

Research on Language Maintenance in China: A CNKI-Based Analysis of Mapping Knowledge

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ABSTRACT

Based on the studies retrieved from CNKI, the paper explores the development, research status, and focus of language maintenance in China with the help of Citespace 5.7. The result shows that (1) despite the late start, the research on language maintenance in China is growing at a stable rate each year, but the number of influential papers is very limited when compared to the total number of papers published; (2) the publications are diversified and the research on language maintenance has drawn attention from and at the same time has gone beyond the minorities language studies circle, but a majority of the papers studied from a macro perspective; (3) the researchers and institutes are widely dispersed, but the most influential ones are very limited, and most work is done independently and teamwork or collaboration is in urgent need; (4) important topics cover endangered language, language protection, minority people and its language, language resource, language diversity, ecology, etc., among which endangered language and language protection have become the research focus with the highest frequency and centrality in recent years.

1. Introduction

Language maintenance matters culturally, spiritually, and emotionally. China is a country with 55 ethnic minorities and abundant language resources, all of which make it a perfect country to study language maintenance. Chinese linguists have done a lot of research to provide many feasible suggestions on the ways of language maintenance. The research on language maintenance and the shift has advocated the preservation of ethnic minorities and their languages. Collecting the most influential papers would help show the current research status on language maintenance in China and shed light on the development of this field, and hopefully, would benefit language maintenance concretely. This review of current CSSCI published literature explores the development, research status, and research focus via keywords, authors, and institutes on language maintenance in China with the help of Citespace 5.7. Current research indicates that the study of language maintenance is still of crucial importance with intense academic attention to much wider topics and research areas,

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but the number of influential papers is very limited compared to the total number published, and a majority of them are studied from a macro perspective.

2. Research Design

2.1. Data Collection

This paper uses the CNKI database to study language maintenance study in China. Specifically, “language maintenance”, and “endangered language” are used as search keywords to get 157 results. Fifty-six results, all were published between 2001-2021, which indicates that the research interest in China on language maintenance or endangered languages does not have a long history, were found through CNKI by setting the requirement that only CSSCI papers are included because CSSCI published papers, with a high frequency of being cited, are an important indicator to measure the level of scientific research and have an important influence within the discipline. A total of 54 valid documents were obtained after excluding duplicate documents, newspapers, and conference invitations. These 54 Chinese documents are used as research materials and exported in Refworks format which is convenient for subsequent visual analysis.

2.2. Research Methods and Questions

Based on citespac5.7.R5 (information visualization analysis software, developed by Dr. Chen Chaomei from Drexel University in the United States based on the Java language), this research analyzes domestic language maintenance-related literature. This tool can perform automatic clustering by drawing a mapping knowledge to intuitively show the development trend and study focus of a discipline in a certain period (Chen, 2005). Through visual analysis of representative scholars, classic documents, keywords, etc. in the field of domestic language maintenance, a knowledge map is drawn to present the academic history, achievements, and prospects of China's language maintenance research, which are also the research questions of this paper.

3. Research Results and Analysis

3.1. Academic Attention: Total Number of Publications

The number of publications can reflect the subject's academic attention and research level to a certain extent. From Chart 1, until 2001, one CSSCI publication appeared on language maintenance. From then on, scholars in China studied language maintenance from various perspectives by publishing papers with slow but stable progress (The red line in Chart 1). All of these papers are highly cited (the green line), which demonstrates the value of these papers with a high academic approval degree.

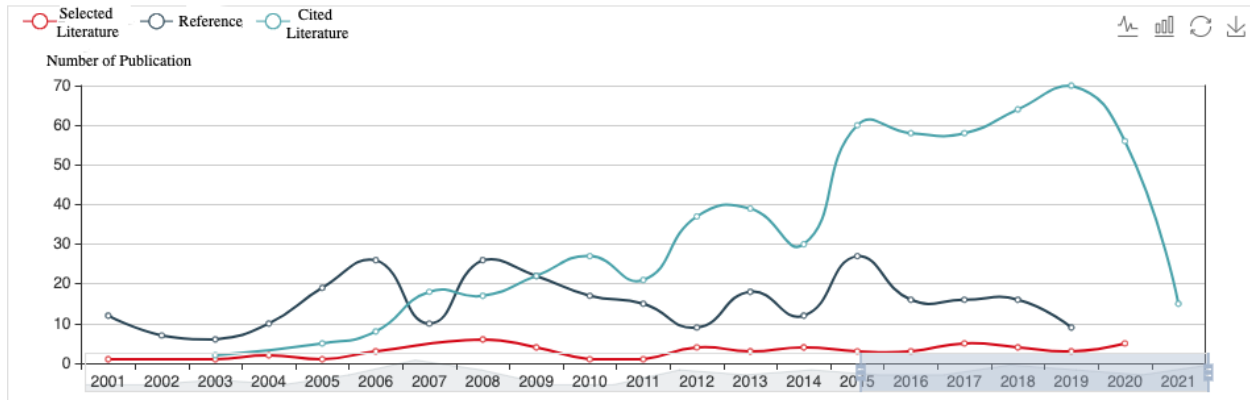


Chart 1: Number of publications (CSSCI) in China

3.2. Analysis of the Academic Focus

3.2.1. Keywords Cluster and Co-occurrence Analysis Based on Citespace

The research focus and direction of a certain research field can usually be reflected through academic hotspots, which help researchers understand this field's research content. Keywords are the core condensed content of a document. The high frequency of keywords in a certain field reflects the research hotspots in this field (Lin, Chen, & Liu, 2011). Keyword cluster analysis is based on keyword co-occurrence analysis. This paper analyzes the academic focus through keyword cluster analysis to understand its main research content, focus, and direction.

Below is the chart of keyword co-occurrence analysis and the chart of keyword cluster analysis.

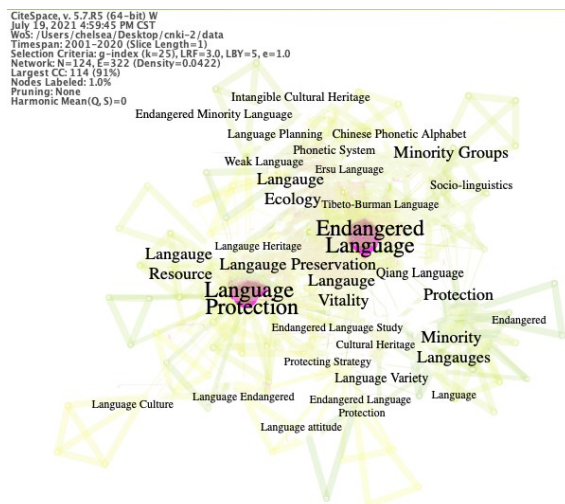


Chart 2: Keyword Co-occurrence Analysis



Chart 3: Keyword Cluster Analysis

From these two charts, the larger the font, the more frequently cited keywords of the node; the denser and thicker the connection, the closer the connection between the keywords; the more nodes contained in a cluster, the more active the field which represents a new trend. Among these selected papers, 124 nodes and 322 lines are found. It has a significant cluster structure with 0.609 modularity ($Q > 0.3$) and a convincing cluster with 0.8728 Silhouette ($S > 0.7$).

Among all these 54 papers, a majority (42 papers, 77.78%) studied language maintenance from a macro perspective, while only 12 (22.22%) focused on one specific ethnic minority. According to the research, the researcher found that many documents use more macro-themes such as endangered language, language protection, and protection as keywords (for example, Class #0, #1, and #2). The research content expressed by these cluster tags named after macro-topics is not specific enough to highlight. In addition, some clusters have fewer keywords and may come from the same paper. Taking these factors into account, this paper does not analyze the automatically generated clusters one by one, but based on the high-frequency keywords contained in each cluster, the centrality, and the closeness of the clusters, through which 3 groups are integrated as follows:

a. **Endangered language** (cluster #1): among the selected papers, 30 of them (account for 55.6%) contain this tag as keywords and in the title. *A Survey to the Language Used by She People in Boluo and Zengcheng of Guangdong* (Wang, 2004) concluded that the condition to protect an endangered language is firstly the language speakers have a compact community, meanwhile, the language must be the main communicative means in their family as well as the compact community by analyzing the present situation of language used in the regions where She people live in a compact community, their language attitude as well as the reasons why the language is completely protected based on the information and data from field interview and questionnaire. *The Salvage and Protection of Endangered Minority Languages in China* (Sun, 2006) is one of the most influential papers. By listing the features of being valued as endangered languages, the paper provides some efficient strategies to cope with the current dangerous situations in some languages. *Endangered Languages and Protection of Intangible Cultural Heritages* (Sun, 2011) gives a theoretical discussion on the necessity of protecting endangered languages and brings up some suggestions with a consideration of the international and domestic needs and from the perspective of protecting cultural diversity and

intangible cultural heritages. *Scientifically and Rationally Carry out in-depth Research on the Protection of Endangered Languages* (Dai, 2015) argues that China should define the standards of Chinese endangered languages according to its national conditions, formulate specific research methods, and establish a theoretical and methodological system of endangered languages with Chinese characteristics. The paper *The Preservation and Protection of Endangered Languages in China* (Fan, 2018) concludes that three phases could be divided into the development of Chinese endangered languages preservation and protection, and states that we should acknowledge the status of language endangerment, and shift our attention to the protection of endangered languages, such as documenting and preserving endangered language data based on the traditional knowledge-communication model. And we should create more diverse language products and offer effective language services targeted at language transmission and spreading.

b. **Language Protection** (cluster #0, #2, #3, #4, #5): *Outline of Language Protection* (Zhou, 2016) states language protection refers to different protection measures adopted by governments, social organizations, and experts concerning different language states or settings to prevent language ecology from being damaged. It provides many feasible measures which contain saving recorded language information on the verge of extinction, making a scientific record, processing language-resource data bank, applying to UNESCO traditional excellent language cultural heritage, listing “catalog of intangible cultural heritage representative projects”, incorporating into projects under national cultural-ecological protection, identifying its representative inheritor to hand down language cultural heritage and so on.

c. **Language Policy** (cluster #6): *Seventy Years of China's Language Policy Studies* (Zhou, 2019) traces the past 70 years of China's language policy studies by dividing them into four periods. This paper points out that there are two general trends in China's language policy studies: the first is that language policy is increasingly connected to national strategies, and the second is that, with the year 2006 as a turning point, language policies start to converge instead of diverging.

3.2.2. Co-word Analysis Based on Citespace

The co-word analysis method uses the co-occurrence of vocabulary pairs or noun phrases in a document set to determine the relationship between the topics. The frequency of “endangered language” is 21 with 0.84 centralities, followed by “language protection” and “protection”, with frequencies of 19 and 13 respectively. From the data in Chart 4, the study on language maintenance in China mainly refers to ethnic minorities’ languages and corresponding protection.

Count	Centrality	Year	Keywords
21	0.84	2001	Endangered Language
19	0.73	2006	Language Protection
13	0.20	2001	Protection
7	0.13	2003	Minority Language
6	0.14	2012	Minorities
5	0.10	2009	Language Resource
5	0.13	2003	Language Variety
4	0.04	2006	Language Ecology
3	0.05	2008	Language Planning
3	0.02	2006	Language Preservation
3	0.02	2008	Language
3	0.09	2004	Endangered Language Protection
2	0.00	2012	Socio-linguistics
2	0.01	2004	Language Attitude
2	0.01	2006	Endangered Language Study
2	0.02	2006	Language Vitality
2	0.02	2017	Language Endangered
2	0.00	2017	Sociolization
2	0.00	2008	Endangered
2	0.02	2008	Cultural Heritage
2	0.03	2011	Endangered Minority Language
2	0.01	2009	Weak Language
2	0.09	2017	Endangered Language
2	0.03	2011	Intangible Cultural Language
2	0.03	2008	Protecting Strategy
2	0.00	2009	Endangered Group Language

Chart 4: Co-word Analysis

3.2.3. Keywords Burstness Analysis

The keywords that are cited with a sudden increase in a certain period are emergent words, which can be used to reflect the research trend at that time (Li & Chen, 2016). To further understand the development trend of language maintenance in China, this article uses Citespace to get the keywords burstiness (see chart 5). Chart 5 shows that keywords such as “weak language, endangered language, language resource” got a sudden increase and lasted for a couple of years which indicated that the academics focused on minorities from the perspectives of sociolinguistics, thus more papers were published on this area.

Top 10 Keywords with the Strongest Citation Bursts

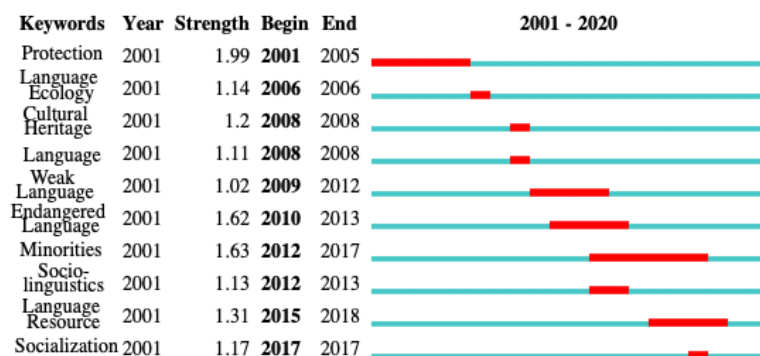


Chart 5: Top 10 Keywords Burstiness

3.2.4. Time-zone Visualization

In addition, the keyword Time-zone chart is used to reflect the research trend of a certain period to some degree. This paper generates a keyword Time-zone chart based on the keyword co-occurrence analysis (see Chart 6). The scarce zones indicate fewer influential achievements in that period while those zones with many keywords show the number of influential achievements accumulated. Nodes between time zones indicate the connection of the research.) Chart 6 shows that more papers were published in the last 5 years, which denoted that the field has been attracting more attention from academics.

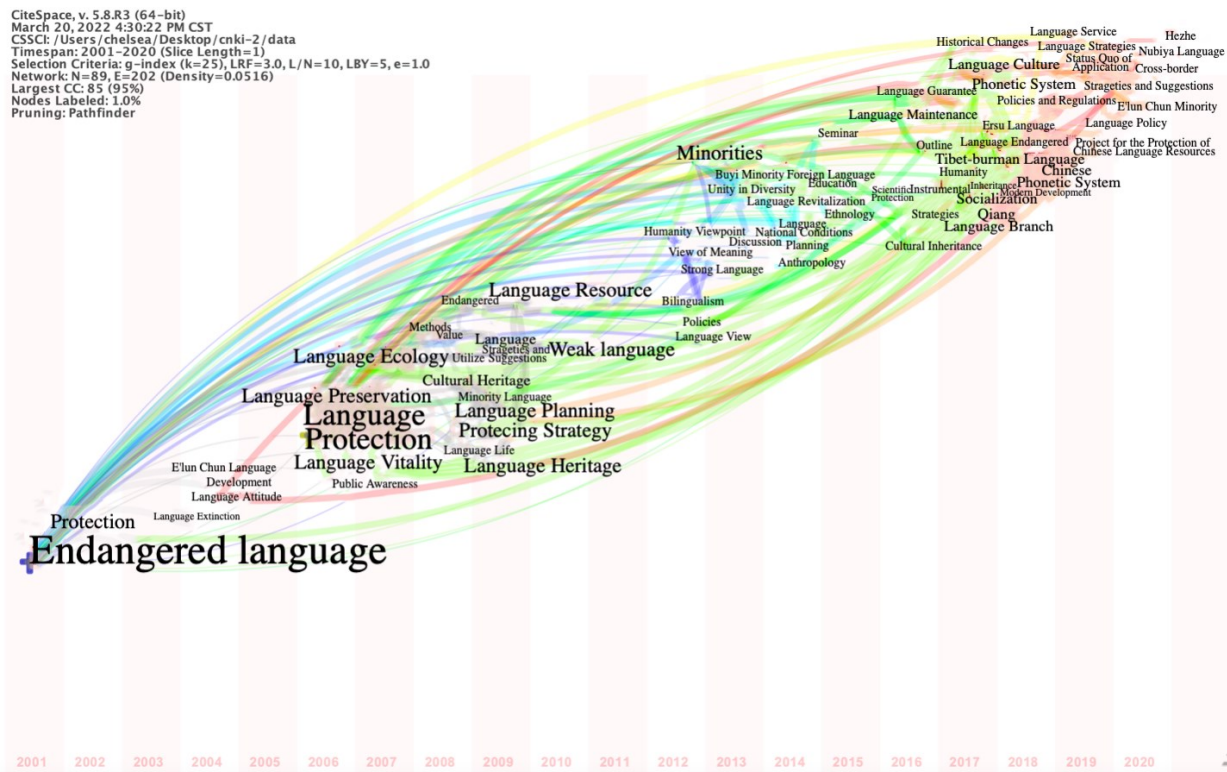


Chart 6: Keywords Time-zone Chart

3.3. Analysis of the Cooperation Network among Author and Institution

Scholars in China on language maintenance with great influence and important research achievements in the discipline were Fan Junjun, Sun Hongkai, Zhou qingsheng (also are the top 3 with the highest frequency), and so on (see chart 7). The top 3 institutes with the highest number of publications include the Chinese Academy of Social Sciences, Minzu University of China, and Jinan University. These CSSCI papers were mainly published in journals with "ethnic" characters (27 journals, 50%), and with "Journals of XX University" (22 journals, 40.7%), which indicates that specific journals of ethnics and comprehensive journals such as journals of universities are top choices for researchers in this field.

It is obvious that the researchers and institutes are widely dispersed, but the most influential ones are very limited, and most work is done independently, and teamwork or collaboration is in urgent need.



Chart 7: Chart of Authors

4. Conclusion

From the research above, 4 results could be drawn: (1) despite the late start, the research on language maintenance in China is growing at a stable rate each year, but the number of influential papers is very limited when compared to the total number of paper published; (2) the publications are diversified and the research on language maintenance has drawn attention from and at the same time has gone beyond the minorities language studies circle, but a majority of the papers studied from a macro perspective; (3) the researchers and institutes are widely dispersed, but the most influential ones are very limited, and most work is done independently and teamwork or collaboration is in urgent need; (4) important topics cover endangered language, language protection, minority people and its language, language resource, language diversity, ecology, etc., among which endangered language and language protection have become the research focus with the highest frequency and centrality in recent years.

Much remains to be done on language maintenance as well as the study on it in China. Firstly, more papers focused on micro perspective have to be done rather than stating in a general way, because each endangered language may have a specialty, language maintenance, therefore, has to focus on one particular language; secondly, scholars need to polish the papers and publish them with high quality.

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