

**MEMETAKAN TITIK TEMU EKOLINGUISTIK DAN ANALISIS WACANA
KRITIS: SEBUAH PENDEKATAN BIBLIOMETRIK**

*(Mapping the Intersection of Ecolinguistics and Critical Discourse Analysis:
A Bibliometric Approach)*

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Abstract

Ecolinguistics explores the interplay between language and the ecological environment, encompassing humans, animals, and nature. Recent research trends have increasingly focused on critical discourse analysis (CDA), potentially overshadowing foundational ecolinguistic principles. This study conducted a bibliometric analysis of Scopus-indexed ecolinguistics publications from 2011 to 2022. The methodology involved collecting relevant publications, sorting and correcting metadata, and performing a bibliometric analysis using tools like VOSviewer and Mendeley Desktop. The analysis addressed publishing trends, citation patterns, author collaborations, keyword trends, abstract content, contributing nations, and key topics within ecolinguistics and CDA. Findings reveal (1) erratic growth in ecolinguistics publications, (2) fluctuating citation counts, (3) infrequent collaboration among authors, (4) a strong association of specific keywords, (5) significant connections in abstract content, (6) the United Kingdom and the United States as leading contributors, and (7) identification of 17 specific topics within ecolinguistics. The study highlights a lack of sustained interest in ecolinguistics, with a disproportionate focus on CDA, suggesting the need for a more balanced approach incorporating comprehensive ecological issues. Enhanced data and perspectives from ecolinguistics should inform and expand discourse function theories.

Keywords: Bibliometric, Critical discourse analysis, CDA, Ecolinguistics

Abstrak

Ekolinguistik mengeksplorasi interaksi antara bahasa dan lingkungan ekologi, yang mencakup manusia, hewan, dan alam. Tren penelitian baru-baru ini semakin berfokus pada analisis wacana kritis, yang berpotensi membayangi prinsip-prinsip dasar ekolinguistik. Penelitian ini melakukan analisis bibliometrik terhadap publikasi ekolinguistik yang terindeks Scopus dari tahun 2011 hingga 2022. Metodologi yang digunakan adalah mengumpulkan publikasi yang relevan, menyortir dan mengoreksi metadata, serta melakukan analisis bibliometrik menggunakan alat bantu seperti VOSviewer dan Mendeley Desktop. Analisis ini membahas tren penerbitan, pola kutipan, kolaborasi penulis, tren kata kunci, konten abstrak, negara yang berkontribusi, dan topik-topik utama dalam ekolinguistik dan CDA. Temuan mengungkapkan (1) pertumbuhan yang tidak menentu dalam publikasi ekolinguistik, (2) jumlah kutipan yang berfluktuasi, (3) kolaborasi yang jarang terjadi di antara para penulis, (4) hubungan yang kuat dengan kata kunci tertentu, (5) hubungan yang signifikan dalam konten abstrak, (6) Inggris Raya dan Amerika Serikat sebagai kontributor utama, dan (7) identifikasi 17 topik spesifik dalam ekolinguistik. Studi ini menyoroti kurangnya minat yang berkelanjutan dalam ekolinguistik, dengan fokus yang tidak proporsional pada CDA, yang menunjukkan perlunya pendekatan yang lebih seimbang

yang menggabungkan isu-isu ekologi yang komprehensif. Data dan perspektif yang lebih baik dari ekolinguistik harus menginformasikan dan memperluas teori fungsi wacana.

Kata-kata kunci: bibliometrik; analisis wacana kritis, ekolinguistik

PENDAHULUAN

Ecolinguistics is an area of research within the field of linguistics that has long been sought after because of its potential to shed light on the significant role that language plays in influencing or protecting ecological systems and promoting environmental justice. It aims to understand language's intricacies while expanding its horizons to educate people about the connection between destructive speech patterns and ecological degradation (Steffensen & Fill, 2014). Several studies related to ecolinguistics have been conducted, ranging from analysis of human-nature interaction (Afshar & Boulkani, 2021; Zhang & He, 2020), evaluation of language attitudes on tourism websites (Isti'anah, 2020), examination of conservation news texts (Yuniawan, 2017), naming tourism objects (Hariati et al., 2022), analysis on remarks related to climate change (Wang et al., 2019), and content analysis on English textbooks (Famarazi & Janfeshan, 2021).

However, the previous studies ecolinguistically focus more critical discourse analysis (CDA) on specific objects. According to Breeze (2011), ecolinguistics has several denigrations, particularly regarding CDA. They are political, explicit, unsystematic, ignorable, and influential. Some may accuse ecolinguistic analyses of being too technical, rational, and instrumental and failing to inspire compassion for the victims of ecological damage (Stibbe, 2015). Conversely, letting one's politics, emotions, and ideologies cloud one's judgment to the detriment of neutral, empirical investigation is possible. Nonetheless, ecolinguistic studies inevitably require a synthesis of compassion and rigor to be academically sound and loyal to the ethical spirit of the study (Stibbe, 2015). Generally speaking,

the CDA criticisms are constructive in shaping future ecolinguistics and avoiding some difficulties pointed out in earlier values-led linguistic studies.

Recent ecolinguistic studies focusing on CDA primarily investigate human-to-human interactions in typical linguistic contexts. However, a significant gap remains in understanding how these studies address specific environmental issues through discourse. Additionally, it is unclear to what extent ecolinguistics research concentrates on particular objects or themes when applying CDA. This study aims to fill these gaps by mapping the bibliographic information related to ecolinguistics and CDA. Specifically, we seek to (1) the overall development and trends in the field, (2) the impact and influence of key studies through citation analysis, (3) patterns of collaboration among researchers, (4) thematic focuses and prevalent topics as indicated by keywords and abstract terms, and (5) The geographical spread of research activity. By narrowing the scope to these specific aspects, the study maintains a clear focus on providing a comprehensive bibliometric overview of ecolinguistics as it intersects with CDA, thereby contributing valuable insights into the current state and future directions of the field (Li, 2019; Otchie & Pedaste, 2020).

To address the identified gaps in ecolinguistic research using CDA, this study aims to answer the following, focused on seven aspects, namely development trends, citation analysis, author collaboration, keyword trends, abstract analysis, geographic distribution, and research topics. The elaborated research-focused questions are as follows.

1. How has the field of ecolinguistics evolved over the period from 2011 to 2022?

2. How have citations in ecolinguistic studies changed during the years 2011 to 2022?
3. What patterns of author collaboration exist in ecolinguistic studies from 2011 to 2022?
4. What are the predominant keywords used in ecolinguistic studies between 2011 and 2022?
5. What are the most commonly used terms in the abstracts of ecolinguistic studies from 2011 to 2022?
6. Which countries have contributed to ecolinguistic research from 2011 to 2022?
7. What specific topics have been discussed in ecolinguistic studies from 2011 to 2022?

THEORETICAL FRAMEWORK

In theory, ecolinguistics is about challenging the narratives that support current unsustainable civilizations, revealing the accounts that are not working and directing to ecological damage and societal inequality, and then discovering new narratives that work better in the world's circumstances (Stibbe, 2014b). According to Halliday (2016) and Mühlhäusler (2003), the modernization of grammatical constructions has led to linguistic patterns that exacerbate the current ecological catastrophe. Here, ecolinguistics stands for a nuanced analysis of the linguistic mechanisms through which worldviews are constructed, reproduced, spread, and resisted while also promising a nuanced ecological context through which to think about the impact of such perspectives in maintaining or eroding the conditions necessary for life (Stibbe, 2014b).

Nevertheless, some people consider ecolinguistics to be nothing more than the study of writings that happen to be about the environment or the study of texts like road signs in their specific geographical contexts. Studies of CDA that treat ecology as the connections between living things, including human beings, with other creatures and the natural environment are most relevant (Halliday, 2016; Stibbe, 2014b, 2015). Thus, the focus of the studies shifts to how people interact with one another, other species, and their physical nature. Conservation discourses, for example, will be included because they are explicitly about the environment and ecology; however, neoclassical economic

discourses will also be included because they can encourage ecologically destructive behavior in individuals precisely because they do not take ecology into account (Haugen, 2016; Loo, 2021; Steffensen & Fill, 2014; Stibbe, 2014b).

Ecolinguistics has been applied across various discourses, each contributing unique insights into the relationship between language and the environment. In the realm of advertising, Hogben (2009) and Slater (2007) analyze how ecological themes are used to market products, often highlighting the tension between commercial interests and environmental ethics. Zhdanova et al. (2021) extend this discussion by examining greenwashing practices, where companies falsely promote products as environmentally friendly. Climate change discourse is another critical area, with Doulton and Brown (2009) exploring how climate narratives shape public perception and policy. Ihlen (2009) investigates the strategic communication tactics used by organizations to influence climate change debates, while Wang et al. (2019) focus on the framing of climate change in Chinese media. In economics, Halliday (2016) and Stibbe (2005) discuss the environmental implications of economic language, revealing how economic metaphors can perpetuate unsustainable practices. Halliday (2016) critiques the economic growth model, while Stibbe (2005) advocates a shift towards a more ecologically sustainable economic discourse. Ecotourism, as analyzed by Isti'anah (2020), examines the language used in promoting sustainable tourism

practices. Milstein (2008, 2011) further investigates how ecotourism narratives can both support and undermine ecological conservation efforts, emphasizing the need for a critical discourse analysis in this field. Energy discourse is critically examined by Russell et al. (2015), who assess how language shapes public attitudes towards different energy sources, influencing energy policy and consumption patterns. Studies on faunas, such as those by Alghamdi (2019), Goatly (2006), and Stibbe (2012), delve into how animals are represented in language, highlighting issues of speciesism and advocating for more respectful and accurate representations of animals in discourse. Human-nature interaction is another significant focus, with Afshar and Boulkani (2021) exploring how indigenous narratives reflect deep ecological knowledge and connection to nature. Zhang and He (2020) analyze contemporary Chinese literature to understand evolving human-nature relationships in the face of rapid urbanization. Natural resources discourse is examined by Kurz et al. (2005) and Meisner (2007), who investigate how language influences public perception and management of natural resources, emphasizing the role of discourse in promoting sustainable resource use. As discussed by Hansen (2006, 2017) and Knight (2010), biological concepts explore how biological metaphors and language shape scientific and public understanding of biology and ecology, often challenging reductionist views and promoting holistic ecological thinking. Finally, sustainability discourse is critically analyzed by Kowalski (2013), who investigates how sustainability is framed in policy and public discourse, advocating for language that supports genuinely sustainable practices rather than superficial or misleading representations.

While the level of complexity, breadth of coverage, depth of analysis, and even motivation for ecolinguistic research varies widely, the following are some standard features of an ecolinguistic

approach to discourse analysis (Stibbe, 2014b):

1. The ecolinguistic research has objectives that may significantly affect people's interpersonal relationships and their treatment of the broader ecological systems on which all life depends.
2. Discourses are analyzed to reveal how assemblages of language characteristics generate distinctive worldviews through cultural codes, a compact collection of shared values, norms, ethos, and social beliefs (Gavriely-Nuri, 2012).
3. Conditions for evaluating worldviews are grounded in an ecological ethos, whether this is stated explicitly or not. Scientific knowledge of how creatures (including humans) depend on dealings with other species and physical nature to endure and thrive informs an ecosophy. At the same time, a principled structure determines why and whose life and succeeding substances.
4. Ecolinguistic research aims to attract attention to and debunk allegedly ecologically damaging forms of speech (i.e., contravene the rules of the ecosophy). The research aspires to have real-world consequences through increasing understanding of how language may either contribute to or safeguard against environmental degradation, guiding policy and educational development, or offering inspiration for future textual redesign and creation while spreading talks that could save the ecosystems that sustain life (i.e., are consistent with the ideals of the ecosophy).
5. The study is aimed towards practical application through raising awareness of the role of language in ecological destruction or protection, informing policy, informing educational development, or providing ideas that can be drawn on in redesigning existing texts or producing new texts in the future.

Meanwhile, ecolinguistic studies are likely to face two main types of criticism. On the one side, they may be

criticized for being too technical, rational, and utilitarian, to the point that they fail to inspire compassion for the victims of ecological degradation. On the other hand, some studies are motivated more by politics, emotions, and ideology than by cold, hard facts. However, they will need to blend the two qualities of compassion and rigor to be academically credible and loyal to the ethical spirit of the investigation. However, the CDA criticisms on ecolinguistic studies are constructive in their shaping future and avoiding some of the difficulties pointed out in earlier values-led linguistic research.

Regardless of their intended foci and critics, the published and ongoing ecolinguistic studies cannot be separated from the nature of knowledge (Breeze, 2011; Stibbe, 2014b). Indeed, they intend to spread that concern to future generations, other animals, and the natural world. Ecolinguistic studies must be authentic, systematic, rigorous, and thorough. Still, these values must not be sacrificed so that the field may better serve these more important ethical purposes or be used as a means to an end (such as gaining prestige in the academic community).

Bibliometric studies that map the bibliographies of ecolinguistics, informed by these theoretical frameworks, may provide a broad overview of the topic, motivating linguistic researchers, lecturers, and practitioners in the field to continue expanding their understanding. Thus, they have a trove of current studies to pick an appropriate approach to the topic of discussion. The academics above hope this bibliometric analysis will lead to more ecolinguistic research beyond CDAs, which might serve as a road map for future research.

METHODOLOGY

This bibliometric study used a methodical and precise mapping approach, drawing on the methodologies and insights from previous research. Elihami and Melbourne (2022) employed a systematic

mapping technique to categorize and analyze educational research trends, providing a framework for identifying key themes and gaps in the literature. Hwang and Tu (2021) utilized advanced bibliometric tools to explore publication patterns and citation networks in the field of environmental science, highlighting the importance of comprehensive data analysis for uncovering research trends. Muhtar et al. (2021) focused on the use of bibliometric methods to assess research productivity and collaboration in the social sciences, demonstrating the effectiveness of these techniques in evaluating academic contributions and identifying influential works. Supriadi et al. (2022) applied a detailed mapping approach to analyze technological innovation studies, emphasizing the role of bibliometric analysis in identifying emerging topics and guiding future research directions.

This technique is a quantitative research strategy that examines academic literature, specifically journal article bibliographies. Bibliometric analysis aids in exhibiting trends in academic writing and citations over a specific period and provides insight into the dynamics of a region. Gong et al. (2018) demonstrated how bibliometric techniques could map research trends and collaborations within the field of environmental science, highlighting regional research dynamics. Mathankar (2018) used bibliometric analysis to explore publication and citation patterns in engineering research, providing insights into the evolving focus areas and the impact of regional contributions. Ngoc and Barrot (2022) applied bibliometric methods to analyze the development and dissemination of educational technologies, showing how these tools can reveal the state of academic fields and guide future research directions. Huang et al. (2020) focused on using bibliometric analysis to emphasize the current state of research in nanotechnology, identifying key trends and influential studies within the subject.

To evaluate the bibliometric data in this study, we utilized various applications, including Publish or Perish (PoP), Mendeley Desktop, VOSviewer, Google Maps, the Scopus database, and maps.co. Gong et al. (2018) illustrated the effectiveness of using bibliometric tools like PoP and Scopus for mapping research trends and analyzing academic networks. Ngoc and Barrot (2022) demonstrated how Mendeley Desktop aids in managing and organizing large datasets, facilitating efficient literature reviews and citation analysis. Van Eck and Waltman (2010, 2014) highlighted the capabilities of VOSviewer for visualizing bibliometric networks, enabling the identification of key research clusters and collaborations. These studies underscore the importance of integrating multiple bibliometric tools to analyze research dynamics comprehensively.

As illustrated in Figure 1, the data analysis process consisted of four phases: bibliography search and review, bibliography filtering, bibliography completion, and bibliography analysis (Julia et al., 2020). Muhtar et al. (2021) and Supriadi et al. (2022) inspired the overall framework of our investigation.

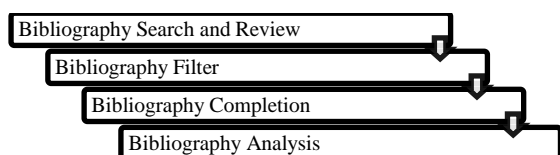


Figure 1 Stages of Bibliometric Analysis

Bibliography Search and Review

This research's initial stage was using PoP to locate the relevant bibliographic database (Julia et al., 2020). The software presents the outcomes of publication-based searches. One of PoP's advantages is that it allows users to cherry-pick which journals to read based on their preferred indexing databases. This study practically applied three criteria to find the papers that may be predicted from this program. Scopus was chosen as the

database of record for the first criterion because its extensive databases employ stringent, professional peer reviews in the publication process, as indicated by the study's title (Amodio et al., 2021; Ballew, 2009). In addition, Scopus offers a more extensive range of published items than most other databases (Chadegani et al., 2013; Mongeon & Paul-Hus, 2016). The indexing database was also selected due to the availability of access the authors have.

Additionally, this database has provided 70% more high-impact articles than its competitor, Web of Sciences (Shareefa & Moosa, 2020), leaving out Google Scholar since it includes journal and non-journal sources in languages other than English (Martín-Martín et al., 2018). Secondly, the phrase 'ecolinguistics' must be incorporated into both the 'title word' and 'keyword' fields to limit the scope of the study (See Figure 2). This process uncovered relevant scholarly works on English language teaching paradigms. The final criterion specifies a bibliographic search's time range within the past twelve years (2011-2022). The frame showed the level of recent academic work. A total of 43 publications were uncovered initially, including four chapters from books, three review articles, one conference presentation, one editorial report, and 34 articles from scholarly journals. Procedures based on the three requirements for PoP are shown in Figure 1.

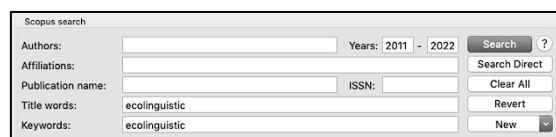


Figure 2 Bibliography Searching Using PoP

Bibliography Filtering

Determining the inclusion-exclusion criteria for the bibliography was used to choose the retrieved bibliographies. As in the first phase, three criteria were used to assess the success of this second stage. Journal articles are the ideal format for this kind of publication for a few reasons. First, they are published regularly

and undergo extensive peer review before being publicly available (Solomon, 2007). The articles must also be written in English to meet the standards.

At last, metadata like author names, keywords, and abstracts must be included in the articles. Data from the compliant bibliographies were imported into Mendeley Desktop for further metadata validation. Twenty-four articles met these three requirements. However, several unrelated research studies on ecolinguistics were also discovered here. Therefore, another screening considered the different subject matter and the absence of abstracts. As a result of PoP and self-filtering, Table 1 displays the annual numbers of citations found in the bibliographies.

Table 1 Bibliography Search Results

Year	Collected	Filtered	Percentage	Total
2011	1	0	0	1
2012	1	0	0	1
2013	3	2	67%	1
2014	2	1	50%	2
2015	0	0	0	0
2016	2	2	100%	0
2017	2	2	100%	0
2018	1	0	0	1
2019	4	0	0	4
2020	6	2	33%	4
2021	13	2	15%	11
2022	8	4	50%	5
Total	43			30

Bibliography Completion

In this third phase, the bibliographies were examined by correcting any discrepancies found in the published literature. This lack of information directly results from the prevalence of PoP; in some instances, the articles confirm their veracity. Scopus database was used, along with a search of the relevant journals, to fill in the blanks manually. Improved citations were assessed after 30 articles had their information edited.

Bibliography Analysis

Six factors were considered in the analysis of the bibliographies. They were

(1) the rate of publication growth, (2) the top ecolinguistics-related journals, (3) the most frequently referenced papers, (4) authors' collaboration, (5) the most frequently used keywords by authors, and (6) the most frequently used phrases in article abstracts. VOSviewer, which displays analysis results visually, was used to deal with these factors (Hamidah et al., 2020; van Eck & Waltman, 2010, 2014). Furthermore, the program may identify high-word-count passages and supply a range of visuals with analysis of various findings (Hamidah et al., 2020; van Eck & Waltman, 2010, 2011, 2014). Using common citation platforms or keymaps aligned on dissemination avenues, VOSviewer may consistently draw a diagram of the publication's authors, phrases, and keywords (Hamidah et al., 2020; Muhtar et al., 2021; Yilmaz et al., 2022). Then, Mendeley Desktop's bibliographies and abstracts were made available in VOSviewer using an import function.

DISCUSSION

Analysis of Publication Development

Ecolinguistic research has been on the rise since 2011, and that trend is seen in Figure 3. The pattern indicates an upward and downward tendency. This rising pattern happened in 2013–2014, 2017–2018, 2018–2019, and 2020–2021. This pattern reversed itself in 2014–2015 and 2021–2022. There was a plateaued pattern from 2011–2013. No publications were discovered for the subsequent three years, 2015–2017. However, in 2021, more articles were published about ecolinguistics than any year before or after.

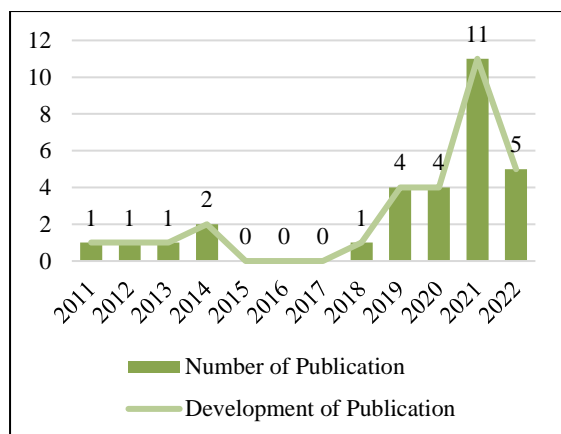


Figure 3 Development of Publication

Analysis of Citation Development

The annual number of publications published on ecolinguistics is shown in Figure 4. The papers were cited by 122 other publications in Scopus’ database between 2011 and 2022. Information from PoP was double-checked using the Scopus database. There were four rising citation patterns and three cases of falling ones. Specifically, citations rose in 2012-2013, 2017-2018, and 2020-2021. Meanwhile, they decreased in 2011-2012, 2014-2015, and 2021-2022. No citations were discovered for 2015, 2016, or 2017 since no relevant publications were published. It was also determined that 2014 had the highest citation volume, with 56 citations.

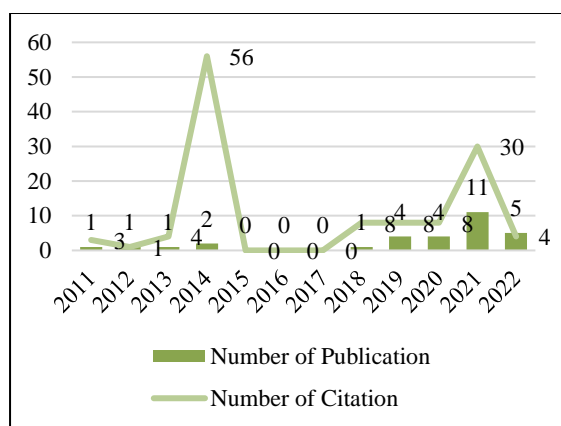


Figure 4 Development of Citation

Analysis of Authors’ Collaboration

The 30 papers had a total of 43 writers, including both the first and co-authors. By requiring each contributor to provide at least one document, VOSviewer

could examine the efficacy of the authors’ collaboration. A link between one author and another has been found to form a cluster. They all have three connections. The results of the VOSviewer evaluation are shown in Table 2 and Figure 5.

Table 2 Authors’ Collaboration Links

Authors	Numbers of Document	Total Link Strength
Franklin, Emma (UK)	1	3
Gavins, Joanna (UK)	1	3
Mehl, Seth (UK)	1	3

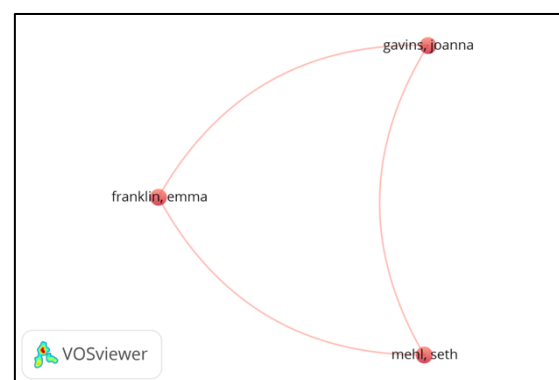


Figure 5 Network Visualization of Authors’ Collaboration

Analysis of Keywords

Here, 113 keywords were extracted from the articles and listed by the authors. The threshold for the keyword analysis was set at two occurrences. This study uncovered four clusters with substantial overlap with ecolinguistic research. Table 3 also provides a color-coded and item-counted breakdown of the authors’ chosen keywords. Figure 6 depicts the network visualization equivalent of the keywords.

Table 3 Categorization of Authors’ Keywords

Cluster	Color	Number of Items	Author Keywords
1	Yellow	2	Ecolinguistics; Identity
2	Green	2	Critical Discourse Analysis; Multimodal Analysis
3	Red	3	Language; Ecology; Environment

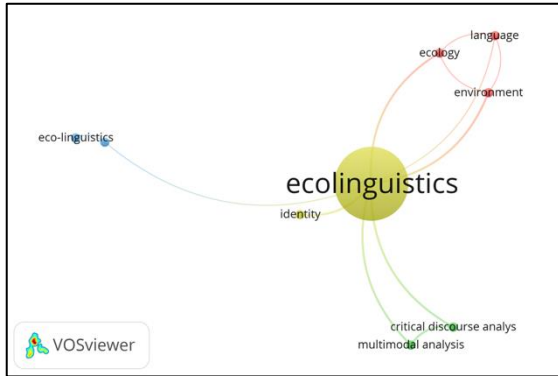


Figure 6 Network Visualization of Authors' Keywords



Figure 8 Authors' Distributions by Countries

Analysis of Abstracts

The abstracts were analyzed, and 982 keywords were found to be significant. When searching for related terms with a minimum of three, 23 highly related words were discovered, for example, development, ecolinguistic, relationship, world, representation, function, environment, discourse analysis, hand, role, narrative, person, and others. The abstract analysis is shown graphically in Figure 7 as a network representation.

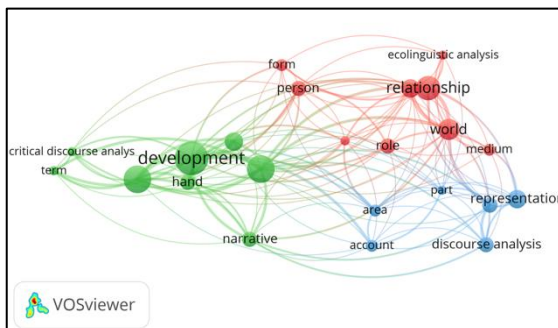


Figure 7 Network Visualization of Abstract Terms

The list is arranged based on the authors' frequency of origin places. The United Kingdom ranks first, followed by the United States. Russia, Malaysia, and Ukraine tie for third. Across 30 articles, Figure 9 shows the breakdown of authorship by country. Institutional affiliations were determined by searching the Scopus database and the authors' scholarly works for relevant keywords. Their affiliations were then mapped using geolocation technology. At last, the locations were entered into the map builder site (maps.co) to yield visual insights.

Analysis of Ecolinguistics and CDA

The content analysis of 30 ecolinguistic articles discovered 17 subjects covering issues, designs, or methods of CDA. They are ecolinguistic perspective (empirical), ecolinguistic approach, ecolinguistic pedagogy, diachronic perspective, ecolinguistic analysis, social and linguocultural dominant, educational and ecolinguistic dominant, educational and ecolinguistic paradigms, linguistic and social analysis, ecopedagogical appraisal, multimodal discourse analysis, multimodal ecolinguistic approach, nature and social intertwinement, biocentric language, ecology language, analysis of ecolinguistics, corpus linguistics, and cognitive linguistics, and ecolinguistic mode. Table 5 and Figure 9 exhibit the specified information on the character values.

Analysis of Countries

The leading five countries in terms of the number of articles published in journals indexed by Scopus about ecolinguistics are listed in Table 4.

Table 4 Top Four Countries with the Most Authors

Countries	Number of Authors
The United Kingdom	6
The United States	5
Russian Federation	3

Table 5 Ecolinguistic Studies

Ecolinguistic Subjects	Year												Total
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
Ecolinguistic perspective (empirical)	1			1						2	2		6
Ecolinguistic approach		1								1			2
Ecolinguistic pedagogy			1				1						2
Diachronic perspective				1									1
Ecolinguistic analysis									1	3	2		6
Social and linguocultural dominant									1		1		2
Educational and ecolinguistic dominant									1				1
Educational and ecolinguistic paradigms									1				1
Linguistic and social analysis									1				1
Ecopedagogical appraisal										1			1
Multimodal discourse analysis											1		1
Multimodal ecolinguistic approach											1		1
Nature and social intertwinement											1		1
Biocentric language											1		1
Ecology language												1	1
Analysis of ecolinguistics, corpus linguistics, and cognitive linguistics												1	1
Ecolinguistic mode												1	1
Total	1	1	1	2	0	0	0	1	5	4	10	5	30

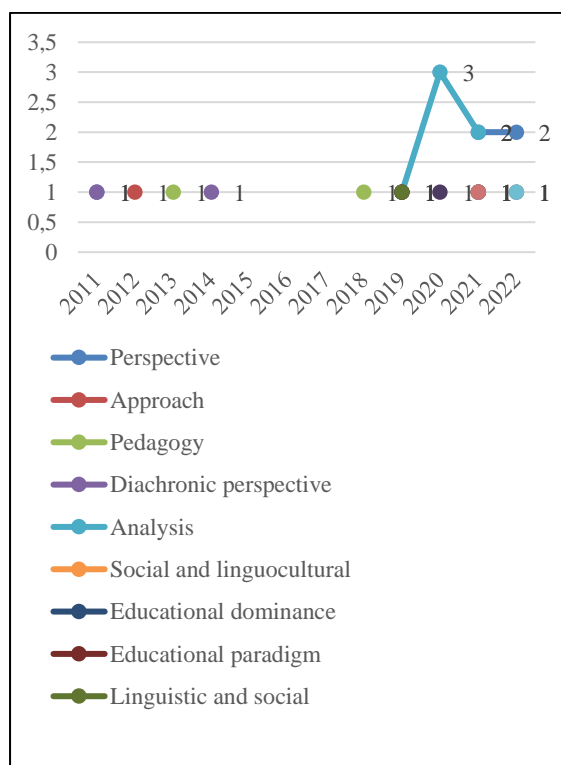


Figure 9 Topics in Ecolinguistic Studies

Moreover, objects discussed in those subjects are mainly within the scope of CDA. For instance, linguistic choice and hybridization analyses explore how language reflects and constructs social identities and power relations (Fairclough, 2013). This is critical because understanding these dynamics can help identify how language perpetuates environmental ideologies and potentially harmful practices. The ecolinguistic paradigm of language teaching emphasizes incorporating ecological themes into language education, promoting environmental awareness and sustainable practices (Alwin & Mühlhäusler, 2001). This approach can foster a generation of learners more attuned to ecological issues and motivated to act sustainably.

Climate change stories analyzed through CDA reveal the rhetorical

strategies used to shape public perception and policy on environmental issues (Boykoff, 2011). Depending on how they are framed, these stories can either mobilize public action or create apathy. Political discourse in ecolinguistics investigates how political language influences environmental policy and public opinion, often uncovering underlying ideologies and power dynamics (Hajer, 1997). This is significant because political discourse can drive or hinder environmental legislation and action.

The representation of animals in proverbs reflects cultural attitudes towards animals and the natural world, highlighting anthropocentric or ecocentric worldviews (Goatly, 2006). This can influence how societies treat animals and the environment, potentially promoting conservation or exploitation. Simulation games as educational tools can model ecological systems and human impacts, fostering a deeper understanding of environmental issues (Gee, 2003). This interactive approach can enhance learning and engagement with complex ecological concepts and applies to pupils' characters and awareness in educational contexts (Rahmiaty & Kamarullah, 2024).

Doctor-patient communication dyads in medical settings can be analyzed to understand how language shapes perceptions of health and the environment, potentially influencing patient outcomes and ecological health (Sarangi & Roberts, 1999). This highlights the intersection of ecological and human health, emphasizing the need for integrated approaches to health and environmental sustainability. The analysis of English language textbooks reveals how environmental topics are presented, often reflecting and reinforcing cultural and ideological biases (Gray, 2010). This can impact how students perceive and engage with environmental issues from a young age.

Folksongs and their ecological themes provide insights into cultural narratives about nature and environmental

stewardship (Ingram, 2010). These narratives can inspire a sense of connection to the environment and a commitment to conservation. News reports on environmental issues, analyzed through CDA, expose the framing and biases in media coverage, influencing public understanding and policy (Carvalho, 2007). Media representation can significantly impact public opinion and policy-making processes.

Information on technologies, literacy, and cognitive development highlights the role of language in shaping technological literacy and its ecological implications (Luke, 2018). This underscores the importance of integrating ecological considerations into technological education and literacy programs. Vegan campaigns use language to challenge dominant food systems and promote ethical and sustainable practices (Stibbe, 2012). These campaigns can shift consumer behaviors and promote more sustainable diets.

Video-narratives of Greenpeace and other environmental organizations utilize powerful storytelling techniques to mobilize public support for ecological causes (Mühlhäusler, 2003). These narratives can be a potent tool for advocacy and education. Environmental websites, including those of the world's greatest polluters, can be critically analyzed to understand how corporations construct their environmental identities and manage public perceptions (Livesey, 2002). This analysis can reveal companies' strategies to mitigate or greenwash their environmental impacts.

Chief executive officer letters to shareholders often include discourse strategies to align corporate actions with environmental sustainability, reflecting broader corporate social responsibility trends (M. Brennan & M. Merkl-Davies, 2014). This can influence investor decisions and corporate policies. The ecolinguistic novel *The Vegetarian* by Han Kang uses narrative to explore themes of

ecological consciousness and resistance against societal norms (Stibbe, 2015). Literature can provide profound insights into ecological issues and inspire readers to reflect on their values and actions.

By studying the language used by a community, we can learn about their attitudes, ethics, and emotions towards nature. For instance, traditional ecological wisdoms practiced by the *Anak Dalam Jambi Tree* (ADJT), a minority group on the brink of extinction living in Sumatra, Indonesia, are imparted in the form of environment-based education to their younger generation (Prastio et al., 2023). As they rely on the forest for their survival, the action is done to curb social changes, teach them ecological wisdom, and defend their land from the negative effects of human activities. This case highlights that the ecolinguistic approach can discover a community's way of coping with their problems by conserving their territory, including ideology, biology, sociology, and culture.

Furthermore, modernly speaking, websites promoting a nature reserve on the southeastern coast of Sicily in Priolo Saltpans illustrate the use of digital media to foster environmental education and tourism (Stibbe, 2014a). This demonstrates how digital platforms can be leveraged to promote ecological awareness and conservation.

The concept of creating a media eco-portrait of a modern Ukrainian recipient examines how media representations of environmental issues influence public attitudes toward sustainability practices like plastic reuse and recycling (Cheng et al., 2020). This highlights the role of media in shaping consumer behaviors and attitudes towards sustainability. Tagalog nominal group resources highlight the linguistic strategies used in indigenous languages to represent ecological relationships, contributing to a broader understanding of ecolinguistic diversity (Mühlhäusler, 1996). This emphasizes the importance of preserving

linguistic diversity for ecological knowledge.

Finally, language policy in Ukraine can be analyzed to understand how national policies shape ecological discourse and practices (Haarmann, 1986). This shows the impact of language policy on promoting or hindering ecological awareness and action.

In conclusion, ecolinguistic studies through the lens of CDA provide valuable insights into how language shapes and is shaped by ecological discourses across various domains. These studies reveal the complex interplay between language, culture, and the environment and highlight ecolinguistics' potential to contribute to sustainable practices and ecological awareness. By critically examining these diverse topics, researchers can better understand and address the pressing ecological challenges of our time.

Mapping the Trends of Ecolinguistic Studies

Scholars, researchers, educators, and practitioners can all fit in by following this study's examples as they develop their linguistic research. Despite an overall rising and falling publishing trend, especially throughout this study, only 30 papers incorporated ecolinguistics studies between 2011 and 2022. This is a deficient number when compared to other topics. This is a concern since ecolinguistics attempts to address ecological degradation, and its effectiveness is somehow assumed to be in question (Stibbe, 2014a). Language, in this case, ecolinguistics, may have a prominent role in preserving environments. Ecological systems may benefit from ecolinguistic initiatives like eco-advertising (Manan et al., 2023; Stöckl & Molnar, 2017), visual depictions of environmental issues (Hansen, 2017), textual investigations of environmental degradation using corpus linguistics and content-based analysis (Alexander, 2017), and media reports (Döring, 2017) that present eco-perspectives.

There must be an increase in the content's amount and quality. The quality of

academic writing, especially peer-reviewed journal papers, may be gauged by their citation counts. The influence of citations is currently significant in assessing the quality of research (Moed, 2010; Waltman, 2016). Ecolinguistic research paper citations show a varying trend from 2011 to 2022. Including 2015, 2016, and 2017 from consideration yields three citations in 2011 and four in 2022. This is because no publications on the topic were published in those years.

Interestingly, the year 2014 had the most citations (56). An ecolinguistic approach to critical discourse studies (Stibbe, 2014b) is emphasized in one of the publications mentioned 46 times in other Scopus-indexed works. According to the significant number of citations, the essay supporting ecolinguistics through CDA has captivated other scholars. Additional research on the subject is encouraged by this stipulation.

Moreover, a group of academics from many institutions across multiple countries working together might summarize ecolinguistics in certain regions. Because of the collaboration, scientists worldwide will have a new opportunity to share their findings in peer-reviewed journals. Cooperation in studying languages on a global scale can foster more international mutuality, mutual benefit, compromise, understanding, and diplomacy (J. Knight, 2018). Although this study provides a comprehensive picture of the partnership, it is only at the national level and is confined to the United Kingdom, as shown by the findings. Based on these findings, foreign academics have not given ecolinguistics the attention it deserves in their study. The results of country-by-country research support this conclusion by showing that British researchers have published the most in ecolinguistics. On the other hand, no articles are written about the topic by authors from Africa or South America.

The quality of ecolinguistics articles may be improved by bibliometric studies, in which researchers read and understand the

work of their peers. A basic keyword search would be an excellent place to begin. A keyword analysis is critical to research because it clarifies knowledge structures and facilitates specialized approaches across various fields (Cheng et al., 2020). This study demonstrates the extensive web of interrelationships between such diverse concepts as ecolinguistics, identity, CDA, multimodal analysis, language, ecology, and environment. This term network suggests that universal themes may strengthen the ecolinguistics field and broaden the discussion's scope.

More data for research on article keywords might also be uncovered by examining abstracts. This section details the studies conducted, their topics, backgrounds, results, and overall implications. This study used VOSviewer to analyze abstracts of scholarly articles for recurrent terms. In all, 982 different words were abstracted by this application. Tight restrictions on the number of phrases used revealed significant connections between 23 words, including development, ecolinguistic, relationship, world, representation, function, environment, discourse analysis, hand, role, narrative, person, et cetera.

An overview of these terms' relationship can be discussed by researchers, like a study of literature review, for example. This research finds the 17 subjects on ecolinguistics discussed in the 30 articles, as mentioned earlier. There is a wealth of material for ecolinguistics within these subjects, and also the objects. Some of these might benefit individuals and communities as they remake themselves and their communities in preparation for a shift to more sustainable lifestyles.

With any luck, ecolinguistics will keep up its relentless criticism of the dominant cultural narratives, especially those responsible for undermining the systems upon which human survival depends. Moreover, it broadens its scope to find guiding narratives that can contribute to the long-term health of humanity and

other animals (Halliday, 2016; Mühlhäusler, 2003; Stibbe, 2014b, 2015). The continued existence and prosperity of human beings and other animals while the conditions necessary for their survival are steadily deteriorated due to human activities. Even though linguistics plays a small part in finding solutions to this problem, it is still essential to learn more about what it offers by reading up on published ecolinguistics studies.

CONCLUSION

Seven questions were proposed for this study, presented in the introduction. Summarized below are findings that address the study's questions based on the results of the extensive analysis.

1. The number of ecolinguistic publications fluctuated from 2011 to 2022, with notable increases at the beginning of the decade and declines in 2014–2015 and 2021–2022.
2. Citations followed a cyclical pattern similar to publications, peaking in 2014–2015 with 56 citations due to the significance of one influential paper and then dropping to none in subsequent years.
3. Collaboration among authors in ecolinguistic studies was rare, and when it occurred, it was limited to a small number of papers.
4. Only eight of the 113 keywords had strong associations in the 30 articles, including terms like ecolinguistics, identity, CDA, multimodal analysis, language, ecology, environment, and eco-linguistics.
5. Among 982 abstract ideas, 23 terms showed significant connections, with key terms being development, ecolinguistics, relationship, world, representation, function, environment, and discourse analysis.
6. The United Kingdom and the United States were the leading contributors to ecolinguistic research, with additional contributions from the Russian Federation, Malaysia, and Ukraine.

7. Ecolinguistics articles covered 17 distinct subjects, from empirical perspectives and pedagogy to multimodal discourse analysis and cognitive linguistics, indicating a diverse range of research topics. These summaries capture the main points of each detailed finding, providing a clear and concise overview of the conclusions drawn from the study.

While comprehensive in its analysis of ecolinguistic trends, this study acknowledges several limitations that may have influenced the findings and interpretations. The first limitation is the database used. While Scopus is a comprehensive and widely respected source, it may not include all relevant publications on ecolinguistics. Important studies published in another database like Web of Science may have been overlooked, potentially skewing the results and limiting the generalizability of the findings. Secondly, the primary analytical tool used in this study was VOSviewer, which, while powerful, has its constraints. VOSviewer primarily focuses on visualizing bibliometric networks but may not capture the full depth of qualitative nuances in the data. The reliance on this single tool means that some aspects of the bibliometric relationships may have been oversimplified. Additionally, the use of Mendeley Desktop, with its limited features compared to other reference management and collaboration tools, may have restricted the scope of institutional data sharing and collaborative analysis. Then another limitation is temporal gaps in data. The study identified publication and citation data gaps, particularly in certain years (e.g., 2014-2015 and 2021-2022). These gaps may be due to various factors, including shifts in research focus, changes in funding, or publication delays, but they limit the ability to draw continuous trend lines and comprehensive conclusions over the entire period.

Based on the findings and acknowledged limitations, several implications and recommendations for future research can be drawn. Firstly, future studies should incorporate multiple databases to ensure a more comprehensive collection of relevant literature. Combining data from sources such as Web of Science, Google Scholar, and other regional databases will provide a more complete picture of ecolinguistic research globally. Then, to overcome the limitations of any single analytical tool, future research should employ a combination of bibliometric tools and qualitative analysis methods. Tools like CiteSpace, Gephi, and qualitative content analysis software can complement VOSviewer and provide deeper insights into the data. Next, researchers should investigate the causes of temporal gaps in publication and citation data and strive to maintain consistent research output. This might involve examining funding patterns, publication practices, and academic interest trends to ensure a steady flow of research contributions. Ultimately, longitudinal studies that track ecolinguistic research developments, publications, and citations over extended periods are recommended to better understand the trends and impacts over time. Such studies can provide more robust data on the evolution and influence of the field.

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