

***Current Trends in ESP Research in China:
A Bibliometric Analysis of Chinese Journal of ESP***

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Abstract

In recent years, academia and education departments in China have highly valued English for Specific Purposes (ESP). This paper reviewed all articles published in the *Chinese Journal of ESP* from 2013 to 2022 and selected 309 out of 362 articles as samples to generate knowledge maps using CiteSpace. Based on the bibliometric analysis, this paper aims to identify and discuss topical themes, research frontiers, and trends of ESP research in China over the past decade. The results reveal several noteworthy trends in the field of ESP, including 1) Academic English has received wide and constant attention from Chinese ESP researchers over the past decade, and research on analyzing college English from the perspective of ESP increases; 2) The distribution of ESP research across different disciplines is imbalanced. The most frequently studied areas are Business English, Medical English, and Legal English, with only a few articles on other disciplines; 3) In terms of research methods, needs analysis occupies a dominant position, but there is a growing trend in using genre analysis, empirical study, and comparative study in ESP research.

Keywords: ESP, Chinese Journal of ESP, Bibliometric Study, Visualization Analysis

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1. Introduction

Originating from the 1960s, English for specific purposes (ESP) keeps attracting attention from the academic field. It refers to “the teaching and learning of English as a second or foreign language where the learners’ goal is to use English in a particular domain” (Paltridge & Starfield, 2013). And as a broad area consisting of English for business, science and technology, law, engineering, etc., it gradually becomes one of the most prominent areas of English teaching in universities worldwide. What began as a grass-roots solution to the need for vocationally-relevant English language education has now evolved into a much broader field of research and application (Kirkgöz & Dikilitaş, 2018).

Due to the globalization of both the economy and tertiary education, there has been a growing demand for successful English education within higher education in many countries, especially non-English speaking countries. In China, students start their English language education at the primary school level and continue learning English at every level of their education. Under this context, China has reached a level where almost every university student has obtained at least one general English certificate. Therefore, for Chinese students in the 21st century, English not only acts as one of the main subjects they must learn but is also a necessary skill to compete in the job market. This has brought a change and shift in the teaching objectives of college English education and made ESP more important for university students, especially those of non-English speaking countries.

In China, ESP has developed for decades since it first emerged in the 1970s. From the simple introduction of English for Science and Technology by Yang et.al (1978) at the initial stage to the current various fields and themes, ESP research in China has experienced constant and deep changes. The new version of the *Guidance of College English Teaching* issued by the Chinese Ministry of Education in 2020 explicitly includes General English (GE), ESP, and Inter-cultural Communication in curriculum design and teaching system. Since then, many colleges and universities have gradually increased the portion of ESP teaching, and some major publishers have also published various ESP teaching materials (Huang, 2022). This phenomenon reflects the practical need for universities to offer ESP courses for college students to learn professional English.

It can be observed that ESP now is not only an important part of Chinese college English education but will also be a future development orientation of it. Therefore, it is necessary to go through past research on ESP to identify its development trends and frontiers. And conducting a comprehensive and systematic review of the *Chinese Journal of ESP* would provide a new perspective for ESP practitioners.

Combining the above-mentioned changing themes with the research concerns, this paper will try to present a visualization analysis of ESP in the Chinese context. Theoretically, this study clarifies the current status and trends of Chinese ESP research in the past ten years. It will help researchers in the field of ESP to track research hotspots. Practically, this study is to some extent helpful to explore the future research direction of ESP and the reform direction of college English.

Based on the above discussion, this paper explores articles published in the *Chinese Journal of ESP* from 2013 to 2022 to trace developing trends in the ESP field. Three research questions will be addressed in this paper specifically:

- 1) What are the frequently explored themes of ESP research in China from 2013 to 2022?
- 2) What are the research frontiers of ESP research in China during this period?
- 3) What are the trends of ESP research in China during this period?

The rest parts of this paper are organized as follows: Part 2 introduces some previous bibliometric analysis or visualization analysis in the ESP field. Part 3 gives an illustration regarding the research method and data sources in this research. Part 4 describes the research results in detail by presenting some figures, and discusses the results. Part 5 is the conclusion of this study and offers some suggestions for future research.

2. Literature Review

ESP can be seen as an umbrella term, which covers a range of diverse teaching contexts (Lesiak, 2015) and suits different kinds of courses based on learners' different needs. It is generally used to refer to the teaching of English for a utilitarian purpose (Mackay and Mountford, 1978). ESP has been informed by over 50 years of research and practice and is perhaps the most influential of all language teaching approaches in academic settings and the workplace (Anthony, 2018).

During its long and eventful history, ESP is defined by many scholars (Munby, 1978; Strevens, 1988; Robinson, 1991; Dudley-Evans & St. John, 1998). It is one of the most established teaching approaches in English Language Teaching (ELT), and also an eclectic approach that takes the most useful, successful, and valid ideas from other theories and practices, combining them into a consistent whole (Anthony, 2018).

Throughout the major literature databases, there are countless studies on ESP in a variety of areas. This proves that ESP is a popular research direction and field worldwide. A small portion of this published literature is visual and bibliometric analyses of ESP.

Using visualization analysis, Zheng & Wu (2019) reviewed the literature on ESP education in 11 CSSCI foreign language journals from 2007 to 2017. Their research presents the status quo and hot issues of Chinese ESP education and points out shortcomings in learning support services, characteristic development research methods, evaluation systems, and contents. Similarly, to obtain the research hotspots and development trends of studies on ESP in China, Hu (2019), using CiteSpace, analyzed articles about ESP. His research found that the domestic studies on ESP experienced slow development in controversy, rapid development in practice, and deep development with modern educational technology.

Another visualization analysis of ESP in China was conducted by Ma et. al in 2019. They analyzed the hot themes of Chinese ESP research from 1989 to 2018 and drew a scientific knowledge map of ESP research. Cui & Li (2019) visually analyzed ESP in the Chinese context on a much larger scale. They collected 1,708 articles published between 1959 and 2016 to examine the general trend, hot research topics, and characteristics of international ESP research. Later, in 2021, using bibliometric techniques, Hyland & Jiang tracked changes in ESP research through an analysis of all 3,500 papers on the Social Science Citation Index (SSCI) since 1990. This research dealt with ESP topics to show its emergence from the periphery of applied linguistics to a serious force on the world stage.

Also in the Chinese context, Xue, Saffari & Motevalli (2022) reviewed the literature on ESP research in 15 CSSCI foreign language journals in the CNKI database. This research is relatively new compared to the other research mentioned above, as it analyzed ESP-related articles from 2001-2020. Moreover, their research critically analyzed the research limitations and recommendations of the ESP study (Xue, Saffari & Motevalli, 2022). Also new but with a smaller time slice compared to Xue et. al (2022), and Li & Li (2022) offered a document analysis study on the developments of ESP research in China from 2011 to 2020. They reported the hot research topics and main research realms of ESP studies as well as the characteristics of ESP research methods.

Swales, Xu & Yang (2023), chose 705 articles published between 1980 and 2019 to trace the development of the journal in terms of the most frequently explored topics. The significant difference between their research and the others was that they focused on one journal – *The ESP Journal (ESPJ)*, which was renamed English for Specific Purposes when it was taken over by Elsevier in 1986. Their paper presented a bibliometric analysis of the most highly cited *ESPJ* articles, and the references of *ESPJ* articles, plus the changes in contributors about countries/regions (Yang, Xu & Swales, 2023).

Though plenty of research related to the ESP field has been conducted since its inception, few of them are conducted from the perspective of bibliometrics and visualization. The above-discussed previous visualization research reviewed ESP developments, ESP research status, and ESP teaching trends in China. These reviews provide us with insights into the hot topics, status, and trends of the ESP field. However, though their data are all retrieved from multiple journals, few of them include the *Chinese Journal of ESP* in their research. As the only journal named after ESP in China, it marks a new stage of ESP research in China and provides a platform for hundreds of thousands of English teachers to present their ideas (Wang, 2010). Thus, using CiteSpace, this paper will present a bibliometric analysis of ESP research trends, hot topics, and research frontiers in the Chinese context.

3. Methodology

3.1 Approach

A general research framework is proposed based on CiteSpace 6.2.R4 in this research. CiteSpace identified research frontiers and emerging trends in the field of ESP by analyzing the trend of articles published in the *Chinese Journal of ESP*, exploring the keyword clusters and timeline, and capturing keywords with strong citation bursts over time.

The bibliometric study is widely applied to scientific research as a statistical analysis method. Emerging in the early 1900s, it has been used as a quantitative method to describe and evaluate the current situation of science and technologies and predict developing trends (Zhang et. al, 2019), and applied to various kinds of disciplines. For example, it is used in library and information sciences to describe patterns of publication within a given field or body of literature and has helped to explore research networks (González-Alcaide, Jinseo, Huamaní, Gascón & Rincón, 2012), authorial collaboration (Davaranah & Aslekia, 2008), and publication gender inequalities (Sebo, Maisonneuve & Fournier, 2020).

3.2 Data Collection

The data collection process included three steps: searching the database and manually checking the data. This paper chose CNKI as the database and the *Chinese Journal of ESP* as the research subjective.

First, select “Advanced Search”, set the keywords as “*Chinese Journal of ESP*”, and confined the search to “Data Source”. Second, set the time range to 2013 to 2022. To obtain a more accurate result from the database, this paper did not limit the search to “research articles” when searching from the database. A total of 362 raw items were found, including all document types, i.e., research articles, commentaries and written summaries of meetings, and book reviews.

Then, the source data was manually checked with the printed versions of the *Chinese Journal of ESP* by the author to make sure of validity. After manually checking all the items and excluding all the commentaries and written summaries of meetings, reviews of books and book chapters, etc., 309 research articles were finally selected as the research data for this study.

4. Results and Discussions

In this part, the findings of this research will be discussed. In the visualization knowledge graphs produced by CiteSpace, there are different kinds of nodes and links. The nodes with high centrality are usually identified as hot spots or turning points in this domain. To get the most frequently studied themes, the parameter “Time Slicing” of the CiteSpace was set to “2013-2022” and the “Years per Slice” was set to “1”. Term Source was "Title", "Abstract", "Author Keywords" and "Keywords Plus", and Node Type was "keyword".

4.1 Keywords Co-occurrence Analysis

After running the CiteSpace, 12 high-frequency keywords (frequency ≥ 5) (Figure 1) were obtained by extracting noun phrases and merging theme words, and the keyword co-occurrence visualization map was automatically generated (Figure 2).

Frequency	Centrality	Year	Keywords
26	0.27	2014	Academic English
21	0.27	2013	Needs Analysis
14	0.13	2014	Business English
13	0.12	2016	Genre Analysis
13	0.05	2015	College English
12	0.09	2013	Medical English
9	0.06	2013	Legal English
6	0.04	2016	Empirical Study
5	0.03	2015	Teaching Methods
5	0.02	2020	Speculative Ability
5	0.02	2016	Comparative Study
5	0.04	2014	Academic Paper

Figure 1: Top 12 hot research topics of ESP research in China (frequency ≥ 5)

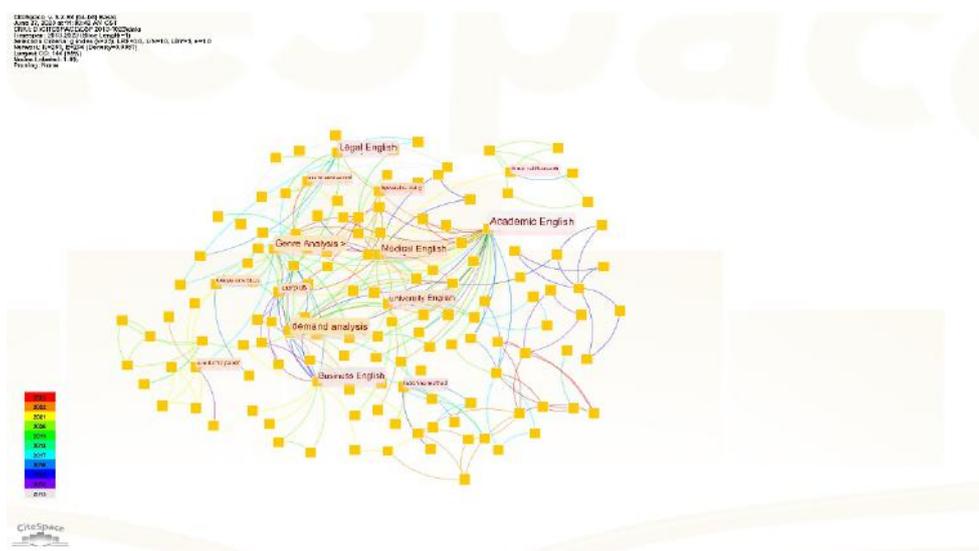


Figure 2: Keywords Co-occurrence map of ESP research in China

Over the past 10 years, domestic ESP research has involved 12 hot topics, with the frequency ranked from high to low as Academic English, Needs Analysis, Business English, Genre Analysis, University English, Medical English, etc. By categorizing and summarizing the hot topic terms, it is found that domestic ESP research presents the following four characteristics:

4.1.1 Academic English Has Received Wide and Constant Attention

Under the influence of higher education internationalization and students' improvements in general English proficiency, academic English has gradually become the research focus of college English teaching in China. This is in response to the existential crisis of college English due to its time-consuming inefficiency. It is now an indispensable part of the college English teaching system and has become an important direction of ESP (Cai, 2012).

Currently, in the Chinese education system, ESP is integrated into college English teaching in the form of General Academic English (GAE), English for Academic Purposes (EAP), and Vocational English (VE) (Ji, 2017). According to previous research about academic English, employers, university English teachers, and college students shared different perceptions of the demand for academic English. Employers expect university graduates to have the ability to take on individual or teamwork, possess professional knowledge, and be equipped with cognitive ability, and written and oral communication skills in English and Chinese (Zhou, Zhao & Dawson, 2021). Professional teachers focus on different aspects. They pay more attention to valuing students' ability in using English for professional learning (Cai & Chen, 2013). However, from students' perspectives, they often express the need to learn grammar or to use English in daily life (Flowerdew & Peacock, 2001). This controversy leads to plenty of discussions regarding the development orientation of academic English.

4.1.2 Research on Analyzing College English From the Perspective of ESP Increases

Scholars in China have also conducted plenty of theoretical discussions and practical studies regarding college English teaching reform. One of the most important points is that ESP should be the reform direction of college English teaching.

Chinese researchers' concerns regarding college English in the ESP context stem from the debate over where college English should be positioned. In recent years, as the internationalization of China is growing deeper and wider, the market is in urgent need of professional foreign language talents who can communicate fluently in specialized fields. However, English at Chinese universities has always been a basic, and general education, which is not able to ensure that students have the English skills that specialized fields may need.

In China, there are not many higher education institutions that offer ESP programs, and for those that offer ESP, the courses only cover several disciplines. In this case, even if a student can reach an advanced level in college English learning, it is still a decontextualized general English (Cai, 2022). For undergraduate students, it is essential to have a strong command of English in order to stay competitive in their field of study. It is the greatest dereliction of duty or failure of public English teaching not to cultivate undergraduate students' academic and work competence in this kind of English (Cai, 2019).

4.1.3 The Distribution of ESP Research Across Different Disciplines Is Imbalanced

Observed from the articles published from 2013 to 2022, scholars have extensively researched discipline construction and professional development, yielding fruitful results. However, these studies primarily concentrate on three areas: business English, legal English, and medical English, with limited involvement in other subjects.

Among these disciplines, Business English (BE) has rapidly developed and grown along with the deep integration of economic globalization and the rise of China's economy, and become the largest branch of ESP (Wang, 2012). Since its establishment approved by the Chinese Ministry of Education in 2007, 414 colleges and universities have offered undergraduate BE majors as of 2021 (Li & Li, 2022). In the past ten years, scholars have conducted a great deal of research on the curriculum construction and course development of Business English. These fruitful results have contributed to BE becoming the most popular and relatively mature branch of ESP research in China.

4.1.4 Needs Analysis Occupies a Dominant Position as a Research Method

Needs analysis is always used as a research method in curriculum design and setting, teaching mode, teaching method or reform, students' specific needs, and so on. Besides, there is a growing trend in using genre analysis, empirical study, and comparative study in ESP research.

Though GE may also require a needs analysis, carrying out a needs analysis throughout the program for ESP is more important, as it is closely related to the needs of society, the development of the country, and the future career development of the students (Huang, 2022). This has led to needs analysis being widely recognized by ESP scholars as an important part of ESP pedagogical theory. Needs analysis of ESP from different perspectives (e.g., teachers, students, and employers) can provide a theoretical basis for the design of ESP materials, curriculum setting, and teaching methods adjustments.

4.2 Keywords Clusters Analysis

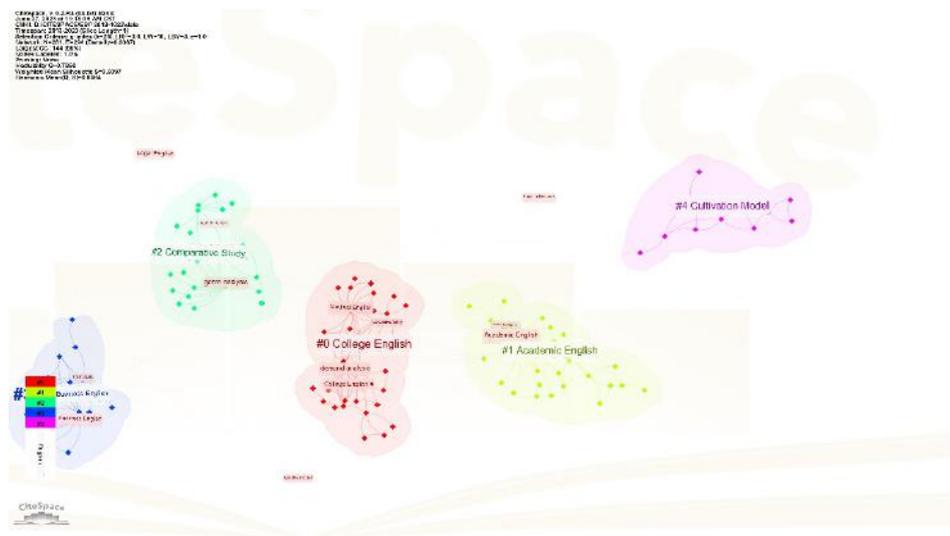


Figure 3: Keyword clustering in ESP research in China

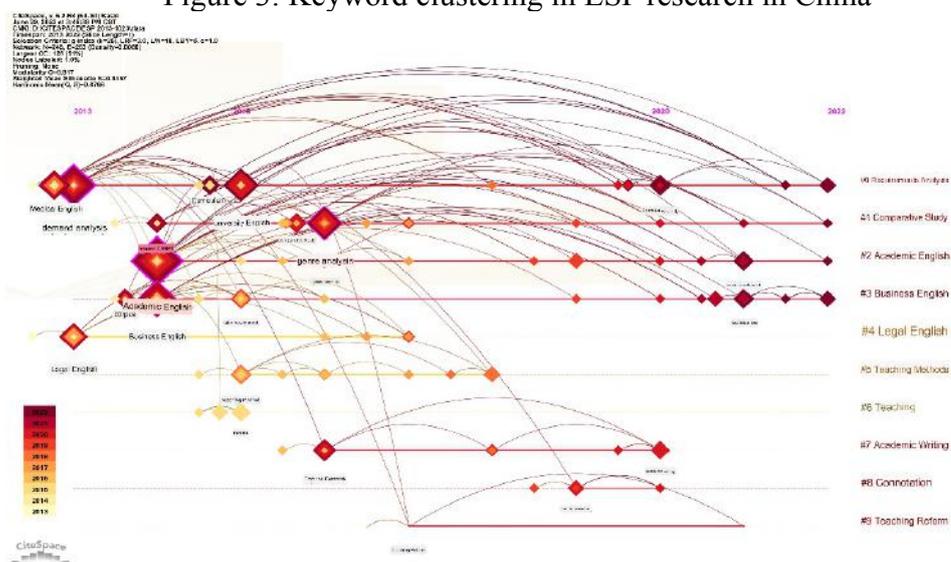


Figure 4: Keyword clustering timeline map of ESP research in China

Five keyword clusters were generated for ESP research in China (Figure 3), consisting of #0 College English, #1 Academic English, #2 Comparative Study, #3 Business English, and #4 Cultivation Mode. From the distribution of the five clusters, it can be observed that there exists no overlap between them. This may indicate that in the future, researchers can conduct research with mixed topics or more complex contents.

Three stages of ESP development in China during the past decade can be observed from the timeline map (Figure 4). The first stage is 2013-2015. During this period, needs analysis and academic English are the two main research topics. And the research attention is mostly paid to discipline studies. The second stage is 2015-2020. It can be observed that the research focus has been transferred to research methods and the genre analysis and empirical study emerged as new research hotspots. The last stage is 2020-2022. In this stage, a new term “New Liberal Arts” emerged.

4.3 Visual Analysis of Research Frontiers From 2013–2022

In CiteSpace, burstness refers to an exponential increase in the frequency of occurrence of a specific keyword, indicating that a potential topic has been, or is, attracting a high level of interest over a specific period. Therefore, analysis of the burstness of keywords is considered to be a pointer to highly active research areas. Based on the citation bursts and timing of keyword emergence, emerging trends in the research field can be explored to some extent.

Top 10 Keywords with the Strongest Citation Bursts



Figure 5: Top 10 keywords with the strongest citation bursts

Based on the keyword burstness map of the ESP research field (Figure 5), the author examined the collected data and found a total of 10 keywords over the past decade. The higher the keyword strength shows, the more pronounced cutting-edge trends are.

Since 2013, ESP research in China can be concluded into the four following trends:

4.3.1 Legal English Has Always Been the Focus of Researchers

Research on legal English started in 2013, became very popular in 2016, continued into 2017, and lasted until 2022. This means that legal English is always the research focus of the ESP research between 2013 and 2022.

As China continues to deepen its open-up policies, its adaptation to the internationalized world and economic globalization has encountered many legal problems. From joining the

World Trade Organization (WTO) in 2000 to the implementation of the “One Belt, One Road” policy in recent years, how to reasonably and accurately exercise the right to speak on international affairs in foreign exchanges has always been the main concern of the Chinese government and scholars. Therefore, people who are familiar with the rules and regulations of the international law system and have a strong ability in legal English practice have become very popular. All these promote the development of Legal English in China.

4.3.2 Empirical Study Is the Latest Research Trend

Empirical study first emerged in 2016. But in 2020, it suddenly became the research frontier of ESP research in China. This may be caused by the publication of the *College English Teaching Guide* (2020 Edition), which clearly states that the main content of college English teaching can be divided into general English and ESP. This corroborates Li & Li's (2022) research, in which she mentioned that from 2016 to 2020, non-empirical research related to ESP declined by 25%, reflecting the scientific nature of ESP research methodology in the country. This also indicates a lack of mixed-methods research in the field of ESP, and Chinese researchers should do more to fill this gap.

4.3.3 Research on Teaching Methods Lasts a Long Time

Teaching methods in ESP became a research frontier in 2015 and lasted for three years. This not only indicates that research on teaching methods has occupied an important position in the field of ESP for a long time but also reflects that teaching methods might be a complex subject for researchers.

In recent years, ESP teaching has been carried out mainly by university English teachers or teachers of specialized courses (Ma & Liao, 2017). ESP courses may not be taught appropriately in the Chinese higher education system due to deficiencies and limitations of the teachers themselves. For instance, some English teachers may prefer to use the basic English teaching method when teaching ESP courses, as their professional knowledge in specific disciplines is insufficient. This makes the teaching focuses on teaching vocabulary and grammar rather than explaining professional knowledge to students. Additionally, some teachers of specific courses may teach ESP as translation courses. And due to the lacking of language teaching experience, these teachers of professional courses always pay insufficient attention to the basic language skills of the students, which results in students' insufficient in applying English comprehensively (Ma & Liao, 2017).

4.3.4 Keywords Whose Strength Exceeds 1.0 Belong to the Current Research Hotspots

Since 2015, research topics such as legal English (1.97), teaching methods (1.63), curriculum constructions (1.37), countermeasures (1.26), genre analysis (1.07), and teaching content (1.05) can be seen as the latest research frontiers in the ESP field. This suggests that more efforts can be put into these aspects in future research.

Under the influence of sociocultural perspectives on the study of language learning, genre theory, and genre pedagogy have become one of the major developments in academic English writing research in recent years (Bhatia, 2014). Keywords like “teaching methods”, “curriculum constructions”, “countermeasures”, and “teaching content” to some extent, can reflect that ESP in China is experiencing a revolution. Deepening the reform of ESP teaching is an inevitable direction of development. This helps to solve the disconnection between

theoretical knowledge and social practice, narrow the gap between the students' abilities and social demand, and adapt to the current educational innovation.

5. Conclusion

Using CiteSpace, this study examines the current research status and development trends of ESP in the Chinese context. By analyzing the high-frequency keywords of retrieved articles published in the *Chinese Journal of ESP*, the research hotspots and cutting-edge topics in this field are tracked.

After analyzing the current hotspots and topics, several observations can be made. First of all, there is inadequate attention given to learners, resulting in limited studies on learners' motivation and attitudes toward learning. Second, the emphasis placed on disciplines outside of legal English and medical English is not enough. Third, research methods employed are mostly singularly qualitative or quantitative, and mixed research approaches are rare.

However, there exist some limitations regarding the width and depth of research, as this study only provides an overview of research conducted in the past decade (2013-2022) and focuses solely on articles published in the *Chinese Journal of ESP*. Other than that, because this study focuses only on domestic ESP research and does not compare it with international studies, it may fail to reflect the current trends and characteristics of cutting-edge ESP research in the international academic context.

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