of inheritance and innovation of traditional culture have increasingly attracted attention. As one of the classics of ancient Chinese literature, the study of the translation and dissemination of *The Analects* has gradually gained momentum, particularly in 2015 and 2018, when the research interest in this topic significantly increased. In today's era of frequent cross-cultural exchanges, effectively disseminating traditional cultural works such as *The Analects* to promote mutual understanding and communication between different cultures has become one of the important subjects of contemporary research.

7. Conclusion

This study systematically analyzed the research trends and emerging hotspots over the past 11 years using bibliometric methods and the visualization software CiteSpace. Analyzing publication volume, author collaboration networks, keyword co-occurrence maps, and high-frequency and high-centrality keywords revealed the research dynamics and academic trends. The aim is to provide new insights and directions for future research, thereby promoting the development and progress of this field.

Despite the comprehensive analysis of research trends and hotspots, this study still has some limitations. Firstly, the data source was limited to the China National Knowledge Infrastructure (CNKI), which may have certain limitations and not cover all research literature. Secondly, this study mainly employed bibliometric methods and did not conduct an in-depth analysis of specific translation texts, potentially overlooking important details and nuances. Additionally, while the analysis of author collaboration

networks and keyword clustering maps provided some information, it did not delve into the underlying reasons and influencing factors, requiring further research and exploration.

Looking ahead, the research can be further developed in several aspects. Firstly, there should be efforts to expand the sources of data by incorporating international databases and cross-cultural resources. This will provide a comprehensive understanding of the research dynamics and academic trends. Additionally, strengthening academic exchanges and collaborations among scholars can facilitate the sharing of resources and experiences, thereby fostering the development and advancement of *The Analects* translation field. Furthermore, there should be an increased emphasis on evaluating translation practices and dissemination effects. Exploring how to promote the dissemination of traditional cultural works such as *The Analects* on the international stage can facilitate cross-cultural communication and understanding, thereby promoting the mutual progress of human civilization.

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