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## Bibliometric Analysis using VOSviewer with Publish or Perish of Chinese Speaking Skills Research

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### ABSTRACT

The purpose of this research is to analyze research trends regarding Chinese speaking skills using bibliometric analysis methods. Bibliometric analysis methods with VOSviewer were used in this research. The data source was taken from the Google Scholar database in the period 2019 - 2024. The total number of documents found during the last 5 years was 780 documents. The results of the article data that research on was found that the number of publications regarding Chinese speaking skills has increased from 2019-2020. The highest number of papers in 2020 was 228 papers. Then, in 2021 the data decreased every year until 2024. The results of article data mapping produce three forms of visualization, namely network, overlay, and density visualization. The mapping results show that research on statistics still needs to be carried out, especially regarding Chinese speaking skills. This research concluded that the trend of research discussing Chinese speaking skills is decreasing, although, in terms of its use, it is still very important, especially in processing quantitative research data. Lorem Ipsum is simply dummy text of the printing and typesetting industry.

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## 1. INTRODUCTION

Chinese is one of the most widely spoken international languages in global society and Chinese is an important foreign language (Gong *et al.*, 2020). It is used by nearly 2 billion people worldwide, second only to English and one of the languages of the United Nations. China has the largest population in the world and is populated all over the world (Levitt & Merry, 2009). Chinese is therefore a foreign language that is essential for communication and economic cooperation. This is because China's economy is developing rapidly. As a result, China's economy is growing rapidly and is known as one of the fastest-growing economies in the world (Kramsch, 2014). As a result, China has become one of the most important trade and investment markets in the world, so Chinese is a very necessary language for trade and investment for the foreseeable future.

Learning Chinese in Thailand, the Ministry of Education recognizes the importance of learning Chinese in Thailand. Whether it's business, economy, trade, or tourism. Therefore, the Ministry of Education has incorporated Chinese courses into the curriculum by placing Chinese courses in the foreign language learning subject group (Harnkaev *et al.*, 2022). This is to enable Chinese learners in Thailand to have a positive attitude towards using a foreign language (Chinese) and using a foreign language for communication. as well as easier and broader access to various bodies of knowledge (Ministry of Education, 2009, (p. 211) in Chinese language learning management (Wang *et al.*, 2013).

As a second language, the Ministry of Education has a policy to shift teaching and learning from grammar to communication that starts with listening, followed by speaking, reading, and writing, respectively. In addition, language teaching and learning should take into account the nature of language learning. The teaching and learning process should be characterized by natural learning that is similar to learning the first language, Thai, which begins by listening and connecting sounds with images to create understanding, then leads to imitation, which is speech, and eventually leads to reading and writing (Hayes, 2016).

Speaking is an important communication skill and a fundamental skill of learning another skill just like listening comprehension. The feelings and needs of the speaker are acknowledged and responded to by the audience (Maitio *et al.*, 2022). In speaking, speakers must understand what they are saying and know how to use correct and acceptable language expressions. Communicative speech is a bidirectional process and involves direct listening. The speaker sends the information to the listener, who must interpret and understand the information and respond to it. There is a constant exchange of roles as speaker and listener. The speaker must have the ability to use language to make it understandable to the listener (Olmstead *et al.*, 2020).

The purpose of this research is to analyze research trends regarding Chinese speaking skills using bibliometric analysis methods. Bibliometric analysis methods with VOSviewer were used in this research. The data source was taken from the Google Scholar database in the period 2019 - 2024. The total number of documents found during the last 5 years was 780 documents. The results of the article data that research on was found that the number of publications regarding Chinese speaking skills has increased from 2019-2020. The highest number of papers in 2020 was 228 papers. Then, in 2021 the data decreased every year until 2024. The results of article data mapping produce three forms of visualization, namely network, overlay, and density visualization. The mapping results show that research on statistics still needs to be carried out, especially regarding Chinese speaking skills. This research concluded that the trend of research discussing Chinese speaking skills is decreasing,

although, in terms of its use, it is still very important, especially in processing quantitative research data.

## 2. METHOD

Bibliometric analysis was carried out as a research method. There are several stages of bibliometric analysis, including: Collecting article data is the first step in conducting literature research using bibliometric analysis. At this stage, published research documents related to the topic "Chinese speaking skills" are collected. The article data used is article data indexed by Google Scholar from 2019 - 2024. Article data is collected via the Publish or Perish application. The results of collecting article data using Publish or Perish resulted in 780 articles for analysis. The collected research article data is saved in (\*.csv) format so that it can be analyzed using Microsoft Excel software, and (\*.ris) format so that it can be analyzed and visualized using the VOSviewer application. After data collection, article data was filtered to see the completeness of components (such as year). Next, the article data was analyzed using Ms. Excel and visualized using VOSviewer. More detailed stages regarding the analysis steps are explained in our previous research ([Al Husaeni & Nandiyanto, 2022](#)).

## 3. RESULTS AND DISCUSSION

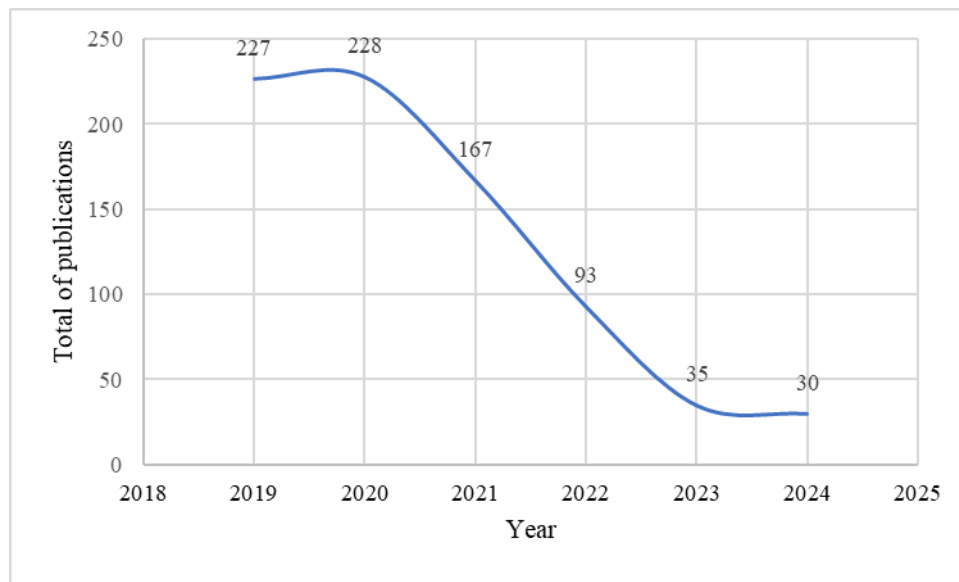
### 3.1. Development of Chinese Speaking Skills Publications 2019-2024

**Table 1** shows the annual report on research on "Chinese speaking skills" which has been published in national and international journals. According to the data, it is known that the total number of documents found over the last 5 years is 780 documents. Details of the number of research documents regarding "Chinese speaking skills" namely 2019 as many as 227 documents, 2020 as many as 228 documents, 2021 as many as 167 documents, 2022 as many as 93 documents, 2023 as many as 35 documents, and 2024 there will be 30 documents.

Based on the number of research documents each year, it is known that research publications regarding "Chinese speaking skills" had the highest number of papers in 2020. Then, in 2021 the data decreased every year until 2024. **Figure 1** shows a graph of the number of publications regarding "Chinese speaking skills". Over the last 5 years, the highest number of studies on this topic was in 2020 (228 documents) and the lowest number was in 2024 (30 documents). The decrease in the number of documents occurs consistently every year, but there was an increase of around 1 document from 2019 to 2020. However, in 2021 This increase did not last long because in the following year, it decreased again to 167 documents (2021), 93 documents (2022), 35 documents (2023), and 30 documents (2024).

**Table 1.** Annual report research on "chinese speaking skills".

Year	Documents	Percentages (%)
2019	227	29.10
2020	228	29.20
2021	167	21.40
2022	93	12.00
2023	35	4.50
2024	30	3.84
Total	780	100



**Figure 1.** Annual report of publications.

### 3.2. Trend of Chinese Speaking Skills Research Citations 2019-2024

In this research, we present 20 articles regarding different test statistics that have the highest number of citations. **Table 2** presents some metadata from articles with the highest number of citations. Based on **Table 2**, The researcher has studied research related to organizing learning formats according to the Chinese speaking skills framework, the most ranked 3 as follows. 1) 904 cites “ChatGPT: Bullshit spewer or the end of traditional assessments in higher education?”. 2) 415 cites “SLA and the study of equitable multilingualism”. 3) 349 cites “Implementing English-medium instruction (EMI) in China: Teachers' practices and perceptions, and students' learning motivation and needs”.

**Table 2.** Difference Chinese speaking skills articles with the most citations.

No	Cites	Title	Year	Cites PerYear	Cites Per Author	Ref
1	904	ChatGPT: Bullshit spewer or the end of traditional assessments in higher education?	2023	904	301	<a href="#">Rudolph et al. (2023)</a>
2	415	SLA and the study of equitable multilingualism	2019	83	415	<a href="#">Ortega (2019)</a>
3	349	Implementing English-medium instruction (EMI) in China: Teachers' Practices and perceptions, and students' learning motivation and needs	2019	69.8	116	<a href="#">Jiang et al. (2019)</a>
4	316	Chatbots for language learning—Are they really useful? A systematic review of chatbot-supported language learning	2022	158	105	<a href="#">Huang et al. (2019)</a>
5	297	Effectiveness of virtual reality in nursing education: Meta-analysis	2020	74.25	50	<a href="#">Chen et al. (2020)</a>
6	288	The effect of perception of teacher characteristics on Spanish EFL learners' anxiety and enjoyment	2019	57.6	96	<a href="#">Dewaele et al. (2019)</a>

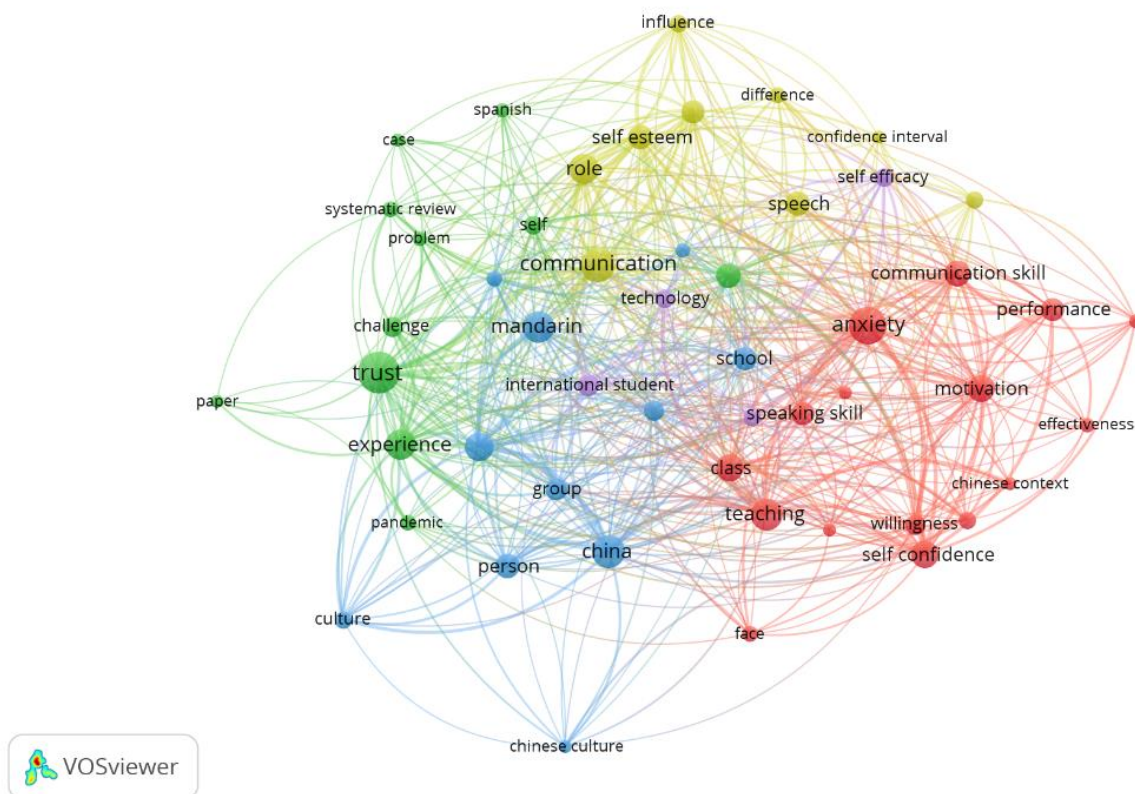
**Table 2 (Continue).** Difference Chinese speaking skills articles with the most citations.

No	Cites	Title	Year	Cites PerYear	Cites Per Author	Ref
7	285	Neuroprosthesis for decoding speech in a paralyzed person with anarthria	2021	95	71	<a href="#">Moses et al. (2021)</a>
8	285	Development of contextually-relevant sexuality education: Lessons from a comprehensive review of adolescent sexuality education across cultures	2019	57	71	<a href="#">Leung et al. (2019)</a>
9	278	A positive psychology perspective on Chinese EFL students' trait emotional intelligence, foreign language enjoyment and EFL learning achievement	2020	69.5	278	<a href="#">Li (2020)</a>
10	277	Learning from experience in the midst of COVID-19: Benefits, challenges, and strategies in online teaching	2020	69.25	139	<a href="#">Bailey &amp; Lee (2020)</a>
11	230	Foreign language anxiety and foreign language performance: A meta-analysis	2019	46	230	<a href="#">Zhang (2019)</a>
12	228	Translanguaging in Chinese foreign language classrooms: Students and teachers' attitudes and practices	2019	45.6	228	<a href="#">Wang (2019)</a>
13	212	Exploring emotions in language teaching	2022	106	212	<a href="#">Richards (2022)</a>
14	200	The impact of cooperative learning on developing speaking ability and motivation toward learning English	2019	40	67	<a href="#">Ehsan et al. (2020)</a>
15	190	Challenges of international students from pre-departure to post-study: A literature review	2019	38	95	<a href="#">Khanal &amp; Gaulee (2019)</a>
16	177	Exploring university students'attitudes towards their english accent and native english accents	2023	177	89	<a href="#">Yuwita &amp; Ambarwati (2023)</a>
17	175	Investigating written corrective feedback:(Mis) alignment of teachers' beliefs and practice	2019	35	88	<a href="#">Mao &amp; Crosthwaite (2019)</a>
18	170	Systematic review: Trust-building factors and implications for conversational agent design	2021	56.67	43	<a href="#">Rheu et al. (2021)</a>
19	168	The psychological damages of linguistic racism and international students in Australia	2020	42	168	<a href="#">Dovchin (2020)</a>
20	162	Surveillance in China's Xinjiang region: Ethnic sorting, coercion, and inducement	2020	40.5	162	<a href="#">Leibold (2020)</a>

### 3.3. Visualization of Research Data Mapping of Chinese Speaking Skills Research

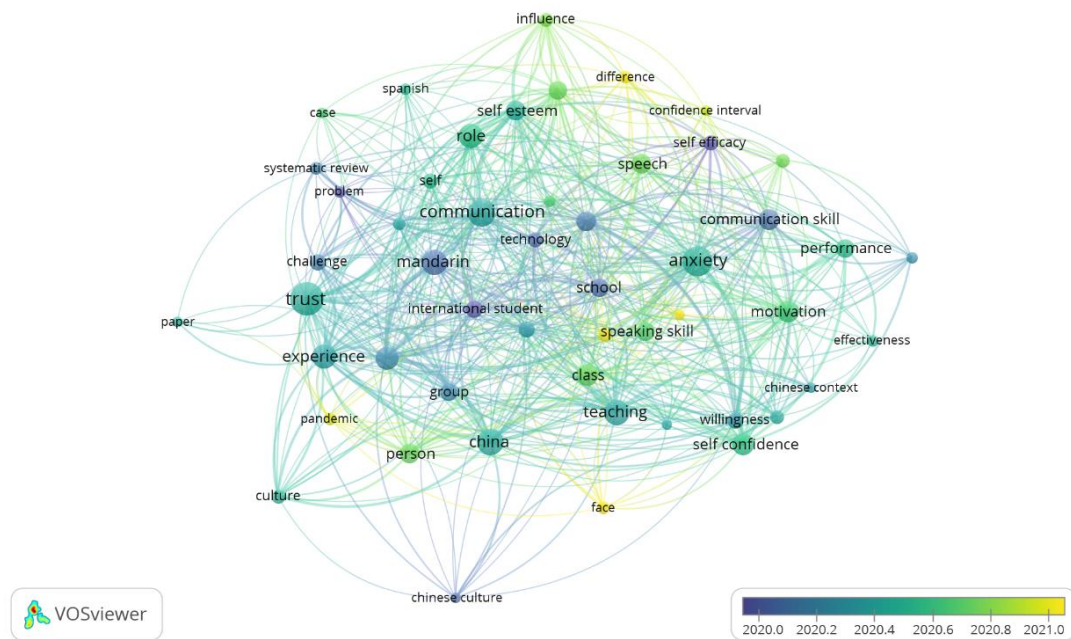
Data mapped using VOSviewer produces 3 forms of visualization, namely network visualization (**Figure 2**), overlay visualization (**Figure 3**), and density visualization (**Figure 4**). Network visualization shows that the terms generated from the abstract and keywords that are considered to correspond to the keywords used when collecting data are divided into 6 clusters with a total of 51 items. Each item has a different link, total link strength, and occurrences. Overall, based on network visualization, the total link strength is 1418 while the total number of links is 574. The following is a more detailed explanation of each cluster:

- i) Cluster 1 marked in red consists of 16 items, anxiety, anxiety, Chinese context, Chinese university, class, communication skill, effectiveness, example, face, foreign language anxiety, motivation, performance, self-confidence, speaking skill, target language, teaching, and willingness.
- ii) Cluster 2 marked in green consists of 11 items, case, challenge, experience, pandemic, paper, problem, second language, self, spanish, systematic review, and trust.
- iii) Cluster 3 marked in blue consists of 11 items, china, chinese culture, chinese language, culture, group, instruction, mandarin, medium, person, school, and vocabulary.
- iv) Cluster 4 marked in yellow consists of 9 items, communication, confidence interval, difference, influence, language ability, relationship, role, self-esteem, and speech.
- v) Cluster 5 marked in purple consists of 4 items, higher education, international students, self-efficacy, and technology.

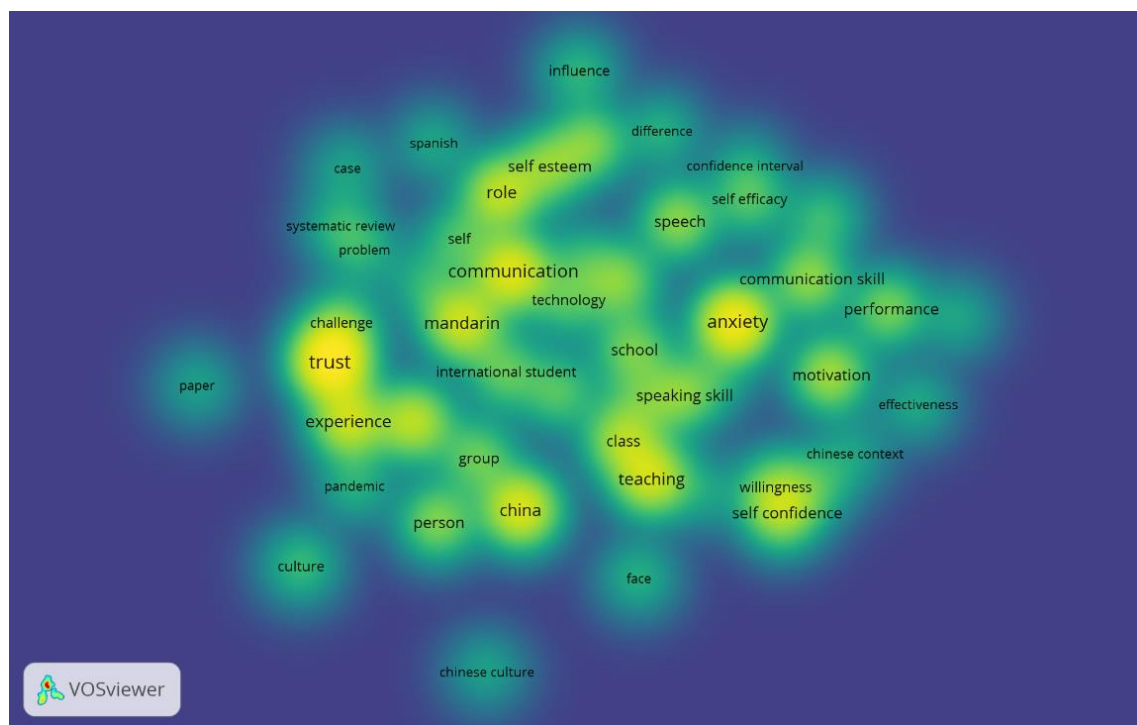


**Figure 2.** Network visualization.





**Figure 3.** Overlay visualization.



**Figure 4.** Density visualization.

## 4. CONCLUSION

The number of publications regarding " Chinese speaking skills " during the last 5 years (2019-2024) was 780 documents. The development of research regarding " Chinese speaking skills " has decreased. 2020 was the year with the highest number of publications. In 2020, the number of publications increased. This increase did not last long because, in the following year, it decreased again. Apart from that, the terms used as keywords when used in the mapping stage using the VOSviewer application produce 780 items which are divided into 5

clusters marked with different colors. Each cluster has a different number of items and each item has a different number of occurrences, links, and total link strength (although it does not rule out the possibility that there are the same number of items). Terms that are often used both as keywords and as abstracts in research articles related to keywords such as Chinese speaking skills.

## 5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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