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Learner Corpus Research: A Bibliometric Analysis

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Abstract

This study aims to create a meaningful single-source reference for language and linguistic scholars concerning learner corpus research. The objectives of this study were firstly, to evaluate the trend of research on learner corpus; secondly, to determine key areas in learner corpus research, and thirdly, to identify the major players in learner corpus research. This study employed a bibliometric method to describe and analyse data on 902 works related to

learner corpus. The data was retrieved in January 2023 from a Scopus database. VOSviewer software was used to visualize the data respectively. Findings showed that research on learner corpus started as early as 1994. The number of publications started to evolve in the year 2008 and the number of publications in 2022 appeared as the largest since 1994. The characteristics of scientific collaborations on learner corpus research reflect that there is still a scarcity of studies in this field based on papers published in the Scopus database. Thus, this bibliometric study can contribute as a reference for future research in complementing meta-analysis and structured literature reviews on learner corpus research.

Keywords: Learner Corpus, Bibliometric Analysis, VOSViewer

1. Introduction

Learner corpus research has increasingly started to gain interest among scholars in recent years. Embarking on learner corpus research gives practical insight to researchers, particularly in the field of Second Language Acquisition theory and Language teaching practice. It has been said that "corpus is a reliable and helpful resource for research" (Nguyen et al., 2018), "the corpus architecture allows for its reuse as a resource for corpus-based research approaches" (Odebrecht et al., 2017), "learner corpus research contributes to other disciplines" (Murakami et al., 2014), "may help reconcile research and teaching needs, especially in the field of English" (Zagrabelsky et al., 2022), "offering many opportunities for new research" (Honnibal et al., 2007) and "can also be used to advance empirical research in corpus-based translation studies", Granger et al. (2020).

The potential use of learner corpus has been researched by influential researchers which provides the base of knowledge in learner corpus research. In the work of Granger (1994), a report was published on ICLE (the International Corpus of Learner English), a project that collects written work from advanced adult EFL learners. The project has been enhanced significantly and the corpus has been used widely in promoting the field of learner corpus research. Studies on learner corpus research include mainly the compilation and application of learner corpus, learners' language patterns, and usage and error identifications in spoken and written learner English.

Previous studies on corpus research have also identified major findings with the utilization of bibliometric analysis. Many studies employ bibliometric methods to investigate research trends. Koskine et al. (2008) described "bibliometric methods revealed differences between institutions, indicating that the methods can be applied in research evaluation". Ragadhita et al. (2021) added the value of bibliometric analysis lies in "providing information on how phenomena occur".

In the field of Corpus Linguistics, Crosthwaite et al. (2022) use bibliometric analysis to map research in arts and humanities over the last 20 years. The metadata of 5,829 Corpus Linguistics-related articles from 429 Scopus-indexed journals was used. Results revealed an increase in Corpus Linguistics researchers in China, Poland, South Korea, and Japan. These findings were said to "mirror diachronic socio-cultural developments in applied linguistics

and society more generally and provide insights into what CL research might come next".

Wang et al. (2022) used a bibliometric analysis of research articles on the learner corpus of English writing from the WOS core collection published in the last 10 years (2012-2021) using CiteSpace software. A total of 187 academic research articles were obtained by a topic search with "English learners corpus OR English learner corpora". Despite a steady increase in the research, there is a need to strengthen international and domestic collaboration in the study of a learner corpus.

In a specific area of English language studies, Ngoc and Barrot (2022) sought to provide a comprehensive analysis of English language teaching (ELT) research in Southeast Asia (SEA) using both quantitative and qualitative data for the past 6 years. Results showed that research productivity and citations in the region have been increasing during the inclusive years, with Singapore, Vietnam, and Malaysia leading the list. However, although collaboration among SEA countries remains modest, their collaboration with Western countries is relatively extensive, especially Vietnam and Singapore.

Considering the importance of learner corpus research to facilitate future research focus, this study conducted a bibliometric analysis of documents that were published on a topic related to learner corpus. Fundamentally, this paper focuses on the following research objectives:

(i) to evaluate the evolution and dissemination of learner corpus research.

(ii) to determine key areas in learner corpus research

(iii) to identify the major players in learner corpus research.

2. Method

To identify the research trends in the learner corpus, this study performed a bibliometric analysis approach. The study collected data from the Scopus scientific database "which is the world's leading abstracts and citations database for research" and "it is one of the most comprehensive databases of citations, summaries, and citations for literature such as scientific journals, books, proceedings, and conferences, and it is freely accessible on the Internet" (AlShehhi et al. 2022).

This study consists of four steps:

Step 1: Research Design

Research questions were formulated as follows:

(i) how has learner corpus research evolved and been distributed?

(ii) what key topic areas have been discussed in learner corpus research?

(iii) who are the major players in learner corpus research?

The bibliometric analysis in this study attempts to answer the research questions. It looked

into publications by year, document, source titles, document types, and languages of documents for research question 1 on the evolution and distribution of learner corpus research. The key areas of learner corpus research in research question 2 examined the subject areas and keywords analysis. Further, this paper looked into countries with the most contributions, main institutions, authorship analysis, and citation analysis, to answer the third research question.

Step 2: Bibliometric Data

This study selected the Scopus database and conducted the following query: 'learner corpus'. 902 documents were retrieved from the Scopus database. This data was extracted on 29th January 2023 without setting any boundaries on document type, year of publication, subject area, or language. There were no identical documents detected after the data cleaning process, thus, a total of 902 documents were included for the Bibliometric Analysis from the year 1994 to 2023. All selected documents were then exported in CSV Excel format as bibliometric files.

Step 3: Bibliometric Analysis and Visualization Maps

This study used VOSviewer software (version 1.6.19). VOSviewer is a software tool for constructing and visualizing bibliometric networks. These networks may for instance include journals, researchers, or individual publications, and they can be constructed based on citation, bibliographic coupling, co-citation, or co-authorship relations. VOSviewer also offers text mining functionality that can be used to construct and visualize co-occurrence networks of important terms extracted from a body of scientific literature.

(https://www.vosviewer.com/)

In this study, VOSviewer software (version 1.6.19) was used for three types of analysis, Firstly, the co-authorship type was analysed in terms of authors, organizations, and countries. Secondly, the co-occurrence type of analysis looked at all keywords. Finally, the citation type was analysed based on countries.

VOSviewer software (version 1.6.19) was also used to visualize the data in the form of network visualization maps. VOSviewer consists of three different visualization maps which are network visualization, overlay visualization, and density visualization. In this study, the network visualization and density visualization were found appropriate to present keywords analysis, countries with the most contributions, main institutions, authorship analysis, and citation analysis.

Step 4: Results Interpretation

The final step was the description and interpretation of the results. The workflow in this study is presented in Figure 1.

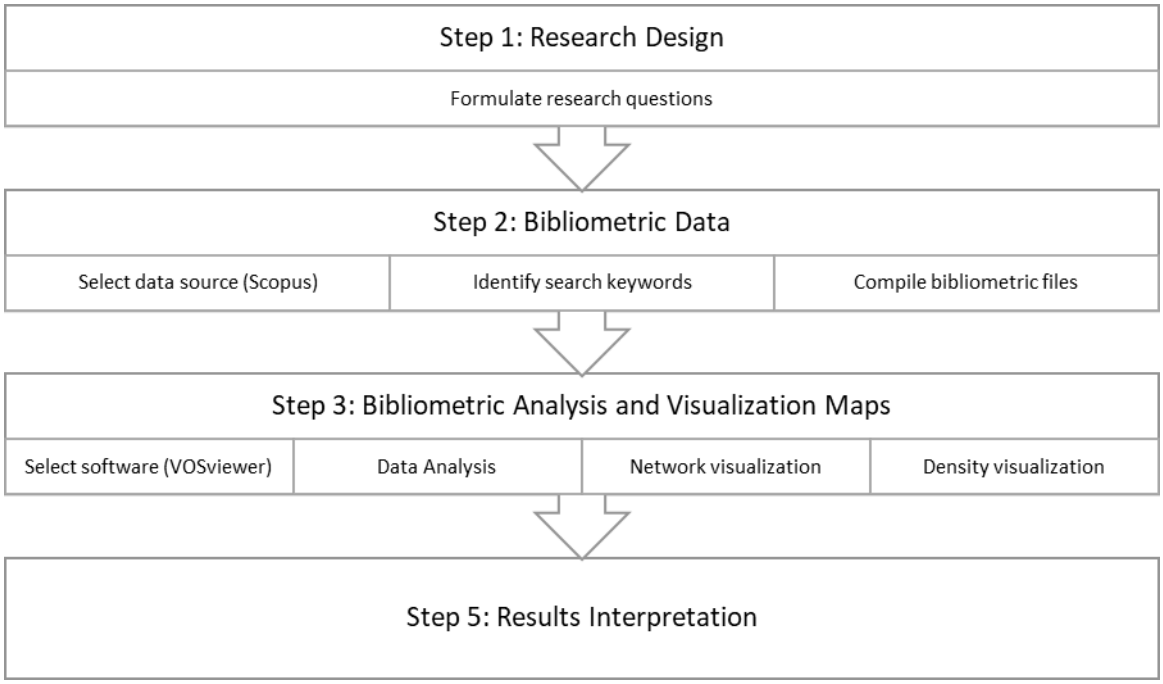

Figure 1. Bibliometric Analysis Workflow for Learner Corpus Research

3. Results

This section deals with the results obtained from the bibliometric analysis related to the following questions: (i) how has learner corpus research evolved and been distributed, (ii) what key topic areas have been discussed in learner corpus research, and (iii) who are the major players in learner corpus research.

(i) Evolution and Dissemination of Learner Corpus Research

To address the question of the evolution of learner corpus research and trends in its dissemination, this study analysed the following data: (a) number of publications by year, (b) source title, (c) document and source type, and (d) languages of documents. Analyses directly retrieved from the Scopus database through the 'analyse search results' function was used in this part.

a. Publications by year

Table 1 shows the statistics on annual publications of learner corpus research from the year 1994 to 2023 and indicates a trend of increasing numbers of publications. 1994 marks the first year with only one document recorded on learner corpus research titled "The Learner Corpus: A revolution in applied linguistics" which was published and indexed by Scopus. From 1994 until 2004, a total of 35 documents on learner corpus were recorded in the Scopus database ranging from 1-9 each year. Interestingly, there was an increase in the number of documents published on learner corpus in 2005 and 2006 with 26 documents published before it decreased to a one-digit number in 2007 with 6 documents. The number gradually increased from the year 2008 until 2015 from 18 documents to 85 documents, reflecting the

growing interest in learner corpus research. The number then decreased to 60 documents in 2016 and 59 documents in 2017 before it gradually increased in 2018 with 64 documents to 101 publications in 2022. This study was conducted on 29th January 2023, some journals had already produced their 2023 publications, so these numbers were also recorded by the Scopus database. Figure 2 presents the number of documents published from 1994 to 2023.

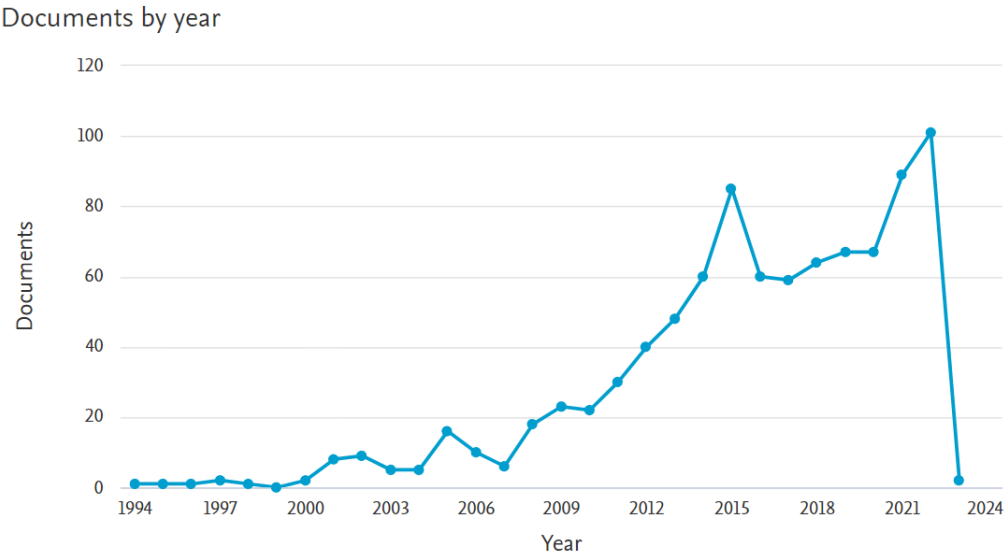

Figure 2. Documents by Year (1994 – 2023)

The number of learner corpus research publications by year is further presented in Table 1.

Table 1. Number of Learner Corpus Research Publications by Year

Year	Number of documents	Year	Number of documents
1994	1	2009	23
1995	1	2010	22
1996	1	2011	30
1997	2	2012	40
1998	1	2013	48
1999	0	2014	60
2000	2	2015	85
2001	8	2016	60
2002	9	2017	59
2003	5	2018	64
2004	5	2019	67
2005	16	2020	67
2006	10	2021	89
2007	6	2022	101
2008	18	2023	2

b. Source titles

A book series called Studies in Corpus Linguistics contributed the greatest number of publications on learner corpus (n = 40). The International Journal of Learner Corpus Research (n = 35) then proved to be the leading journal of published research related to learner corpus. This was followed by the Cambridge Handbook of Learner Corpus Research (n = 28) and the International Journal of Corpus Linguistics (n = 22). Table 2 shows the top 10 sources of publishing on learner corpus.

Table 2. Top 10 Sources for Learner Corpus Research

Source title	Number of documents
Studies in Corpus Linguistics	40
International Journal of Learner Corpus Research	35
Cambridge Handbook of Learner Corpus Research	28
International Journal of Corpus Linguistics	22
Lecture Notes in Computer Science including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics	18
System	18
Language Learning	14
Corpora	13
Journal of English for Academic Purposes	11
Corpus Linguistics and Linguistic Theory	10

c. Source and Document types

This study also sought to determine where learner corpus documents had been published by analysing the data based on document source types. Table 3 shows that journals were the most common source, representing 526 (58.31%) of the total, followed by conference proceedings (n = 179; 19.84%). Book and Book series were also the sources and document types with 106 (11.75%) for the former and 91 (10.09%) for the latter. These publications were also referred to as they are relevant and useful in learner corpus research.

Table 3. Sources for Learner Corpus Research

Source type	Number of documents	Percentage (%)
Journal	526	58.31
Conference Proceeding	179	19.84
Book	106	11.75
Book Series	91	10.09

The data were also analysed based on document types. The Scopus database focuses on primary document types from serial publications, which means that the author is also the researcher in charge of the presented findings. As a result, this analysis revealed the volume of research carried out on learner corpus and their publications. As shown in Figure 3, more than half of the total publications came from articles of original research (n = 484; 53.66%).

This was followed by documents presented at a conference (n = 209; 23.17%). Book chapters represented 12.64% (n = 114) of the publications on learner corpus. The other types of documents, such as reviews, books, conference reviews, erratum, editorials, data papers, and notes each represented less than 7% of the total publications, respectively.

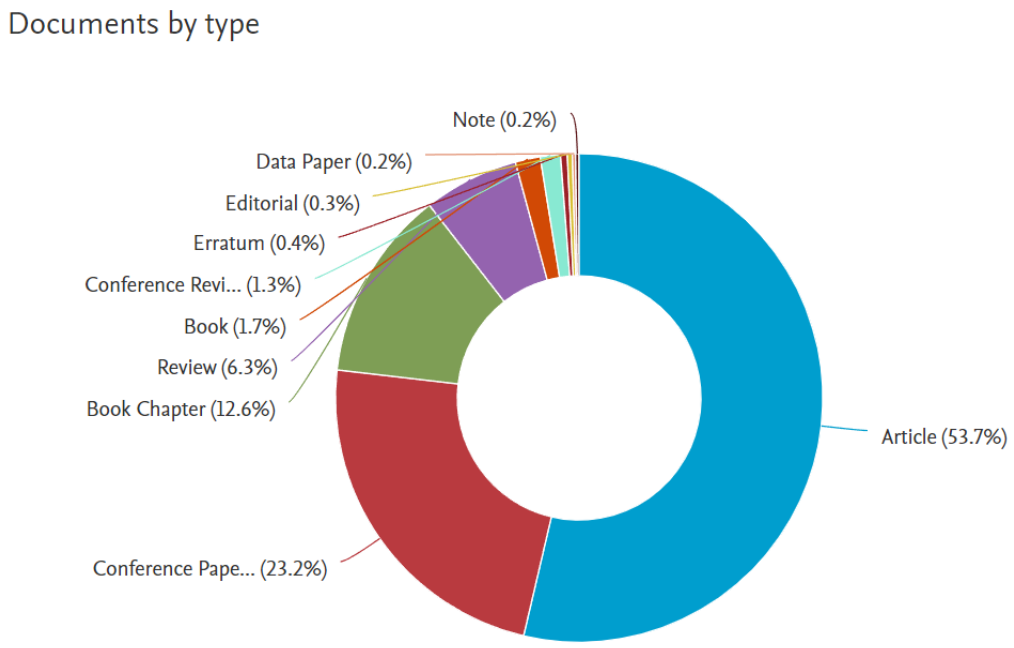

Figure 3. Documents by Type

d. Languages used in documents

Table 4 reveals that English was the most common and accounted for 93.24% of the 902 publications on learner corpus. Spanish was used second most often but accounted for nearly 2.11% only. The rest of the documents were published in eight other languages, namely French, German, Russian, Finnish, Czech, Estonian, Japanese, and Latvian, but these accounted for less than 1.6% of the total. While publications on learner corpus appeared in languages other than English, they accounted for only a small percentage.

Table 4 Languages Used for Learner Corpus Research Publications

Language	Number of documents	Percentage (%)
English	841	93.24
Spanish	19	2.11
French	14	1.55
German	10	1.11
Russian	7	0.78
Finnish	3	0.33
Czech	2	0.22

Estonian	2	0.22
Japanese	2	0.22
Latvian	2	0.22

(ii) Key Areas of Learner Corpus Research

The key areas of learner corpus research were analysed in terms of (a) subject area, (b) keywords analysis, and (c) document titles.

a. Subject area

This study classified the documents based on their subject area, as presented in Table 5. Analyses on subject areas were directly retrieved from the Scopus database through the 'analyze search results' function. The data showed that research on learner corpus has emerged in a variety of subject areas. Nearly 85% of studies involving learner corpus were in the area of social sciences, representing 42.31% (n = 770) of the total articles, followed by a significant number of publications in the arts and humanities (n = 691; 37.97%). The subject area of computer science accounted for 11.48% (n = 209) and was followed by Business, Management and Accounting, Psychology, Mathematics, Engineering, Health Professions, Decision Sciences, Economics, Econometrics, and Finance each accounted for less than 50 documents on learner corpus.

Table 5. Subject Areas of Learner Corpus Research

Subject area	Number of documents	Percentage (%)
Social Sciences	770	42.31
Arts and Humanities	691	37.97
Computer Science	209	11.48
Business, Management, and Accounting	46	2.53
Psychology	33	1.81
Mathematics	31	1.70
Engineering	21	1.15
Health Professions	8	0.44
Decision Sciences	6	0.33
Economics, Econometrics, and Finance	5	0.27

b. Keywords analysis

The fundamental principle of keyword analysis is that the author's keywords are adequate to represent the contents of the article (Comerio & Strozzi, 2019). Figure 1 presents a network visualization of the author keywords that each had a minimum of 10 occurrences. This study used VOSviewer, a software tool for constructing and visualizing bibliometric networks to map authors' keywords. The colour, circle size, font size, and thickness of connecting lines represent relationships with other keywords. For example, keywords with the same colour were commonly listed together. In this study, learner corpus, corpus linguistics, learner corpus research, second language acquisition, and error analysis have similar colours, suggesting that these keywords were closely related and usually occurred together (Sweileh et

al., 2017).

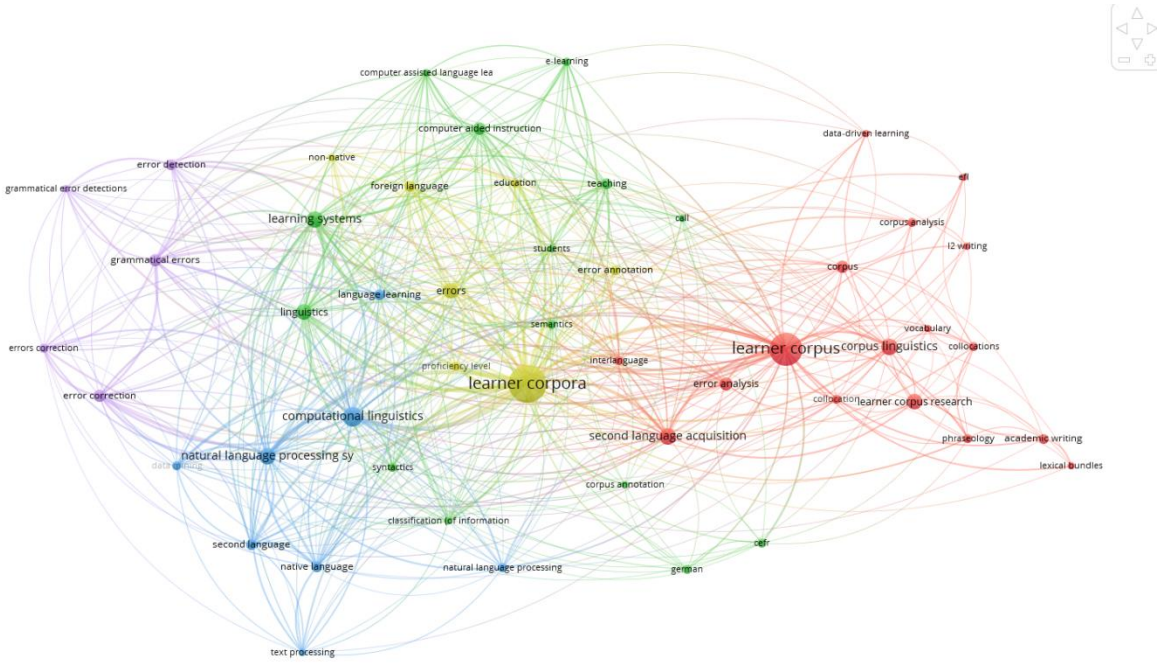

Figure 4. Network Visualization Map of Author Keywords with at least 10 Occurrences

For the keyword analysis, the co-occurrence type of analysis and all keyword units of analysis were used in VOSviewer. In terms of the number of occurrences, this study set the minimum number of occurrences of a keyword to be 10. 2530 keywords were utilized in 902 publications, according to VOSviewer data and 51 of the 2530 keywords met the threshold. In this field of study, the keyword “learner corpora” was the most frequently used. The top ten keywords used in the research on “learner corpus” are listed in Table 6.

Table 6. Top Twenty (20) Keywords in Learner Corpus Research

No	Keywords	Occurrences	No	Keywords	Occurrences
1	Learner corpora	250	11	Error analysis	32
2	Learner corpus	182	12	Grammatical errors	28
3	Computational linguistics	68	13	Corpus	28
4	Learning systems	48	14	Computer-aided instruction	26
5	Natural language processing system	47	15	Error correction	26
6	Second language acquisition	47	16	Error detection	22
7	Corpus linguistics	47	17	Foreign language	21
8	Learner corpus research	44	18	Native language	21
9	Errors	43	19	Second language	21
10	Linguistics	42	20	Language learning	21

(iii) Major Players and Collaboration in Learner Corpus Research

This study examined the characteristics of scientific collaborations on learner corpus research by analysing (a) the countries that most frequently contributed, (b) the main institutions involved in learner corpus research, (c) authorship analysis, and (d) citation analysis.

a. Countries contributing most to learner corpus research.

Based on geographical distributions, there were 32 countries listed in Scopus that contributed to the publications of learner corpus research. Table 7 indicates the top 16 countries: The United States (17.77%) had the leading position, followed by Germany (10.09%) and the United Kingdom (9.02%), Japan (9.02%), Belgium (8.75%), Spain (7.94%), China (7.13%), and Taiwan (7.13%). The remaining distribution of authors' national affiliations represented less than 7.00% and was spread across the globe - South Korea, Italy, the Russian Federation, Norway, Malaysia, Sweden, Australia, and Canada. It clearly shows that learner corpus research plays an important role in a wide range of geographic areas.

Table 7. Geographic Origins of Learner Corpus Research

Country	Number of documents	Percentage (%)
United States	132	17.77
Germany	75	10.09
United Kingdom	67	9.02
Japan	67	9.02
Belgium	65	8.75
Spain	59	7.94
China	53	7.13
Taiwan	53	7.13
South Korea	36	4.85
Italy	32	4.31
Russian Federation	23	3.10
Norway	19	2.56
Malaysia	18	2.42
Sweden	17	2.29
Australia	14	1.88
Canada	13	1.75

The network visualization of the top 16 countries related to learner corpus research was created using VOSviewer as presented in Figure 5.

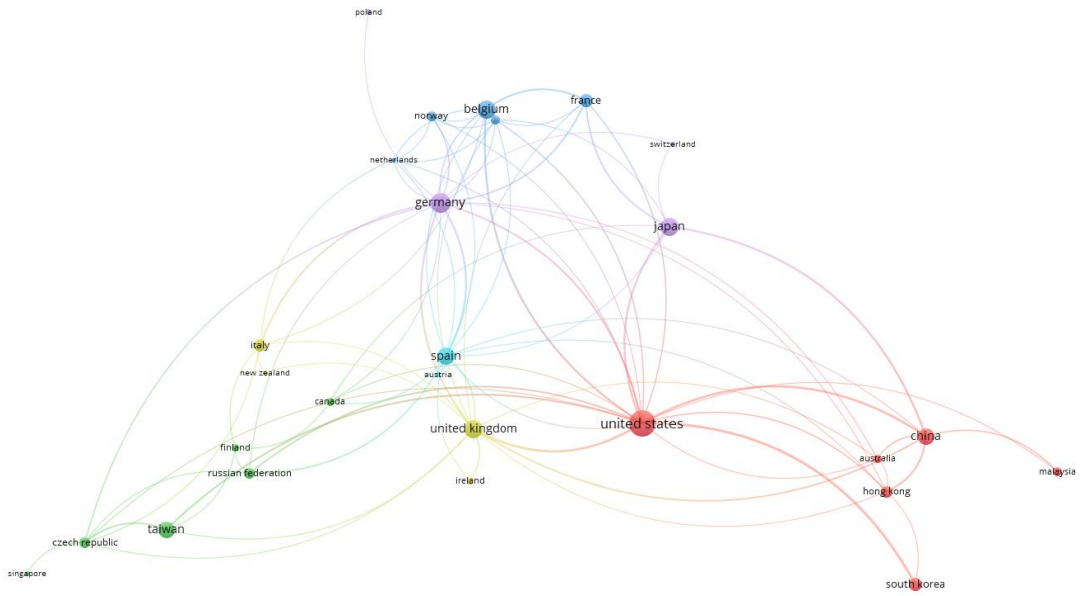

Figure 5. The Top 16 Countries Related to Learner Corpus Research.

b. Main institutions.

Based on the VOS viewer analysis, of the 1177 organizations, 8 meet the thresholds. Université Catholique de Louvain, Belgium contributed most to publications on learner corpus. This was followed by the University of Oslo, Norway, Tokyo Metropolitan University, Japan, Lancaster University, United Kingdom, Centre for English Corpus Linguistics, Charles University, Prague, Czech Republic, and the University of Louvain, Belgium. Due to the possibility of the inconsistent format in organization names, this result was yielded directly in the form of density visualization from VOSviewer in Figure 3.

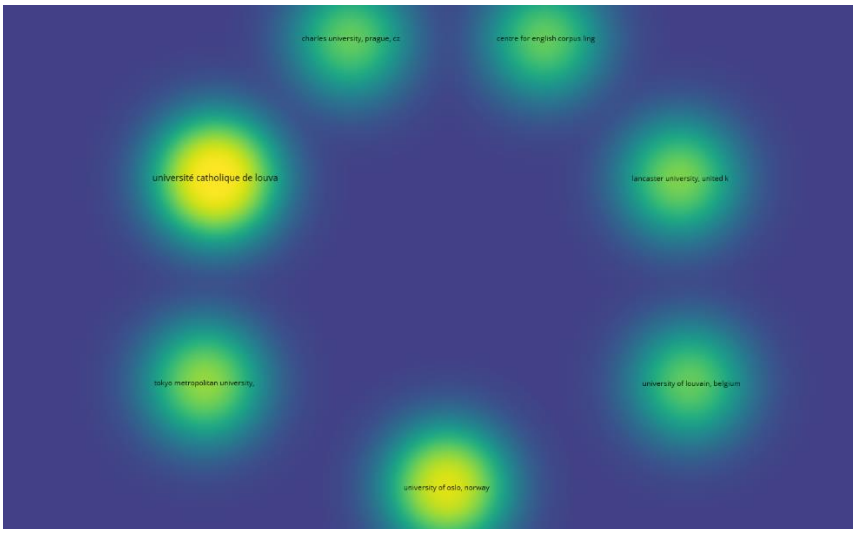

Figure 6. Density Visualization of Institutions Contributing Learner Corpus Research Documents

c. Authorship analysis.

Table 8 shows the most productive authors who contributed to research on learner corpus. One author had the most publications on learner corpus with 31 publications, namely Granger S. affiliated with the Centre for English Corpus Linguistics, Université Catholique de Louvain, Belgium. The second author with the most publications was Paquot M. with 15 publications from FNRS – Université Catholique de Louvain and the third most productive author publishing on learner corpus was Gilquin G. (13 publications) also from Université Catholique de Louvain, Belgium. These three most productive authors in learner corpus studies all came from European countries.

Table 8. Most Productive Authors in Learner Corpus Research

Author	Number of documents
Granger S.	31
Paquot M.	15
Gilquin G.	13
Meunier F.	12
Komachi M.	11
Meurers D.	10
Murakami A.	9
Callies M.	9
Vyatkina N.	7
Lozano C.	7
Rosen A.	7
Kyle K.	7
Le l.-h.	7
Tseng y.-h.	7
Nagata R.	7

VOSviewer software was used to present a network visualization (see Figure 7) of the mapping of co-authorship among different authors. This mapping was based on data from those authors who had at least five documents on learner corpus and at least five citations. Related authors, as indicated by the same colour, are commonly listed together. For example, the diagram suggests that Granger S., Gilquin G., and Meunier F. who were all from the same institution in Germany, had collaborated quite closely.

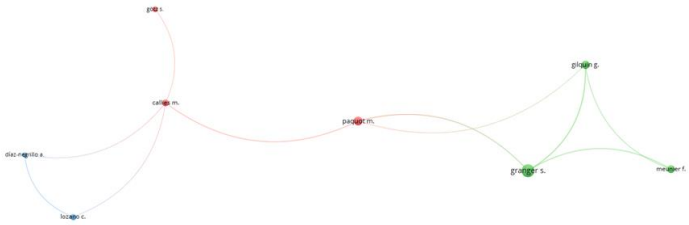

Figure 7. Network Visualization Map of Learner Corpus Research Co-Authors

Figure 8 further shows the network visualization map of the authors based on the countries they are affiliated with. Only countries with at least five documents and at least five citations were considered in this analysis. Based on the diagram, it was clear that authors from the United States have played a prominent role in collaborating with authors from other countries in terms of learner corpus research. Authors from The United States have worked with colleagues from Germany, the United Kingdom, Japan, Spain, Canada, and South Korea. Several collaborative efforts with colleagues in other countries have also been established by authors from China, Australia, Hong Kong, and Malaysia.

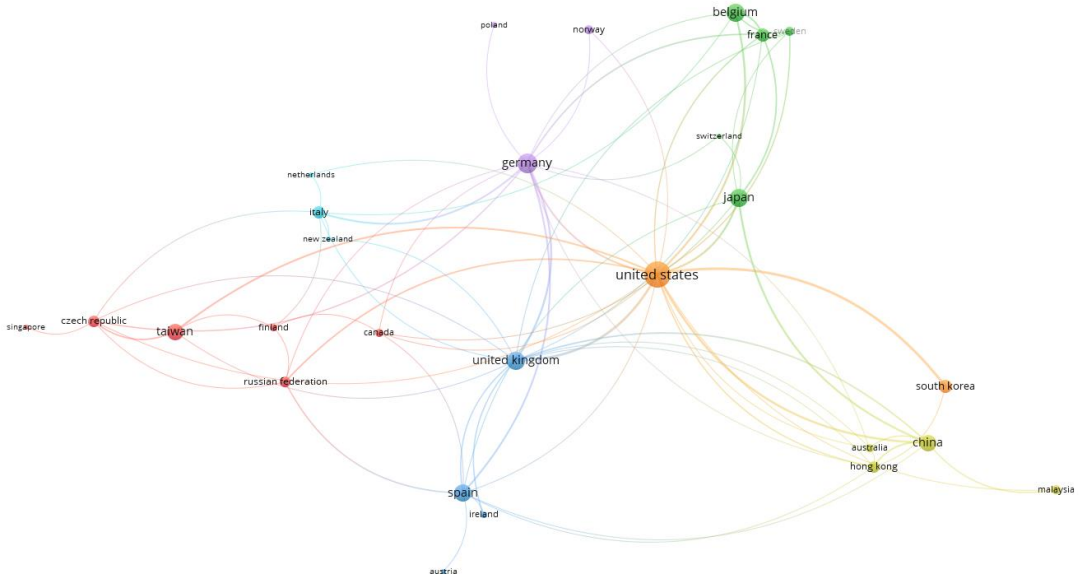

Figure 8. Network Visualization Map of Learner Corpus Research Co-Authors by Country.

d. Citation analysis.

Figure 9 presents the mapping of citations for documents with a minimum of five documents per country and a minimum of five citations per country. It reflects countries of origin in relation to each other. The United States, Germany, and the United Kingdom appeared to be the most influential countries, as this was where the learner corpus research authors most often cited were based.

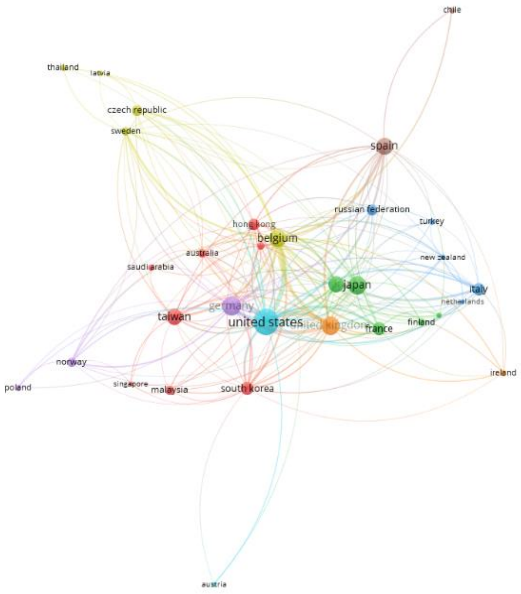

Figure 9. Network Visualization Map of Citations of Learner Corpus Documents by Country.

4. Discussion

This study performed a bibliometric analysis to understand an overview of publications related to learner corpus. A clear insight into the evolution and distribution of research in learner corpus research has been addressed in the first research question. The Scopus database detected 902 documents related to this topic. The first document was written by Granger, S. titled “The learner corpus: A revolution in applied linguistics”, and was published in the year 1994. Findings indicate that research on learner corpus started to evolve in the year 2008 and the number of publications in 2022 appeared as the largest since 1994. The Scopus results reported that 93.24% of the documents were written in English and interestingly, the remaining were written in Spanish, French, German, Russian, Finnish, Czech, Estonian, Japanese, and Latvian. More than half of the documents were in journal source type.

The key area of learner corpus research for the second research question could be viewed in the form of subject areas and keyword analysis. Research on learner corpus was mostly in subject areas of Social Sciences and also Arts and Humanities. However, it has emerged in

other subject areas, namely, Computer Science, Business, Management and Accounting, Psychology, Mathematics, Engineering, Health Professions, Decision Sciences, Economics, Econometrics, and Finance. This has encouraged the creation of fresh ideas and creativity by bringing together several disciplines. Results generated by VOSviewer showed the key areas of this field of study were mainly corpus linguistics, learner corpus research, second language acquisition, and error analysis.

The final question concerns the examination of major players and their collaboration. The significance of publications in learner corpus research could be explicated from the citation analysis. The most influential countries where the learner corpus research authors were most often cited were based in the United States, Germany, and the United Kingdom.

This study identified several limitations. First, exclusive reliance on the Scopus database may lead to inconclusive publications on “learner corpus” research. Furthermore, this research only focused on the topic related to the “learner corpus” derived from the title of the article, abstract, and keywords. As a result, all other material relating to “learner corpus” research but not specifically using it within those subject areas was omitted. Second, authors may have registered more than one name or provided multiple spellings in Scopus, resulting in erroneous information about their works. This is evident in the VOSviewer warning with authorship and organizations which says “Scopus data on organizations may not have been harmonized. Organization names may not have a consistent format”. Third, the analyses of this study were limited to the leading journals in the “learner corpus” in the Scopus database. Journals from other databases, such as WOS, were not considered in the analysis. These limitations should be kept in mind concerning the generalisability of the results of this study.

5. Conclusion

This study adds to knowledge by providing current research trends in learner corpus and expanding the literature on learner corpus through the application of the bibliometric method. Studies on learner corpus should be thoroughly investigated since the trend of interest continues to rise year after year. This bibliometric study can serve as a baseline for future researchers who are expected to contribute to the expanding body of knowledge on learner corpus in conjunction with meta-analysis and structured literature review.

It is evident that learner corpus research needs further attention, especially in the English as a Second Language and English as a Foreign Language settings. This study has provided the groundwork for future research in identifying potential research gaps. Future research could potentially focus on journals from other databases for a broader analysis of the metadata. This is hoped to give more insights for researchers, practitioners, funding agencies, and policymakers to know other present and future lines of research.

Acknowledgments

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References

AlShehhi, A. M. A. A., Nasir, B. B. M., Kilani, A., Abuhassna, H., & Awae, F. (2022). Exploring the Role of Diversity on Management and Attitude: A Bibliometric Analysis. *International Journal of Academic Research in Progressive Education and Development, 12*(10), 1217-1231. https://doi.org/10.6007/ijarped/v11-i3/15370

Comerio, N., & Strozzi, F. (2019). Tourism and its economic impact: A literature review using bibliometric tools. *Tourism Economics, 25*(1), 109-131.

Crosthwaite, P., Ningrum, S., & Schweinberger, M. (2022). Research trends in corpus linguistics: A bibliometric analysis of two decades of Scopus-indexed corpus linguistics research in arts and humanities. *International Journal of Corpus Linguistics*. https://doi.org/10.1016/j.jslw.2022.100934

Granger, S. (1994). The learner corpus: A revolution in applied linguistics. *English Today*, *10*(3), 25-33. https://doi.org/10.1017/s0266078400007665

Granger, S., & Lefer, M. A. (2020). The Multilingual Student Translation corpus: a resource for translation teaching and research. *Language Resources and Evaluation*, *54*(4), 1183-1199.

Honnibal, M., & Curran, J. R. (2007, June). Creating a systemic functional grammar corpus from the Penn treebank. In *ACL 2007 Workshop on Deep Linguistic Processing* (pp. 89-96).

Koskinen, J., Isohanni, M., Paajala, H., Jääskeläinen, E., Nieminen, P., Koponen, H., Tienari, P. &

Miettunen, J. (2008). How to use bibliometric methods in evaluation of scientific research? An example from Finnish schizophrenia research. *Nordic journal of psychiatry*, *62*(2), 136-143. https://doi.org/10.1080/08039480801961667

Murakami, A. (2014). *Individual variation and the role of L1 in the L2 development of English grammatical morphemes: Insights from learner corpora* (Doctoral dissertation, University of Cambridge).

Ngoc, B. M., & Barrot, J. S. (2022). Current landscape of English language teaching research in Southeast Asia: A bibliometric analysis. *The Asia-Pacific Education Researcher*, 1-13.

Odebrecht, C., Belz, M., Zeldes, A., Lüdeling, A., & Krause, T. (2017). RIDGES Herbology: designing a diachronic multi-layer corpus. *Language Resources and Evaluation*, *51*, 695-725. https://doi.org/10.1007/s10579-016-9374-3

Ragadhita, R., & Nandiyanto, A. B. D. (2022). Computational bibliometric analysis on publication of techno-economic education. *Indonesian Journal of Multidisciplinary Research*, *2*(1), 213-220. https://doi.org/10.17509/ijomr.v2i1.43180

Sweileh, W. M., Al-Jabi, S. W., AbuTaha, A. S., Zyoud, S. E. H., Anayah, F. M., & Sawalha, A. F. (2017). Bibliometric analysis of worldwide scientific literature in mobile-health: 2006–2016. *BMC medical informatics and decision making*, *17*, 1-12. https://doi.org/10.1186/s12911-017-0476-7

Wang, W., Zhao, J., & Wu, Z. (2022). A Bibliometric Analysis of Research Articles on Learner Corpus of English Writing (2012-2021). *Open Journal of Modern Linguistics*, *12*(5), 588-604.

Zagrebelsky, M. T. P. (2003). Computer learner corpora, or how can we turn our students' interlanguage into a resource for EFL research and teaching? *Vigo International Journal of Applied Linguistics*. https://doi.org/10.35869/vial.v0i0.3869