

A Review of Research Status on the Impact of Japanese as a Second Foreign Language on Chinese Linguistics in China: A Visualization Analysis Based on CNKI Literature (2000-2025)

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ABSTRACT

To clarify the current research status and development trends of the influence of Japanese as a second foreign language on the Chinese language in China, this study takes the relevant literature included in the China National Knowledge Infrastructure (CNKI) database from January 1, 2000 to August 1, 2025 as the data source. Through advanced search, 500 valid papers were screened out, and CiteSpace software was used to conduct bibliometric and visual analysis. The research results show that the number of literature in this field has a phased characteristic of "growth - adjustment - decline". The period from 2000 to 2011 was the growth period, from 2012 to 2019 was the adjustment period, and from 2020 to 2025 was the decline period. The scholar cooperation network shows the characteristics of "local tightness and global looseness", with core scholars forming local research teams, but the overall collaboration tightness is insufficient. The research topics cover three major directions: self-exploration of language, comparative analysis system, and expansion of educational practice. The hotspots migration follows the laws of "self - application" and "single - multiple". Through cluster analysis, five core clusters were obtained, focusing on the basic comparison of Chinese and Japanese languages, errors and countermeasures in second language acquisition, Japanese language education practice, Japanese loanwords and homographs, and syntactic and corpus application. In summary, from 2000 to 2025, a multi-dimensional related network has been constructed in this field, but there are problems such as insufficient scholar collaboration and the need to deepen cross-disciplinary integration. In the future, it is necessary to strengthen cross-disciplinary collaboration and teaching practice innovation to provide academic support for Chinese-Japanese language teaching and cross-cultural communication.

KEYWORDS

Second foreign language Japanese; Chinese language; Language transfer; Cite space

1 Introduction

With the acceleration of globalization and the increasing demand for multilingual learning, the Chinese-Japanese language has long been under the academic research spotlight due to its cultural roots and the needs of language teaching and cross-cultural communication. With the iterative development of theories and methods such as second language acquisition and corpus linguistics, the comparative study of Chinese and Japanese languages has continuously expanded its boundaries. Among them, Japanese, as an important language within the Chinese cultural circle, has significant similarities and differences in the writing system (shared Chinese characters), vocabulary semantics, and syntactic structure with Chinese. This provides a unique perspective for studying the negative transfer effect of the second language Japanese on Chinese^[1]. This study, based on the academic database of the China National Knowledge Infrastructure (CNKI), uses the CiteSpace software to review and sort out the relevant literature in China over the past two decades (2000-2025), further exploring the development trends of this field, and thereby providing a reference for subsequent research.

2 Literature sources and analytical methods

The data for this research is sourced from academic journals and master's and doctoral theses databases on China National Knowledge Infrastructure (CNKI). During the literature search, the "Advanced Search" type was selected in CNKI, and the "Subject" search was chosen. The search conditions included various combinations of terms such as "Second Foreign Language Japanese", "Chinese and Japanese", "Japanese Education", "Japanese Learning", "Mother Tongue Transfer", "Chinese Language Ability", "Japanese Acquisition", "Chinese Language Proficiency", etc. The literature collection period covered from January 1, 2000 to August 1, 2025. The results were sorted by relevance from high to low, and a total of 500 relevant papers were selected. This research utilized CiteSpace (6.4.R1), with the time span set from 2000 to 2025 and the time slice set to 1 year. The node type was selected as "Keyword", and the screening criterion was the top 50 high-frequency keywords within each time slice. The "Pruning sliced networks" algorithm was used to prune the network. During network clustering, the TF-IDF algorithm was chosen for naming the cluster labels, and the naming terms for the clusters were derived from the keywords in the literature. Multiple graphs were drawn, including the co-occurrence map of keywords, the clustering map of keywords, and the time zone map of keywords. A visual analysis was conducted on the 500 relevant papers on the influence of second foreign language Japanese on the Chinese language in China over the past two decades. This was done to examine the research hotspots, dynamics, and trends in this area from an overall perspective. Then, based on the analysis results of CiteSpace, the literature and its content in this field were systematically

sorted out.

3 Research status of the impact of second foreign language Japanese on the Chinese language in China

3.1 The number of research literature exhibits a phased characteristic of "growth - adjustment - decline"

This study plots the distribution of literature on the influence of second language Japanese on Chinese language over the years as the x-axis, and the number of such literature over the years as the y-axis. A distribution chart of the number of such literature is drawn, as shown in Figure 1. From Figure 1, we can observe the three stages of publication:

The first stage is the growth period (2000 - 2011): The number of publications rose from 7 to a peak of 46, accompanied by the introduction of second language acquisition theories^[2], the growth of the demand for Chinese-Japanese language teaching, the concentrated output of initial research on language comparison and teaching application, and the continuous rise in the popularity of the field.

The second stage is the adjustment period (2012 - 2019): The number of publications fluctuated from 42 to 11, reflecting that the research has entered a transitional stage. Traditional themes became saturated, new theories (cognitive linguistics integration) and new technologies (deep application of corpora^[3]) were in the exploration and adaptation period, resulting in a short-term decline in the number of publications.

The third stage is the decline period (2020 - 2025): The number of publications continued to drop to single digits. Affected by the pandemic period, the extension of the research period, and the lack of scale output in emerging fields, it also reflects that the research field needs to explore new perspectives (such as the integration of artificial intelligence and Chinese-Japanese language teaching) and diverge innovative thinking.

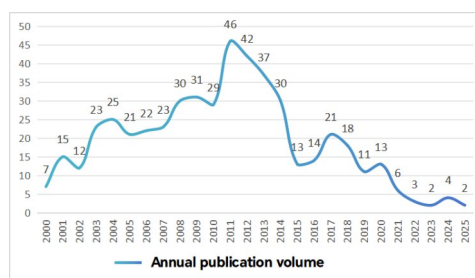


Figure 1 Distribution of research literature on the influence of a second foreign language (Japanese) on the Chinese language in China

3.2 The research scholar collaboration network exhibits a dual characteristic of "local tightness" and "global looseness"

Using CiteSpace, we selected the research literature on the influence of second language Japanese on Chinese language from the CNKI database from 2000 to 2025. We extracted and cleaned the author information to remove duplicates, which served as the basic data for the analysis of the scholar collaboration network. The details are shown in Figure 2. The graph indicates that the number of network nodes ($N = 552$) represents the scale of scholars involved in the research, and the number of connections ($E = 78$) reflects the cooperation relationships among scholars. The density ($\text{Density} = 0.0005$) is relatively low, suggesting that the overall collaboration tightness of the scholar collaboration network in this field is insufficient, but a preliminary framework of connections has been formed; Shi Jianjun, Sheng Wenzhong, Zhao Boyuan (Shanghai), Liu Hui, Leng Limin, etc. are core scholars (with higher node degrees), among whom Shi Jianjun, Hong Hao, etc. play the role of a bridge for knowledge dissemination and team collaboration, while Sheng Wenzhong, Zhao Boyuan (Shanghai), etc. reflect academic influence and cooperation activity.

For instance, Zhao Boyuan (Shanghai) wrote 15 papers on the comparison of punctuation usage in Chinese and Japanese language^[4] and some specific word classes in Chinese and Japanese language^[5]; Shi Jianjun's team focused on the comparison of Chinese and Japanese vocabulary and teaching applications^[6], conducting research on Chinese-Japanese language learning errors and innovative teaching models; Sheng Wenzhong then reviewed the theoretical and methodological frontiers of Chinese-Japanese comparison research^[7], and combined with empirical data (such as corpus analysis) to conduct Chinese-Japanese language comparison; Leng Limin's team introduced foreign scholars (Yuzen Suzuki) to conduct Japanese education and second language acquisition research^[8], leveraging international academic exchanges to enhance the cross-cultural validity of the research^[9], and promoting the internationalization process of the research on the mutual influence of Chinese and Japanese languages.

In conclusion, from 2000 to 2025, the research scholar collaboration on the mutual influence of Chinese and Japanese languages has gradually developed from scattered connections (mainly single-author or small-team research in the early stage) to local clustering (forming multiple core teams). Core scholars attract surrounding researchers to collaborate through continuous output of results and participation in academic exchanges, promoting the slow expansion of the collaboration network, but it is still in the stage of "local tightness, global looseness".

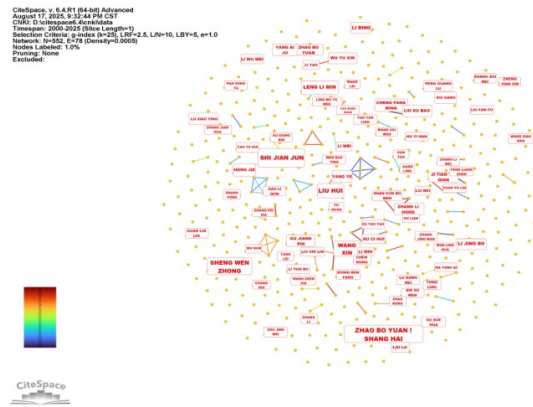


Figure 2 Scholar map of research literature on the linguistic influence of second foreign language Japanese on Chinese in China

3.3 The research topic covers a wide range

Keyword co-occurrence, as a visualization form of the co-word matrix of high-frequency keywords, is based on the pairwise statistics of the occurrence of high-frequency keywords in the same literature. Through cluster analysis, the closeness and distance between words are obtained, and then the structure and changes of disciplines or themes are analyzed. In this paper, with the help of CiteSpace software, a quantitative analysis was conducted on the high-frequency keywords and their centrality of 500 related research papers on the influence of Japanese as a second foreign language on Chinese language published from 2000 to 2025 in China. A visual co-occurrence knowledge map of research hotspots was formed. Firstly, 20 high-frequency keywords with a frequency of no less than 5 were selected for data statistics, as detailed in Table 1. According to Table 1, it can be seen that during these more than twenty years, the research on the influence of Japanese as a second foreign language in China is not only limited to the language itself, but also includes the contrastive analysis between Chinese and Japanese. The research mainly focuses on error analysis (errors), teaching (Japanese education, teaching), vocabulary and word meaning (loanwords, measure words, homographs), social culture (current situation, Japan, servile education), etc.

Secondly, on the basis of word frequency analysis, keyword co-occurrence analysis was carried out. A time span from

Table 1 Statistical Analysis of High-frequency Keywords and Centrality in Studies on the Linguistic Impact of a Second Foreign Language (Japanese) on Chinese Language in China

Serial numbers	Frequency	Centrality	Year	Keywords
1	47	0.32	2000	Japanese
2	36	0.07	2000	Chinese
3	23	0.09	2005	Error Analysis
4	22	0.13	2001	Comparison
5	14	0.14	2002	Japanese
6	13	0.05	2005	Language
7	13	0.05	2001	education
8	13	0.03	2003	Error
9	9	0.04	2007	Japanese
10	9	0.03	2003	loanwords
11	9	0.06	2006	Comparative
12	7	0.04	2001	Analysis
13	7	0.03	2008	Quantifiers
14	7	0.02	2005	Loanwords
15	7	0.02	2004	Classification
16	7	0.01	2003	Chinese-Japanese
17	7	0.01	2007	comparison
18	5	0.04	2005	Current
19	5	0.03	2003	situation
20	5	0.02	2015	Second Foreign
				Japanese
				Negative
				migration
				Homophones
				Comparative
				study
				Servile
				education
				Teaching
				Japanese
				Japan

2000 to 2025 (with an interval of one year) was set. The Pruning sliced networks algorithm and the full network pruning strategy were adopted. With g-index ($k=25$) and $LRF=2.5$ as the screening criteria, the co-occurrence knowledge graph of related keywords was obtained (for details, see Figure 3). The graph contains 566 nodes and 782 edges, with a density of 0.0049. The large dark circles represent keywords with high centrality and frequency. Although the content coverage is wide overall, the keyword co-occurrence network structure is loose and the density is not high. It can be roughly divided into three key research directions.

The second aspect is the comparative analysis system: it covers macroscopic frameworks such as Chinese-Japanese comparison and Chinese-Japanese comparison, and extends to error analysis in terms of vocabulary and grammar^[10] and teaching suggestions based on error patterns, forming a research path of "comparison - problem - solution".

The third aspect is the expansion of educational practice: it links Japanese language education (such as the two-language Japanese teaching model, curriculum design) with language contact research^[11] (such as exploring the impact of cross-language transfer on learning cognitive patterns), integrating the results of language comparison into teaching practice to respond to the practical need of "how to efficiently cultivate bilingual abilities".

It can be seen that the research on the mutual influence of Chinese and Japanese languages is based on "the differences and similarities of language elements" and oriented towards "teaching application practice", forming a comprehensive system across language and teaching dimensions^[12]. Through the knowledge map, the research focuses on specific contents such as pronunciation, vocabulary, and grammar, exploring the differences between Chinese and Japanese languages and the rules of learning errors, providing theoretical support for the optimization of teaching strategies and the development of textbooks.

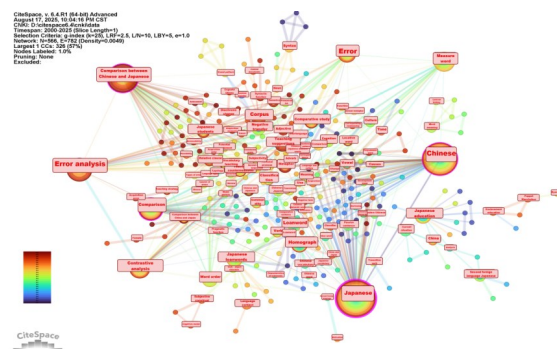


Figure 3 Co-occurrence map of keywords related to research on the linguistic influence of second foreign language Japanese on Chinese in China

3.4 Research hotspots in the overall research trend in China

The keyword emergence rate is an indicator used to measure the growth rate of the frequency of keyword usage over a certain period. Words with a high frequency change rate can be defined as emergent words. By analyzing their emergence rate and emergence year, researchers can identify the hotspots and cutting-edge issues in a certain field. Through the screening and analysis of selected data using the CiteSpace software, the emergent keywords related to the influence of the second foreign language (Japanese) on Chinese language in the research are shown in Figure 4 (only the top 20 are listed). Based on the emergence year and emergence rate of the emergent keywords, they can be divided into three stages.

The first stage was the early period (2000-2008): focused on the basic language elements of "Japanese" and "Chinese", paying attention to lexical infiltration forms such as "loanwords" and "homophones", while also linking to "Japanese teaching" and integrating with application scenarios.

The second stage was the mid-term period (2004-2013): expanded to language acquisition and error analysis, with "negative transfer", "errors", and "error analysis" becoming key hotspots. It incorporated a "cultural" and "second language Japanese" perspective, supplementing the research dimensions with "current situation" and "foreign words".

The third stage was the later period (2011-2025): deepened cognitive and comparative analysis, introduced the "cognitive" perspective, strengthened "comparative" and "comparative analysis" methods, integrated "second language acquisition" theory, Linking "Japanese students" and "teaching suggestions" to achieve results transformation, and refined the background research by combining "Japan".

In conclusion, from 2000 to 2025, there were two major migration patterns of hotspots in the research on the influence of Japanese on Chinese.

The first is from "self—application": In the early stage, it focused on the comparison of language elements (phonetics, vocabulary, grammar), gradually shifting to teaching application (errors, countermeasures), and then to the integration of theory and practice (cognition, corpus empowerment), reflecting the evolution from "what is" to "how to use" and "how to innovate".

The second is from "single—multiple": In terms of methods, it shifted from empirical analysis to corpus quantification and the integration of cognitive linguistics; in terms of perspectives, it shifted from the comparison of language structures to culture and cognition, reflecting the diversified expansion of research dimensions.

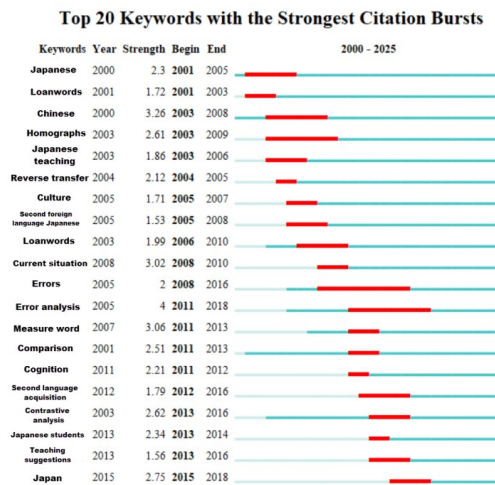


Figure 4 Data graph of key words related to the influence of second foreign language Japanese on Chinese language in China's research

3.5 Historical evolution of research hotspots

Figure 5 is a keyword time zone map of the research on the influence of Japanese as a second foreign language on the Chinese language in China, presenting the evolution of knowledge along the time dimension. Keywords only record the year of their first appearance; if they co-occur in later periods with those in earlier ones, they are connected by lines, which can visually display the research focus, theme transitions, and content continuation relationships in each period. As shown in Figure 5, since 2000, the research in this field in China can be roughly divided into three periods.

The first period was from 2000 to 2005: The research focused on the basic elements of the Chinese and Japanese languages, forming a preliminary network with "Japanese", "Chinese", and "Chinese-Japanese comparison", concentrating on the comparison and organization of language basic elements.

The second period was from 2005 to 2015: The research expanded towards application, with "error analysis" and "Japanese education" becoming the focus. At the same time, research methods such as "corpus" were introduced to provide new perspectives for subsequent research.

The third period was from 2015 to 2025: The research diversified and deepened. The study of vocabulary was refined to include loanwords and homographs, and syntax combined with interdisciplinary theories. The application of corpora was extensive, and the connections of various hotspots became closer, demonstrating systematicness and comprehensiveness.

In summary, from 2000 to 2025, the field of Chinese-Japanese language research has formed a diversified and multi-faceted research pattern based on the comparison of the languages themselves, covering error analysis, language education, lexical and syntactic specialized research, and integrating research methods such as corpora. The research hotspots have continuously evolved around the interaction and application of Chinese and Japanese languages, from basic comparison to practical application, from single-element analysis to multi-dimensional comprehensive exploration, presenting a clear development trajectory.

4 Review of key research directions

Using CiteSpace and based on the spectral clustering algorithm, the keyword co-occurrence network was clustered to



Figure 5 Time zone map of keywords related to the influence of second foreign language (Japanese) on Chinese language in China

obtain the keyword clustering map of the research on the influence of second foreign language Japanese on Chinese language in our country (Figure 6), thereby discovering the main topics of the field. The map indicates that the number of network nodes $N = 566$, the number of connections $E = 782$, and the density $Density = 0.0049$; the modularity index $Q = 0.7514 (> 0.3)$, and the average silhouette value $S = 0.9288 (> 0.5)$. The research on the mutual influence of Chinese and Japanese languages has certain exchanges and cooperation, but the overall network structure is loose, and there is still a large space for expansion and association; the clustering structure is clear, the internal homogeneity is high, and the research themes are significantly differentiated.

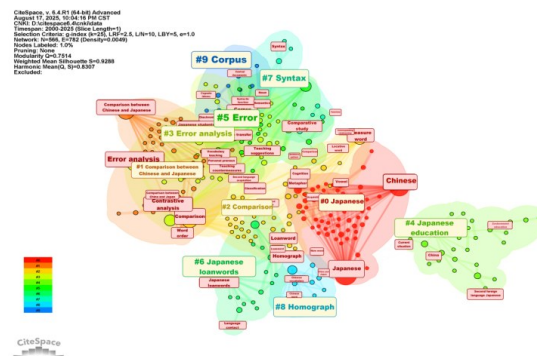


Figure 6 Clustering map of key words related to the influence of second foreign language Japanese on Chinese language in China

As shown in Figure 6, the 10 clusters can be divided into 5 core clusters based on the degree of keyword overlap. The results are presented in Table 2. Each of these will be discussed in detail below.

Table 2 Core clustering of keywords related to the impact of second foreign language Japanese on Chinese language in China's research

Serial numbers	Clustering	Keywords (Part)
1	Cluster 0 Japanese	Chinese, Japanese, Contrastive analysis,
	Cluster 1 Chinese-Japanese Comparison	China-Japan Contrastive, Word order, Vowels,
2	Cluster 2 Contrast	Vocabulary teaching, Metaphor, Acquisition
	Cluster 3 Errors analysis	Loanwords, conjunctions, categorization,
3	Cluster 4 Japanese Education	Japanese student, personal pronouns,
	Cluster 5 Errors	position words, cognition, measure words,
4	Cluster 6 Japanese Loanwords	positive transfer
	Cluster 8 Homographs	Second Language Japanese, Current
5	Cluster 7 Syntax	Situation, servility education, Idioms of the
	Cluster 9 Corpus	Same origin, Semantics, Second Language
		acquisition, Negative transfer, Teaching
		recommendations
		Japanese loanwords, homophones, Chinese
		words, language contact, loanwords, Chinese
		words, new words
		Syntax, sentence structure, Noun, syntactic
		function, corpus, Function, diachronic
		transition, Central Literature

4.1 Cluster 0 (Japanese) and cluster 1 (Chinese-Japanese comparison)

Centered on "Japanese" and "Chinese", conduct basic research on Chinese-Japanese comparisons, covering aspects such as phonetics, vocabulary, and grammar. For instance, cultural semantic differences caused by the same form words in Chinese and Japanese leading to comprehension errors, and the localization evolution of Japanese loanwords in Chinese^[13]. This reflects the depth of contrast under language contact.

4.2 Cluster 2 (comparison) and cluster 3 (error analysis)

Focus on second language acquisition "errors", link "teaching suggestions" and "second language acquisition", and mainly study the errors of Japanese-Chinese students in word collocations (such as incorrect use of Chinese classifiers) and grammatical rules (such as confusion in the word order of passive sentences), constructing a "problem - solution" chain to provide practical guidance for teaching.

4.3 Cluster 4 (Japanese education) and cluster 5 (error)

Link "current situation", "China", and "second foreign language Japanese", explore scenarios such as university second foreign language Japanese and Japanese major teaching, combined with the special context of "indoctrination

education", reflect on the influence of immersive and task-based teaching models, respond to the need for improving bilingual teaching effectiveness.

4.4 Cluster 6 (Japanese loanwords) and cluster 8 (homographs)

Refine the research on language elements, explore the sources (ancient Chinese loanwords, modern Western concept translations) and transmission paths of Japanese loanwords, analyze semantic shifts of homographs (such as the semantic differences between "paper towel" in Chinese and Japanese), and combine the "language contact" theory to discuss the impact of loanwords on the Chinese vocabulary system and cultural expression ^[14].

4.5 Cluster 7 (syntax) and cluster 9 (corpus)

Introduce "corpus" technology to study syntax, construct a parallel corpus of Chinese-Japanese to analyze the usage of case particles (such as "ni" and "de"), semantic orientation of relative clauses, and provide empirical evidence through quantitative analysis, promoting the research from empirical induction to data analysis.

5 Conclusion

This study employed bibliometric and visualization analysis methods to analyze 500 research papers on the influence of a second foreign language (Japanese) on the Chinese language in the academic database of China Knowledge Infrastructure (CNKI) from 2000 to 2025. A keyword co-occurrence map, clustering map, and time zone map were also drawn. The results of the bibliometric analysis indicated that: Firstly, the number of research papers showed a phased characteristic of "growth - adjustment - decline". Secondly, core scholars continuously produced results, participated in academic exchanges, attracted surrounding researchers to collaborate, and promoted the slow expansion of the cooperation network, but overall it remained in the "locally close, globally loose" stage. Finally, the field of Chinese-Japanese language research has formed a diversified research pattern based on the comparison of the languages themselves, covering error analysis, language education, specialized studies on vocabulary and syntax, and integration of research methods such as corpus studies. The research hotspots have continuously evolved around the interaction and application of Chinese and Japanese languages, from basic comparison to practical application, from single-element analysis to multi-dimensional comprehensive exploration, presenting a clear development trajectory.

In conclusion, from 2000 to 2025, research on the mutual influence of Chinese and Japanese languages has constructed a multi-dimensional, cross-level interrelated network, forming a three-stage evolution trajectory and phased publication characteristics. However, there are issues such as insufficient scholar collaboration and the need for further deepening interdisciplinary integration. In the future, it is necessary to strengthen interdisciplinary collaboration, dynamically track language evolution, innovate teaching practice paths, and promote the longitudinal in-depth development of research, providing more valuable academic support for Chinese-Japanese language teaching and cross-cultural communication.

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