



Analyzing Cross-Linguistic Influence in Second Language Acquisition : A Bibliometric Study Using Vosviewer

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Abstrak

Penelitian ini bertujuan untuk mengetahui analisis data bibliometrik tentang Pengaruh Lintas Linguistik dalam Pemerolehan Bahasa Kedua menggunakan VOSviewer. Data diperoleh melalui aplikasi manajemen referensi. Penelitian ini menggunakan kata kunci "lintas bahasa, pengaruh linguistik, pembelajaran bahasa, dan pemerolehan bahasa kedua" untuk mencari data. Data pencarian diambil pada tahun 2019 hingga 2023. Hasil penelitian menunjukkan data penelitian selama lima tahun diperoleh 219 artikel. Jumlah penelitian setiap tahunnya berfluktuasi dengan kecenderungan menurun. Penelitian terbanyak terjadi pada tahun 2019 yaitu sebanyak 68 artikel, dan paling sedikit pada tahun 2023 sebanyak 4 artikel. Hasil penelitian ini menjelaskan betapa pentingnya penggunaan analisis bibliometrik untuk mengetahui fenomena yang terjadi mengenai Pengaruh Lintas Linguistik dalam Pembelajaran Bahasa Kedua. VOSviewer telah menganalisis berbagai artikel mengenai topik tersebut, yang diharapkan dapat meningkatkan semangat peneliti dalam mengembangkan penelitian lebih lanjut mengenai topik ini dan berfungsi sebagai referensi untuk penelitian di masa depan.

Kata Kunci: Bibliometrik, Linguistik, Bahasa, Akuisisi, Vosviewer.

Abstract

This study aimed to determine the bibliometric data analysis of Cross Linguistic Influence in Second Language Acquisition using VOSviewer. It obtained the data through a reference management application. It used the keywords "Cross-linguistic, linguistic influence, language learning, and Second Language Acquisition" to search for data. Search data was taken from 2019 to 2023. The results showed that research data for five years obtained 219 articles. The number of studies every year fluctuates with a tendency to decrease. Most of the research occurred in 2019, with as many as 68 articles, and in at least 2023, as many as 4. The results of this study explain how important it is to use bibliometric analysis to discover the phenomena that occur regarding Cross Linguistic Influence in Second Language Acquisition. VOSviewer has analyzed numerous articles concerning the topic area, which is expected to stimulate researchers' enthusiasm in further developing research on this topic and function as a point of reference for upcoming material investigations.

Keywords: Bibliometric, Linguistic, Language, Acquisition, Vosviewer.

Introduction

To convey a specific discourse-pragmatic function, language frequently

provides speakers with a variety of linguistic forms (or variations). The term "orderly" or "patterned heterogeneity" (cited in Requena & Berry, 2021). Because it creates a complex linguistic system in which linguistic decisions—which may or may not be conscious decisions—are limited by linguistic and social elements about the speaker, the discourse, the grammar, the interactional context, and a host of other things (Pollack et al., 1988).

The term "cross-linguistic influence" (CLI) describes how a speaker of one language may be influenced by another. It usually involves two languages that, in a bilingual speaker, may have an impact on each other. It might also allude to a monolingual speaker's mental interplay between various dialects. CLI is present in all language subsystems, including pragmatics, semantics, syntax, morphology, phonology, phonetics, and orthography (cited in Requena & Berry, 2021). There have already been many studies on CLI, and there will be many more.

The phenomena of language transfer, which happens when learning a second language in a range of circumstances, including phonology, lexicon, syntax, and pragmatics, has already been well demonstrated. (De Angelis Gessica, Dewaele Marc Jean, 2011). Three language domains where cross-linguistic variations are apparent are shared by four theoretical theories that present a comparable concept. The unified competition model is one of the models. (Machinery, n.d.), the associate-cognitive creed (Ellis, 2006), processing determinism (O'Grady, 2015), and the inhibitory control model (Green, 1998), which all credit prior education and experience with language acquisition as having played a significant role. The domains selected for showcasing CLI are morphosyntax, vocabulary, and phonology, as these areas have a wealth of research on CLI and have been the focus of educational intervention. In the prologue, Long and Richards admit that it can be difficult to determine when language transfer studies

began. (Odlin, 1989). However, it may be asserted that American linguists such as Charles Fries and Robert Lado started studying cross-linguistic effects in depth sometime in the mid-1900s.

According to some academics, the client could be the outcome of "contact-modified input," or linguistic input that has been altered or influenced by external factors, including learning another language. A language's learning environment can influence its development. Take into consideration that the majority of L2 learners receive instruction or input from bilinguals who speak similar languages.; (Hauser-grüdl et al., 2010) believe that since teachers' perceptions of the language they are teaching have already been shaped by it, the information students are getting will also be influenced. Because their L2 input is not as pure as that of a monolingual, these L2 learners will duplicate influences. In other words, what appears to be CLI in an individual is not the CLI of their L1 on their L2, but rather the results of absorbing input that has already been affected. Though this is not a well-supported theory of CLI or its role in L2 acquisition, it has led some people to conclude that any input for L2 learning will be influenced by and resemble CLI.

According to several academics, Linguistic interaction can affect a learner's identity in different ways, and CLI is more than merely production effects. (Jarvis, Pavlenko, 2007) Several domains were discovered, including experiences, knowledge, intelligence, growth, attention, and language use as significant areas for change due to cross-linguistic influence (CLI). These theories contend that CLI is a distinct developmental usage of the brain and that the cross-linguistic influence of syntactic morphological or phonological alterations may represent the extent to which one language influences another. Although numerous studies have explored CLI, there is a lack of research discussing bibliometric analysis coupled with mapping techniques using Vosviewer. Such an approach could

assist fellow researchers in devising studies about cross-linguistic influence.

Using Vosviewer software, this study attempts to ascertain the evolution of research about CLI in SLA research concerning the distribution of research trends and bibliometrics. Vosviewer is a program used for data mapping. This tool enables the mapping of data for comprehensive analysis (Husaeni & Nandiyanto, 2022). Bibliometric analysis is widely recognized for its efficacy in furnishing datasets that can enhance the caliber of research. (Nandiyanto et al., 2020). The bibliometric map depicts the arrangement of the publishing type, the topic area examined, the study's place of origin, the journal in which the work came out, and the language used (Namidah et al., 2020). Nevertheless, this study employed bibliometric analysis to demonstrate a decline in research development concerning cross-linguistic influence in SLA. This trend is evident in the data spanning from 2019 to 2023. The research also aims to aid researchers in identifying the prevalent research themes. The uniqueness of this study lies in its focus on the keywords selected for analysis, specifically cross-linguistic influence in second language acquisition.

Methodology

In this study, descriptive qualitative research was performed. The researcher collected 219 literature evaluations, including 30 books and 189 articles, with 21 international publications between the articles. The material published through publish or perish from 2019 to 2023 was looked up in the Google Scholar database and used *bibliometric*, *cross-linguistic influence*, *second language acquisition*, and *Vosviewer* as search terms to locate the relevant literature. Information about the publications that fit the requirements was exported into RIS format using Mendeley, which includes the year of publication, author, journal, title, keywords, document type, and abstract.

Choosing the most appropriate database for the study represents the initial phase of a bibliometric review. This study uses vosviewer's analysis bibliometric to analyze the data. The researcher chose the articles by conducting searches in the reference manager files, selecting the data and choosing them that fit the requirements, using the counting method with binary counting, choosing the limit of the minimum number of documents of an author, deciding on the author's minimum document count threshold, authors, confirming the selected terms, and clicking finish to view the mapping of the terms on Vosviewer.

Findings and Discussion

Publishing distribution by year

Figure 1 demonstrates the number of journal articles and books about cross-linguistic influence in second language acquisition published annually from 2019 to 2023. The researcher found that in 2019 there were 68 documents; in 2020, there were 52; in 2021, there were 51; in 2022, there were 44; and decreased in 2023 with only 4.



Figure 1. Distribution of publication by year

As shown in Figure 1, the number of publications during this time fluctuated. However, they tended to rise from 2020 to 2021 but decreased quickly from 2022 to 2023.

Table 1. The number of studies and the number of citations.

Position	Title	Author	Year	Source	Citation
1	Second Language Acquisition: An Introductory Course, Second Edition	Susan M. Gass, Jennifer Behney, and Luke Plonsky	2020	https://routledge/textbooks.com/textbooks/9781138743427/ DOI: https://doi.org/10.4324/9781315181752	8295
2	A systematic review of transfer studies in third language acquisition	Eloi Puig-Mayenco, Jorge González Alonso, and Jason Rothman	2020	sagepub.com/journals-permissions DOI: https://doi.org/10.1177/0267658318809147	98
3	English reading growth in Spanish-speaking bilingual students: The moderating effect of English proficiency on cross-linguistic influence	Jackie Eunjung Relyea, Steven J. Amendum	2020	society for Research in Child Development https://doi.org/10.1111/cdev.13288	42
4	Entrenchment and productivity: The role of input in the code-mixing of a German-English bilingual child	Antje Endesfelder Quick, Stefan Hartmann, Ad Backus and Elena Lieven	2021	From the journal Applied Linguistics Review https://doi.org/10.1515/aaplirev-2019-0027	24
5	Strategy development and cross-linguistic transfer in foreign and first language writing	Karen Forbes and Linda Fisher	2020	<i>De Gruyter</i> https://doi.org/10.1515/aaplirev-2018-0008	18

Visualization Science Education Topic Area Using Vosviewer

In the Vosviewer data mapping visualization, the relationship between each term has a minimum number of two relationships. Vosviewer has a function to evaluate data. VOSviewer assesses the acquired data, and the resultant data in this study are categorized into six groups.: Clusters 1 to 5 are represented by five colors, including red, green, blue, yellow, and purple. Each cluster has a function to describe the relationship of each term. Each cluster has a function to describe the relationship of each term. Figure 2 shows the number of items for each cluster. Cluster 1 totalled 14 items. Cluster 2 totalled 10 items. Cluster 3 totalled 10 items. Cluster 4 totalled 9 items and Cluster 5 totalled 8 items.

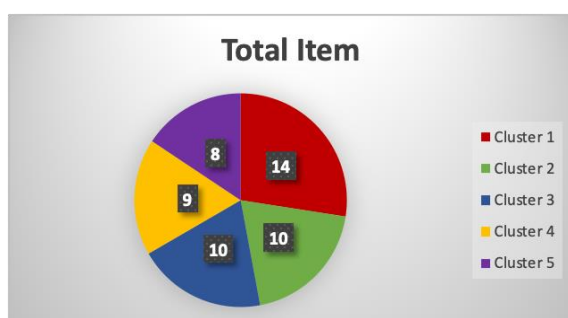


Figure 2. Total items in every cluster

The research data described by Vosviewer usually has three different representations of bibliometric mapping. The three representations include (1) network visualization, (2) overlay visualization, and (3) density visualization. Color circles indicate keywords, and there is a strong correlation between the dimension of the color circles and the number of terms in the abstract and title—the more often the keywords appear, the larger the color circles get.

The network visualization represents the connection between related terms using lines or nets. The study involved visualizing 5 clusters in the network visualization image (Fig. 2). The explanation below:

- 1) Cluster 1 consists of 14 items. These items include bilingual child, code-switching, cross-linguistic, cross-linguistic influence, development, domain, effect, influence, longitudinal study, model, multilingualism, the present study, role, and second language acquisition. This cluster is marked in red.
- 2) Cluster 2 consists of 10 items. These items include acquisition, case, concept, cross, cross-linguistic perfect, cross-linguistic study, impact, language learning, research, and use. This cluster is marked in green.
- 3) Cluster 3 consists of 10 items. These items include CLI, cross-linguistic influence, cross-linguistic interaction, evidence, interaction, production, third language, third language acquisition, transfer, and type. This cluster is marked in blue.
- 4) Cluster 4 consists of 9 items. These items include bilingual, factor, language, language acquisition, learner, linguistic influence, second language, second language learner, and section. This cluster is marked in yellow.

- 5) Cluster 5 consists of 8 items. These items include cross-language transfer, cross-linguistic transfer, English, foreign language, language transfer, literacy skills, and student study. This cluster is marked in purple.

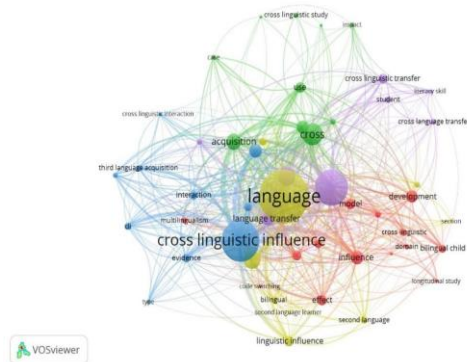


Figure 3. Network visualization of the materials keyword.

Figure 3 shows a research overlay visualization on the theme searched according to keywords. The light color shows that the newer the research is, the brighter the color is. In the data visualization of the results of this study, research less than 2020 was visualized with a dark navy blue color. While the research above in 2021 is visualized in bright yellow color. The results of research developments show that research developments related to cross-linguistic, linguistic influence, language learning, and second language acquisition. It is evident from the small number of colors that look bright.

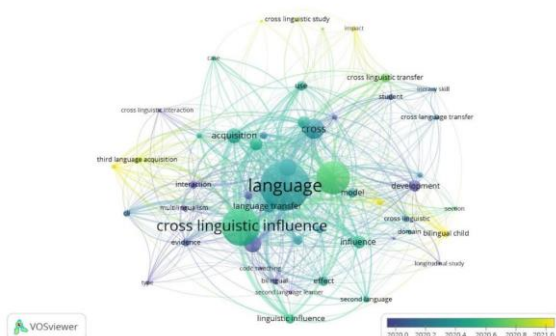


Figure 4. Overlay visualization of the materials keyword.

Figure 4 demonstrates a visualization of research density according to the specified keyword themes. The image analysis results show that the research density on the searched keyword themes about cross-linguistic, linguistic influence, language learning, and second language acquisition looks quite close to other related research terms. The research themes related to children dominate the surface area.

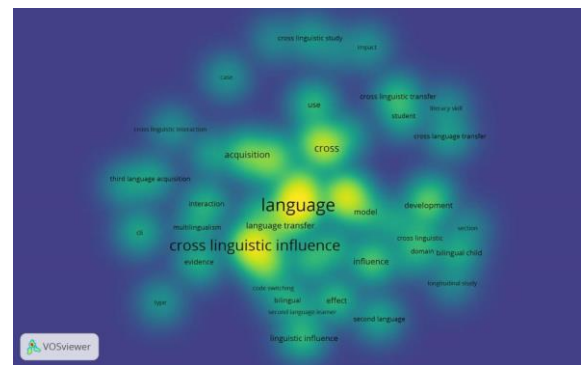


Figure 5. Density visualization of the materials keyword.

From the bibliometric visualization analysis results using Vosviewer, data were obtained about the cross-linguistic theme being in cluster 3 with 35 links, 230 total link strengths, and 65 occurrences. This theme also has a strong connection with the terms linguistic influence and language learning and second language acquisition, both in cluster 2, marked in green. Although most of the research results from the analysis are terms that are directly related to the child in cluster 3 (fig. 5).

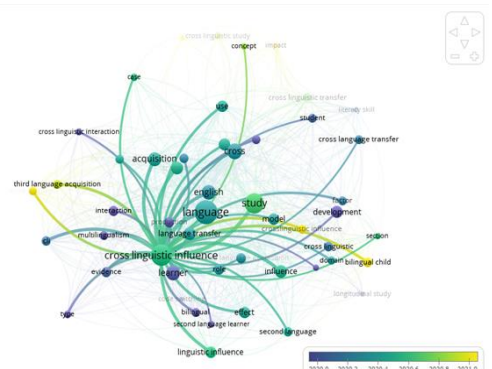


Fig. 6. Network visualization of cross-linguistic influence keyword.

Conclusion

This study explored mapping analysis in conjunction with the VOSviewer software. We obtained the data from the Publish or Perish application program using VOSviewer. The analyzed data was based on five keywords: *Bibliometric*, *Linguistic*, *Language Acquisition*, and *Vosviewer*. The analysis yielded 219 research articles published between 2019 and 2023. The research on this theme exhibited fluctuations over the years and showed a tendency to decline. The analysis results indicated a direct relationship between the cross-linguistic influence theme and language learning and SLA.

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