



RESEARCH ARTICLE

Ecolinguistics: A Thematic Review of Past 53 Years (1971-2024)Shuanglin Ge¹, Sharon Sharmini Victor Danarajan^{2*}^{1,2} Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang 43400, Selangor, Malaysia**ARTICLE INFO****ABSTRACT**

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This paper presents a thematic review of ecolinguistics through a content analysis of relevant journal publications over the past 53 years (1971-2024). The paper aims at analyzing the current state of the field, synthesizing the existing convergences and divergences within this field, and provoking reflections on potential directions of future research under the umbrella concept of "ecolinguistics." The results also demonstrate the growing interest of linguistics among linguists, as indicated by its increasing publications in scholarly journals, diversifying research topics, and mixture of various research methods. However, the results also reveal a couple of specific aspects that may need researchers' attention for the field's future development. As a young sub-discipline, there are many potentials within the field for promoting future interdisciplinary research on the mutual interactions among human mind, society, and natural environment. The field also has a great potential for contributing to transdisciplinary collaborations among environmental research fields such as environmental studies, ecology, and environmental communication.

***Corresponding Author:**

sharmini@upm.edu.my

1. INTRODUCTION

This research note calls for a coherent definition of "ecolinguistics" and provides a systemic review of this evolving field. This paper aims to assess the current state of ecolinguistics, synthesize existing convergences and divergences, and stimulate reflections on potential future research directions within the field of ecolinguistics. "Ecolinguistics" and its related concept "language and ecology" explore the interactions between language and the surrounding environment (Haugen, 1971, p. 325). Since then, the field has steadily developed as an emerging interdisciplinary area combining linguistics and environmental studies (Chen, 2016). Significant developments have occurred in ecolinguistics since 1971.

Studies exploring the theoretical foundations of ecolinguistics have been published in high-impact linguistic journals like *Critical Discourse Studies*, *Language Sciences*, and *Discourse and Communication*. The creation of the "language and ecology research forum" has established an online platform for communication and research collaborations among ecolinguistics scholars and practitioners. Textbooks like those by Fill & Penz (2018) and Stibbe (2015) are now available for teaching ecolinguistics at both undergraduate and graduate levels, and there are research programs dedicated to ecolinguistics for prospective graduate students.

Moreover, the accelerating degradation of our natural environment urgently prompts us to reconsider the positivist worldview often assumed in mainstream linguistic research. As argued by Steffensen & Fill (2014), the notion of science as a unidirectional progression toward deeper insights, improved methods, and human progress should be challenged. Ecolinguistics, with its dedication to ecological and dialectical epistemologies, holds significant theoretical and practical implications for humanity's collective responses to the worsening global ecological crises.

What makes this moment opportune for a content analysis of ecolinguistics? This stems from the diversification of the field and the necessity for enhanced transdisciplinary collaborations across environmental research domains. According to Donne (2019), based on a recent survey among members of the "language and ecology research forum," the diversification of ecolinguistics research has sparked disagreements among researchers regarding the field's definition. Some researchers advocate for a unified perspective on ecolinguistics, defining it as "the study of the interdependence of language and the perception/interpretation of the natural world," while others prefer a more flexible, topical definition that leaves the field open-ended. Moreover, due to ecolinguistics' ecological focus, the field holds significant potential for fostering transdisciplinary collaborations across environmental research domains, including environmental studies, ecology, and environmental communication. However, as this article will later discuss, the existing literature on ecolinguistics has shown relatively limited theoretical influence compared to other related environmental disciplines, warranting further exploration.

While some theoretical syntheses on ecolinguistics and its key premises exist (e.g., Couto, 2014; Stibbe, 2014; Zhou, 2022; Penz & Fill, 2022), they predominantly adopt an "insider perspective," emphasizing specific advancements within ecolinguistics. So far, few studies have undertaken a comprehensive review of ecolinguistics' research impact on linguistics and other related ecological disciplines, and the extent to which researchers (particularly those outside ecolinguistics) have incorporated its theoretical premises into their own studies remains largely unexplored, except for a few exceptions (Rasheed, 2023; Li et al., 2020). Therefore, I anticipate that this article will stimulate further discussions regarding potential theoretical dialogues between ecolinguistics and other related ecological disciplines.

Drawing from prior research in pertinent fields like education's impact on economic growth (Ziberi et al., 2022), ecological civilization construction in China (Zhang et al., 2022), social media (Scannell et al., 2021), and health management (Yu et al., 2024). The article conducts a thematic review of ecolinguistics by analyzing pertinent journal publications spanning 53 years (1971-2024). It explores there key dimensions of the surveyed journal publications: (1) publication timelines,(2) research topics covered, and (3) methodological approaches employed.

LITERATURE REVIEW

Despite economic and technological advancements, pressing global challenges such as population growth, climate change, environmental degradation, and resource depletion have become more apparent, despite improvements in human life and rising living standards. In this context, Ecology, as defined by Haeckel in 1866, emerged as a field studying the interaction between organisms and their organic and inorganic environments. With the deepening of ecological research and increasing public awareness, ecological perspectives have spread across natural sciences, humanities, and social sciences. The concept of "ecology" has expanded beyond biological and environmental domains to encompass linguistic, demographic, social, political, and economic aspects. Any activity that interacts with the environment is inherently connected to ecology. Language, being fundamental to human social life, also makes a significant contribution to the ecosystem.

In the early 19th century, Humboldt examined the essence, structure, and diversity of language from a philosophical standpoint, highlighting the exploration of linguistic structural differences as vital in general linguistics (Humboldt, 1997). Underhill (2009) proposed that linguistic diversity is inherent to human nature, with language traits mirroring variations in human cognition and perception . Like humans, languages undergo natural cycles of emergence and disappearance, yet extinct languages endure through linguistic amalgamation. Prioritizing the cognitive and spiritual implications of linguistic diversity, Humboldt regarded language extinction as inevitable, thereby neglecting the importance of preserving endangered languages.

Over a century later, influenced by Humboldt's perspective on linguistic and cultural diversity, Sapir (1912) conducted extensive research on various languages and cultures, aiming to establish a connection between language and the environment beyond structural, phonological, and lexical aspects. Humboldt's philosophical insights into human language and Sapir's pioneering efforts to connect language with the environment have sparked investigations into language diversity and its environmental implications for over a century, laying the ideological foundation for linguists to

engage in ecological research on language and actively address language's role in environmental issues.

The development of eco-linguistics occurs in two stages: the first, from 1970 to 2001, characterized by Haugen's introduction of "linguistic ecology," followed by Fill and Mühlhäusler's (2001) call for further scholarly inquiry. The second stage emerged in the 21st century, driven by rapid societal and technological advancements, and the emergence of new disciplines that revitalized eco-linguistics. Furthermore, the foundation established by three decades of eco-linguistic exploration encouraged many linguists to investigate deeper issues, such as the role of philosophical thought and language ecology in eco-linguistics. Moreover, scholars have delved into profound topics, such as the philosophical underpinnings of ecolinguistics, leading to a continuum of research during this period.

In the 1970s, Haugen analogized the relationship between animals, plants, and their environments to elucidate the interactions between languages and their contexts, introducing the term "ecology of language" to describe a new form of ecological study focusing on language interactions within multilingual communities. Haugen's definition of "language ecology" as "the study of the interaction between any language and its environment" (Haugen, 1972: 57) clarifies that the "language environment" denotes the specific social context in which a language is spoken. Here, the term "language environment" refers to the social context in which a language is spoken and understood. Haugen (1972) suggests that language ecology encompasses both psychological aspects, involving the interaction of languages within the minds of bilinguals and multilinguals, and social aspects, involving the interaction of language with society.

In 1985, French linguist Claude Hagège examined the diversity, evolution, degradation, and extinction of languages using Darwin's theory of biological evolution as a framework. Hagège (2012) observed that nineteenth-century linguists, influenced by emerging ideas in life sciences, began integrating biological models and terminology into humanities research. In his book "The Linguist: On the Contribution of Linguistics to the Humanities," Hagège introduced the term "écolinguistique" (ecolinguistics), defining it as the study of how culturally processed 'natural' references integrate into the humanities (Hagège, 2012). These 'natural' references entering language include orientation, geographical features, human habitats, or cosmic factors, illustrating the investigation of the relationship between natural phenomena, language, and culture. This field is known as 'eco-linguistics,' later translated as "environmental linguistics" (Hagège, 2012: 261). This marked the first instance of the term 'ecolinguistic' being used to describe research on language and nature.

However, it wasn't until the 1990s that the field of ecolinguistics truly began to flourish and solidify as a distinct emerging discipline separate from sociolinguistics (Couto, 2014). At the 1990 International Conference on Applied Linguistics, Halliday presented a keynote speech titled "New ways of meaning: The challenge to applied linguistics," in which he criticized the illogical representation of language systems in certain ecological phenomena and emphasized the crucial role of linguistic research in tackling ecological issues. He describes language's impact on the world as a "dialectic between system and event" (Halliday, 2001: 186), arguing that language not only reflects reality but also actively constructs it. Furthermore, he emphasizes the significant role of growth in language development, highlighting that concerns such as growthism, species discrimination, environmental pollution, sexism, and classism are relevant not only to biologists and physicists but also to linguists.

Halliday's observation on the interplay between language and ecological issues expanded upon Haugen's original elaboration of "language ecology." Halliday's central role in the functional approach to language research also contributed to the recognition of ecolinguistics within the entire linguistic community. Concurrently, at the same conference, the term "ecolinguistics" was formally introduced into the discourse on language and ecology, further increasing the field's visibility. The 1990s also saw the publication of Fill and Makkai's seminal books summarizing the achievements of ecolinguistics during its consolidating stage (Fill, 1993; Makkai, 1993).

As we entered the new millennium, ecolinguistics entered a new developmental stage, evident in various academic events focused on the subject (e.g., "30 Years of Language and Ecology" at the University of Graz, 2000) and a significant rise in book-length publications, including works by Fill & Mühlhäusler (2006), Doring et al. (2008), Stibbe (2021), and Cowley (2024). Recently, several

articles on ecolinguistics were published in *Language and Linguistics* and *Language Sciences* (January 2024), providing current insights into the application of ecolinguistics.

Ecolinguistics comprises two distinct theoretical paradigms: the "Haugenian paradigm" and the "Hallidayan paradigm" (Zhou, 2022). Haugen's concept of linguistic ecological metaphors introduced the primary research paradigm of ecolinguistics, integrating disciplines such as ecology, sociology, psychology, linguistics, and philosophy, commonly referred to as "Haugen's model," "the metaphorical model," or the "ecology of language" (Costa-Carreras, 2020; Sultana, 2023). Within this paradigm, linguists have explored the relationship between language and the environment, investigating the causes of linguistic ecological phenomena. For instance, studies on ethnic minority languages shed light on why some languages face extinction while others persist (Cámara-Leret & Bascompte, 2021). Bastardas-Boada (2014) emphasizes "linguistic sustainability," emphasizing the connection between biodiversity and linguistic diversity.

Theoretical frameworks on linguistic environments and ecosystems have been proposed, such as Haarmann's (1986) development of the ecolinguistic variable. This variable encompasses racial demographics, ethno-social, ethno-cultural, and other factors that shape a language's 'environment.' Recently, ecolinguists have linked language to politics, arguing that political activities form a symbolic language ecosystem (Van, 2019). Dovchin (2020) emphasizes linguistic human rights, advocating for individuals' and groups' right to speak and be educated in their native language. They assert that language, like individuals or groups, possesses legal personality and deserves corresponding rights. Secondly, the "Hallidayan tradition" can be traced back to insights on the connections between language use and environmental degradation (Halliday, 1992). In the 1990s, ecological degradation further fueled the study of language and ecology, prompting linguists to explore the role of language in ecological and environmental problems, seeking to leverage language as a solution to environmental challenges.

Humans use language not only to reflect and express their perceptions of the world but also to construct it. Stibbe (2021) refers to this "perception of the world in the human mind" as a "story," illustrating that individuals perceive the world differently based on their contexts, leading to varied ecological philosophies and approaches to the environment.

Ecological concepts and approaches to the environment vary as well. The ideology of infinite natural resources and human superiority is embedded in the language system, hindering the development of sound ecological concepts and environmental problem-solving. Halliday's insights into the role of language in environmental issues have paved the way for a new research direction in eco-linguistics, known as the Halliday paradigm, the "non-metaphorical model," and "environmental linguistics" (Fill, 2001; Han, 2013; Harrison, 2023). The Halliday paradigm encompasses ecology, linguistics, economics, environmental science, religious studies, psychology, philosophy, and numerous other fields, examining the role of language in ecology, which can be either positive and harmonious or negative and destructive.

Linguists, following the Halliday paradigm, have started critically analyzing both the ecological and non-ecological aspects of language and language practices, encompassing language systems and discourse. These studies mainly take three approaches. The first involves utilizing the theoretical framework of critical discourse analysis to examine environmental texts. For instance, Alexander (2018) elucidates how different interest groups focus on and avoid certain aspects when discussing environmental matters. Zaman (2021) emphasizes the importance of accurately representing language in written and spoken forms, particularly at the policy and implementation levels, to facilitate clear understanding of climate change-related topics and to effectively portray the roles and actions of stakeholders in disaster preparedness. Goatly (1996: 55) additionally notes that nominalization can obscure the focus on the affected object by omitting the doer or recipient, as discussed by Fill (1998).

The second involves critically analyzing the language system from an ecological perspective. Trampe (1991), in addition to Halliday's (1990) critique of the language system, compares linguistic phenomena in industrialized agriculture and traditional farming, criticizing the anthropocentrism and commercialism present in the language of industrialized agriculture. Trampe argues that language should not solely reflect the world from a human perspective but should also acknowledge

the impact of nature on human beings and their commercial activities. Goatly (1996) criticizes the anthropocentrism and commercialism evident in the language of industrial agriculture, asserting that language should not only reflect the human perspective but also consider the role of nature in human activities and commerce. Goatly (1996) highlights that the differentiated linguistic systems in European lingua franca do not align with the holistic ecological ideology of the present era. Specifically, transitive analysis, dividing the real world into giver, receiver, and environmental components, does not adequately represent contemporary scientific theories or Gaia theory. Additionally, the division of giver and receiver in participant roles implies a false unidirectional causality. The division between doer and donee in participant roles implies a false unidirectional causality, contradicting the "multidirectional" "mutual causality" of contemporary scientific theories. Moreover, the division between doer and donee in participant roles, along with the environmental component, is often marginalized by the gerund, implying that the "environment" is neither active nor passive, thus unsuitable for expressing contemporary scientific theories or Gaia theory. Consequently, Goatly (2018) proposes 'consonant grammar', also known as 'green grammar', an approach to grammatical analysis that involves activating natural environments marginalized in transitivity analysis.

Thirdly, we conduct a critical analysis of the non-ecological aspects present in topical articles or environmental protection advertisements, adopting an ecological perspective. For instance, In scientific discourse on animal experiments that while the pronouns "I" and "We" and the active voice are utilized in acknowledgments, the passive voice dominates the rest of the text. This suggests a subconscious bias wherein animals are not perceived as equal to humans (Zhdanova et al., 2021). Such language usage indicates an inherent bias where animals are not regarded as equal beings to humans. Luo (2023) observed that headlines regarding garbage sorting predominantly featured positive language. The material processes involved mainly included action and relationship processes, with less focus on psychological and speech processes. Moreover, in the context of action processes, Guangming.com differentiated between human and non-human agents to objectively portray the contributions of various entities to ecological environmental protection efforts. In their analysis of climate change news discourse, Miao & Liu (2023) revealed that the materialistic system's processes, participants, and environmental components construct China's narrative response to climate change, focusing on China's actions in climate governance. Simultaneously, within the framework of ecological civilization construction, the materialistic system conveys the view that amid climate change, humans form a community of shared destiny, and together with nature, constitute a community of life.

The concept of ecological civilization is further elaborated within the discourse surrounding its construction. Among these three research paths, the first and third pertain to ecocritical discourse analysis, while the second focuses on the research content of critical ecolinguistics. Ecocritical discourse analysis scrutinizes specific languages by critiquing the lexical, syntactic, and pragmatic elements of a discourse to unveil its underlying ideology, often expressed as ecological consciousness in ecolinguistics. On the other hand, critical ecolinguistics focuses on critiquing non-ecological aspects of the language system, including distinctions between countable and uncountable nouns, pronoun usage, and grammatical structures (Fill & Mühlhäusler, 2001; Kulikova & Barabash, 2022; Istianah & Suhandano, 2022). Critical eco-linguistics, as proposed by Ghorbanpour & Stibbe (2021), critically examines human discourse, aiming to modify language patterns and usage to better align with the ecosystem's harmonious development.

The research topics of ecolinguistics, as depicted in the aforementioned typologies, overlap with other linguistic subfields like critical discourse analysis and sociolinguistics. This overlap prompts the question of whether it undermines the autonomy of ecolinguistics as a distinct research field.

Undoubtedly, this concern is valid, and my response to it is that ecolinguistics is most effectively conceptualized not as a singular discipline but rather as an amalgamation of interdisciplinary approaches examining language through ecological perspectives or in the context of ecological issues. Recent studies labeled as "ecolinguistics" are becoming progressively intricate and multifaceted, mirroring the interdisciplinary essence of the field, thus necessitating additional research. Therefore, conducting a content analysis of the recent developments in ecolinguistics would serve as a timely endeavor to assess its present state and envisage its future trajectories.

METHODOLOGY

Research design

Ensuring representativeness is crucial for producing valid evaluations of a research field. The content analysis conducted here seeks to offer a comprehensive overview of the current dynamics within ecolinguistics, serving researchers interested in this emerging field (Chen, 2016).

Three sampling strategies are available for this purpose (Schäfer & Schlichting, 2018): (1) acquiring any relevant scholarly publication, (2) conducting random sampling from existing literature, and (3) selecting the most representative publications based on predefined parameters. The first two strategies appear impractical as they necessitate extensive prior knowledge of the historical details of the target discipline and comprehensive databases indexing all relevant journals, book chapters, and conference proceedings. Building on prior research on related environmental topics (Brito et al., 2020; Ardoin et al., 2020; Parmaxi, 2023), the content analysis of ecolinguistics focused on examining pertinent publications in established scholarly journals spanning the past 53 years (1971-2024). "Well-established scholarly journals" in this context denote peer-reviewed journals indexed in three major academic databases on language and communication: the Modern Language Association (MLA), China National Knowledge Infrastructure (CNKI), and Scopus. The exclusive emphasis on journal publications is due to their widespread circulation among academic communities in the social sciences. For researchers with limited familiarity with ecolinguistics, a swift search of journal articles in academic databases provides a concise introduction to the field.

A quantitative assessment of current journal publications on ecolinguistics would provide valuable insights into how this emerging field is communicated within linguistics and related disciplines like communication, sociology, and ecology. Regarding the academic databases utilized in the content analysis, the Modern Language Association is the premier research database for linguistics, making it the primary database for this study due to its extensive publication indexing.

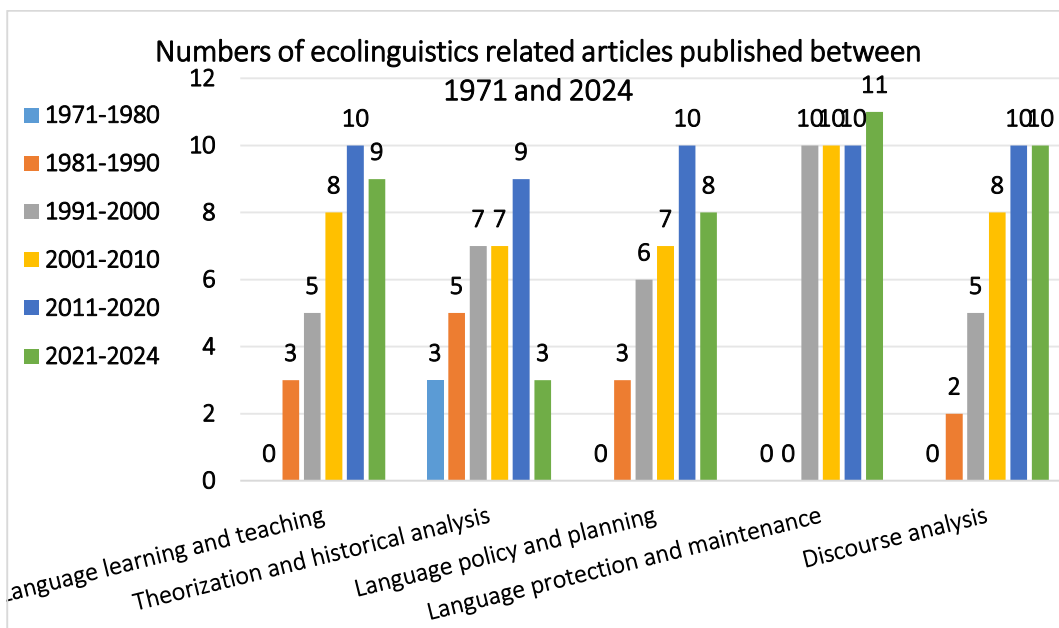
Considering the interdisciplinary nature of Chinese scholars' research, this study also includes searches for pertinent journal publications in CNKI and Scopus, the most comprehensive multidisciplinary index in humanities and social sciences. Specifically, the surveyed journal publications were chosen through the following process: A comprehensive full-text search was conducted in MLA, CNKI, and Scopus using the keywords "ecolinguistics" or "language and ecology," with a time frame from January 1971 to January 2024. As previously mentioned, Haugen (1971) introduced the term "language and ecology," hence the data collection commenced from 1971. This search yielded a sizable corpus comprising diverse publications, each of which was individually screened within this initial sampling pool. Only publications in peer-reviewed journals that explicitly discuss ecolinguistics or language and ecology as integral components of their theoretical frameworks were included.

The data selection yielded 179 relevant journal publications. Following the analytical framework outlined by Schäfer and Schlichting (2018), these selected studies were then examined based on three fundamental questions: (1) publication dates, (2) addressed topics, and (3) methodological approaches. These questions were intended to systematically assess the publishing practices of ecolinguistics journals and to identify the field's strengths and weaknesses. The subsequent section will outline the primary findings derived from the data analysis.

RESULTS AND DISCUSSIONS

Question 1 examines the overall prevalence of ecolinguistics research in journal publications since 1971. The bar graph 1 demonstrates a consistent rise in journal publications on ecolinguistics since 1971, with the majority of surveyed articles (128 out of 179) published in the last 24 years. Between 1991 and 2024, ecolinguistics saw the highest number of papers published on language preservation and maintenance, suggesting widespread adoption of Haugen's paradigm as the dominant approach in ecolinguistic research. Between 1981 and 2024, there has been a significant increase in the number of published papers related to ecolinguistics compared to the 1971-1980 decade. Overall, the significant rise in journal publications since 1981 reflects the increasing interest in ecolinguistics among linguists and the enhanced institutional support for ecolinguistics research.

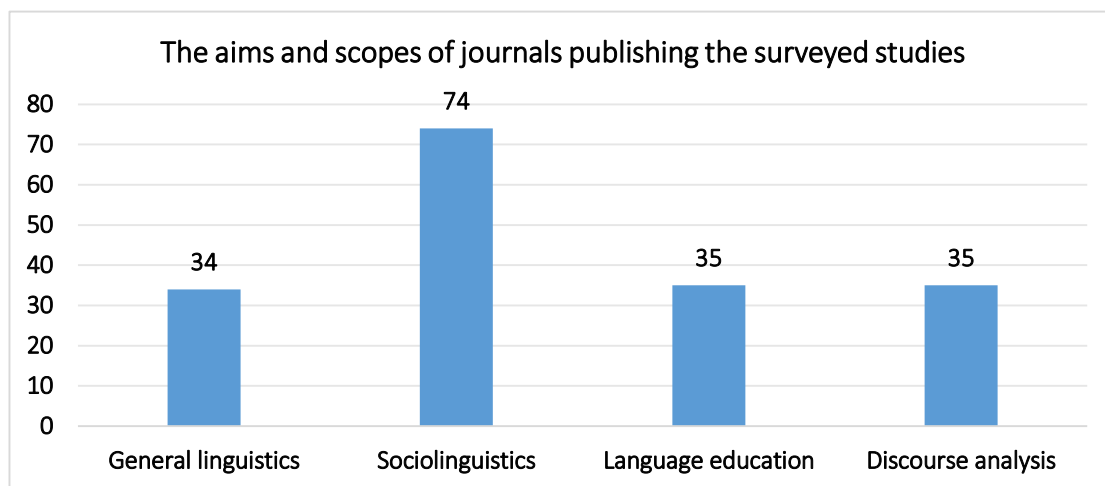
The rise in journal publications on ecolinguistics is accompanied by a noticeable diversification of research topics. Although "language protection and maintenance" remains the primary research topic in ecolinguistics throughout the surveyed period, there has been a noticeable increase in studies applying ecolinguistic theories in related fields such as discourse analysis, language policy and planning, and language learning and teaching. For example, Song (2021) conducts an eco-discourse analysis of Internet buzzwords from an ecolinguistic perspective, refining their lexical and metaphorical patterns and analyzing cyberpopular language in terms of beneficial, destructive, and neutral discourse. Micalay-Hurtado & Poole (2022) outline the rationale for an ecolinguistics-informed CLA (eco-CLA) approach to English language instruction, emphasizing the compatibility of ecolinguistics and CLA and their intersection with social, linguistic, and environmental justice. This finding confirms LeVasseur's (2015) assessment that ecolinguistics has achieved a certain degree of "functional differentiation," with distinct research strands emerging.



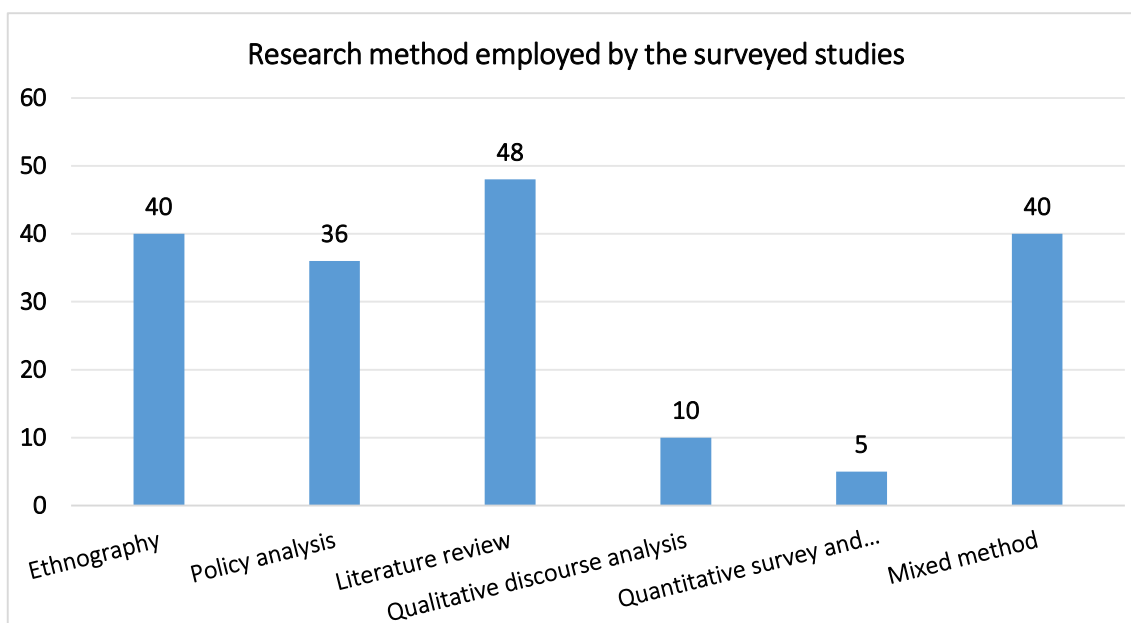
The bar graph 2 illustrates that ecolinguistics articles are primarily published in journals specializing in general linguistics (n=34) and sociolinguistics (n=74), determined by reviewing their "aim and scope" sections. Further qualitative analysis of these journals' titles reveals that although the concept of ecolinguistics has been introduced in high-impact international journals with diverse audiences, such as *Critical Discourse Studies*, *Journal of World Languages*, and *Language Sciences*, ecolinguistics articles are predominantly published in journals catering to a specific readership in sociolinguistics, such as *Current Issues in Language Planning*, *Language in Society*, and *International Journal of the Sociology of Language*.

Upon closer examination of the research subjects in the surveyed articles, it's evident that the three traditions of ecolinguistics (namely the Haugenian, biolinguistic, and Hallidayan traditions) are unevenly represented. The bar graph 1 categorizes these studies into five main categories based on their research subjects: (a) Language Learning and Teaching (studies applying ecological perspectives in language teaching and learning processes), (b) Theorization and Historical Analysis (non-empirical pieces advancing ecolinguistics theory and historical analysis), (c) Language Policy and Planning (studies addressing language policy issues), (d) Language Protection and Maintenance (studies focusing on language diversity and vitality within ecolinguistics), and (e) Discourse Analysis (studies analyzing environmental discourses). Further categorization based on Le Vasseur's typology reveals that categories (b), (c), and (d) align with the Haugenian tradition, while categories (a) and (e) align with the Hallidayan tradition. Notably, category (d) accounts for a significant proportion of the surveyed articles (40 out of 179), reflecting a growing awareness of heritage language sustainability (Dos Santos, 2021). Conversely, category (c) comprises a smaller percentage of surveyed articles (34 out of 179), attributed to the focus on national and local government language policy and planning studies, which have garnered national attention. Moreover, there appears to be a vertical imbalance between macro- and micro-studies in terms of research topics, with the majority

of publications focusing on national-level policy issues, while micro-level topics such as family language planning receive less attention.



Finally, when analyzing the research methods used in the surveyed articles, the results reveal a diverse landscape. The bar graph 3 illustrates that out of 179 publications, 48 are non-empirical essays concentrating on literature review and theoretical synthesis. Empirical studies, particularly qualitative ones employing ethnography (comprising field studies and classroom observations), and macro policy analysis have been extensively utilized by researchers to address the ecological aspects of linguistic systems. Quantitative research is the least represented in the publications (n=5). Similarly, the exclusive use of qualitative research (n=10) in research articles is also limited. However, mixed research methods in publications (n=40) are prevalent.



This content analysis reviews the evolution of ecolinguistics over the past 53 years from the standpoint of journal publication practices. Consistent with previous theoretical discussions, "Ecolinguistics" and "language ecology" are best understood as umbrella terms describing a highly interdisciplinary field, as evidenced by the diversity of publications surveyed. Additionally, the results illustrate the increasing research attention ecolinguistics has garnered within linguistics, reflected in its growing number of publications in scholarly journals, diverse research topics, and utilization of various research methods. These indicators suggest a promising future for ecolinguistics. With its focus on the interaction between language and the environment, it is anticipated that ecolinguistics will emerge as a more significant research domain, with further growth in publications anticipated in the years ahead. However, the present analysis also highlights various points of contention within ecolinguistics, which, depending on their resolution, will

profoundly impact the future research trajectories of the field. Considering the increasing research interest in language and the environment among scholars, these issues warrant further discussion. To clarify, the following discussion aims to stimulate further discourse on potential advancements within ecolinguistics, rather than presenting a definitive perspective on this emerging field.

Firstly, as demonstrated in the bar graph 1, the majority of ecolinguistics articles published from 1971 to 2024 align with the Haugenian tradition, contrasting with the prevalence of environmental discourse research. One potential explanation for this "mismatch" is the noticeable gap between ecolinguistics scholars and those in related fields, as categorized by Stibbe (2021) as "the ecological analysis of language/discourse" and "the analysis of ecological discourse". While one might anticipate that the increasing research on environmental discourse in recent years would integrate ecolinguistics theories and enhance the field's prominence, the data analysis indicates that this is only partially accurate: to date, few environmental discourse studies, particularly in journal publications, have adopted the term "ecolinguistics" or actively utilized ecolinguistics theories.

Hence, an intriguing aspect for current and future ecolinguistics practitioners to ponder is whether forthcoming research practices should adopt a more politically engaged approach, aligning with the normative stance observed in numerous environmental discourse studies. According to a respondent in the survey conducted by LeVasseur (2015), ecolinguistics might not qualify as a genuine subdiscipline of linguistics due to being perceived as "too biased" and associated with individuals described as "treehugging types". This apolitical stance is evident in numerous studies analyzed in the current content analysis, as they focus on preserving minority languages or conceptualizing language systems within the holistic ecological paradigm, rather than addressing environmental issues or texts of ecological significance.

Theoretical explorations into linguistic systems and their parallels with ecological systems undoubtedly foster multilingual awareness and foster a holistic perspective on human-nature interactions. Manan et al. (2021) demonstrate how the Torwali community strategically mobilizes limited resources to achieve the sustainable revival of its language and culture. The same principle applies to texts of ecological significance. Meghdari & Yousefi (2020) critically analyze promotional texts in nature schools using an ecolinguistic approach. The results indicated that 168 clauses, accounting for 61% of the total, promote environmental conservation and appropriate utilization of nature. Additionally, in 149 cases (approximately 55%), a human-nature or nature-friendly relationship was observed. Consequently, these schools play a pivotal role in shaping human attitudes toward the environment, fostering a conservation ethos among children. Discourse plays a significant role in perpetuating unsustainable consumerism and the fetishization of capitalist material growth, including ecologically significant texts (Ballantyne, 2016).

What directions might future ecolinguistics research take? Future ecolinguistics research could explore a progressive reevaluation of the human-nature relationship. Although it may seem radical, recent ecolinguistics studies by Norton & Hulme (2019) and Zhang (2022) have demonstrated how this approach can advance ecolinguistics as a distinctive sub-discipline within linguistics. Fortunately, recent years have witnessed the emergence of academic works explicitly tackling the challenge of interdisciplinary integration. Ecolinguistics can play a pivotal role in challenging discourses promoting economic growth, advertising, and intensive agriculture. It achieves this by fostering critical language awareness of their potentially harmful effects and providing resources for resistance. Addressing problematic environmental narratives, such as those that glorify consumerism, material growth, and environmental deregulation, could be a crucial focus for future ecolinguistics research (Stibbe, 2021).

The results highlight specific aspects that future ecolinguistics research could enhance. Regarding research topics, the bar graph 1 demonstrates that current ecolinguistics research primarily focuses on macro-level issues like language policies in various countries. Therefore, future research that validates ecolinguistic hypotheses at the micro-level would be valuable. This could involve uncovering how everyday discourses legitimize materialist definitions of "happiness" or examining how daily metaphors shape perceptions of interactions between humans, other species, and the physical environment.

Regarding research methods, the combination of findings from the bar graph 1 and the bar graph 3 reveals a preference for mixed-method research designs in ecolinguistics. Despite the drawbacks of mixed methods research, which include the necessity of conducting both quantitative and qualitative research, leading to increased study complexity, and requiring researchers to master distinct research skills and manage disparate data types. Moreover, mixed methods research demands additional time and resources, as researchers must conduct quantitative and qualitative research separately. Handling two distinct data types in mixed methods research also complicates data analysis. Researchers must acquire the necessary data analysis skills to effectively manage and analyze this data. Undoubtedly, this approach combines quantitative data from objective research with qualitative insights from in-depth interviews, resulting in a deeper understanding of the research problem. Furthermore, the combination of quantitative and qualitative data complements each other, providing comprehensive support for the study. For instance, quantitative research provides statistical data offering an overall perspective, while qualitative research interviews offer individual experiences and perspectives. Mixed methods research can also yield more comprehensive data, thereby enhancing the credibility and persuasiveness of the study. Scholars advocate for utilizing this approach as it facilitates an in-depth understanding of the phenomenon of language ecology. Therefore, a promising direction for future ecolinguistics research involves employing mixed methods research strategies.

Regarding publishing practices, ecolinguistics has primarily been discussed within specific sub-disciplines of linguistics, as indicated in the bar graph 3. Due to the intricate nature of current environmental challenges and the interdisciplinary essence of ecolinguistics, practitioners in this field might explore opportunities to extend their reach beyond linguistics and share their research with broader audiences in humanities and social sciences disciplines, thus fostering the advancement of ecolinguistics.

CONCLUSION

In summary, research activities in ecolinguistics have significantly increased since 1971. Although the field still predominantly focuses on language policy and planning studies, it has started diversifying its research agenda by incorporating a broader range of topics and employing various methodological approaches. Ecolinguistics has emerged as a discipline; however, it still faces certain challenges, such as a lack of clarity regarding its research focus. The two traditional mainstream research paradigms have distinct research focuses: the "metaphorical model" primarily addresses contemporary societal issues, including language survival and development, language diversity, the global linguistic landscape, language evolution, vitality, and planning, and the protection of endangered languages (Huang, 2016).

The "non-metaphorical model" primarily investigates the role of language or language systems in ecological and environmental matters. Particularly since the 21st century, this research has expanded beyond environmental constraints to examine language's role in fostering sustainable relationships among humans, other organisms, and the environment, covering all aspects influencing life's sustainability (He, 2018). Nonetheless, a division exists between these two research paradigms, indicating a lack of attention from the academic community regarding the correlation between their respective research objects. The boundaries of the research scope are unclear. The broad conceptualization of "ecology" allows any interacting elements to form an "ecosystem," leading to the incorporation of ecological perspectives into various disciplines, including eco-translation, eco-education, eco-aesthetics, eco-poetry, eco-psychology, and others.

Eco-linguistics stands as an independent discipline, albeit with interdisciplinary characteristics (He & Wei 2018). While its research scope should be defined, current investigations focus on examining the environmental influence on language and vice versa from an ecological standpoint (He, 2018: 12). While "ecology" as a concept can be generalized, "eco-linguistics" as a discipline cannot. Ecolinguistics, as a nascent sub-discipline of linguistics, holds vast potential for fostering interdisciplinary research on the interactions among the human mind, society, and natural environment.

Admittedly, this study is exploratory in nature, and its limitations should be noted. The above findings and discussions are solely based on indexed journal publications of ecolinguistics; therefore,

they cannot be generalized as a definitive assessment of ecolinguistics' development over the past 53 years. As mentioned earlier, the content analysis is primarily conducted from an outsider perspective, aiming to ascertain how ecolinguistics would be perceived by researchers from related disciplines. A more comprehensive examination of ecolinguistics would include key books, book chapters, and conference proceedings, and would also explore additional non-Western publication venues if feasible. Another limitation arises from using MLA, CNKI, and Scopus as source databases. While these databases have enhanced their multilingual inclusiveness over the past decade, their focus on publications in other languages remains secondary.

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