

ORIGINAL ARTICLE

Charting the path of sustainability discourse research: A systematic review of applied linguistic studies

Esterina Nervino¹  | Joyce Oiwan Cheung²  | Jiayi Chen³

¹Department of English, City University of Hong Kong, Hong Kong, Hong Kong SAR (PRC)

²Department of Chinese and Bilingual Studies, The Hong Kong Polytechnic University, Hong Kong, Hong Kong SAR (PRC)

³Department of Applied Linguistics, University of Warwick, Coventry, UK

Correspondence

Esterina Nervino, Department of English, City University of Hong Kong, CMC-M8085, Run Run Shaw Creative Media Centre, 18 Tat Hong Avenue, Kowloon Tong, Hong Kong SAR (PRC). Email: e.nervino@cityu.edu.hk

Funding information

City University of Hong Kong Start-Up Grant & Top-Up, Grant/Award Number: [Project No.(CityURef. No. 7200720)]; Research Grants Council of the Hong Kong Special Administrative Region, China, Grant/Award Numbers: [Project No.(RGCRRef. No. 21609922), Project No.(CityURef. No. 9048260)]

Abstract

This paper aims to understand the state-of-the-art of research on sustainability discourse in applied linguistics. The paper adopts a systematic two-stage review approach. In the first stage, 114 articles were classified into *environment*, *social*, and *governance* (ESG) according to the Global Reporting Initiative (GRI) categories. The second stage involves annotating the dataset using an open-coding system based on data types explored in the studies, methodologies used, findings, and implications. The findings lead to a comprehensive review of diachronic changes in the investigation of sustainability topics, data types, sampling, frameworks, analytical tools, findings, and implications to ultimately set the grounds for future research on sustainability discourse in applied linguistics and related disciplines—for example, communication studies.

KEYWORDS

bibliometrics, corporate social responsibility, ESG, sustainability, sustainability discourse

Riassunto

Il presente studio si propone di analizzare lo stato dell'arte della ricerca sul discorso della sostenibilità nell'ambito della

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2024 The Authors. *International Journal of Applied Linguistics* published by John Wiley & Sons Ltd.

linguistica *applicata*. L'approccio adottato per l'analisi sistematica degli studi condotti su tale argomento si articola in due fasi. Nella prima fase, è stata effettuata una classificazione di 114 articoli in base alle categorie Environmental, Social, and Governance (ESG), seguendo le linee guida fornite dalla Global Reporting Initiative (GRI). La seconda fase prevede l'analisi degli studi mediante un sistema di codifica basato sui tipi di dati esaminati, le metodologie impiegate, i risultati ottenuti e le relative implicazioni. I risultati ottenuti consentono di offrire una panoramica completa dei cambiamenti diacronici nell'indagine dei temi legati alla sostenibilità, dei tipi di dati considerati, delle teorie e degli strumenti analitici utilizzati, dei risultati ottenuti e delle relative implicazioni. Tale analisi mira inoltre a gettare le basi per future ricerche sul discorso della sostenibilità nell'ambito della linguistica applicata e nelle discipline ad essa correlate, quali ad esempio gli studi sulla comunicazione.

KEYWORDS

sostenibilità, ESG, responsabilità sociale d'impresa, discorso sulla sostenibilità, comunicazione

1 | INTRODUCTION

Sustainability is defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). Over the years, discourse has been stakeholders' initial encounter with sustainability commitments, efforts, and achievements. In this study, “discourse” refers to the combination of different semiotic resources (such as visual images, layout of the page, and colors) in a specific context (Kress & van Leeuwen, 2001). Individuals, institutions, and corporations share their sustainability practices through discourse and simultaneously deploy discourse to influence their peers to engage in sustainability practices. Therefore, promoting the research of sustainability-related matters in applied linguistics aligns with the very nature of the field, which deals with real-life language phenomena to offer practical solutions.

This study employs a systematic review approach starting from bibliometric data (Lei & Liu, 2019a, 2019b; Li & Lei, 2019) to provide a diachronic overview of major themes, datasets, frameworks, findings, and implications in applied linguistics research on sustainability discourse. We examine different uptakes in the Linguistics and Communication fields and propose three research questions: (1) What are the diachronic changes in major categories, themes, and topics explored in applied linguistics research on sustainability discourse? (2) What are the diachronic changes in the sampling and methodologies adopted by applied linguistics to study sustainability discourse? (3) What are the findings and implications of these studies? Studies published in linguistics and communication journals have been analyzed, and a two-stage review approach has been adopted. In the first stage, 114 articles were classified into *environment*, *social*, and *governance* (ESG) according to the Global Reporting Initiative (GRI) categories. In the second stage, we annotated the dataset using an open-coding system based on the studies' data types explored and methodologies used. The findings lay the foundation for future research on applied linguistics and related disciplines, such as communication studies.

2 | LITERATURE REVIEW

The journal “Sustainability” welcomes studies on sustainability in different fields. In the journal, linguistic methods are increasingly used by non-linguist scholars to explore diverse topics, from business (Nielsen & Villadsen 2023; Oppong-Tawiah & Webster 2023) to urban development (Pastor et al., 2023). However, in searching for studies published by linguistics scholars, the list shrinks and leads to a special issue (Eds. Zhang & Greenier 2023) titled “Applied Linguistics and Language Education for Sustainable Development.” The 42 studies in the issue primarily cover second/foreign languages, bilingualism/multilingualism, motivations for language learning, teacher identity, and English for specific and/or academic purposes. All studies share the common goal of emphasizing applied linguistics’ role in promoting sustainable development through languages and language education.

Previous review papers have summarized sustainability-related publications using various dimensions, including field of study, linguistic frameworks/theoretical approaches, methodologies and methods, analytical tools, units of analysis, main contributions (Vollero, 2022), research hotspots (Zhao et al., 2023), research themes (Koutoupis et al., 2021), topics (Alhaddi, 2015), and data samples, such as sources, data types (Vollero, 2022), and geographical locations/regions of study (Koutoupis et al., 2021). Zhao et al. (2023) conducted a bibliometric study of articles (2007–2021) on transdisciplinary ESG, and listed productive authors, institutes, and countries/regions to elucidate the main forces in ESG research. The findings demonstrated three significant research clusters: banking industry, sustainable investment, and board gender diversity.

Existing systematic and bibliometric reviews have paid little attention to whether sustainability/ESG research focuses on unimodal or multimodal data, or further annotated the content of the journal articles through a qualitative approach. In the field of environmental communication, Weder et al. (2021) limited their review on the research on sustainability issue media coverage and found that environmental communication studies have focused primarily on analyzing print media and, until recently, have overlooked the digital realm. Building on Weder et al. (2021), this review incorporates further develops a coding scheme to understand the data mode as an important analytical dimension within the field of applied linguistics and communication, the applied linguistic frameworks used to investigate the data, the findings, and the implications of those studies. Additionally, in this review, we also highlight the different approaches proposed by scholars publishing in *language and linguistics* (LL), *communication* (Comm), and *hybrid* (Hybrid) journals.

3 | METHODOLOGY

This study initially adopted a bibliometric approach (Lei & Liu, 2019a, 2019b; Li & Lei, 2019) to build the dataset and systematically review studies investigating sustainability discourse in applied linguistics. Moreover, this review includes an additional layer of analysis to help authors understand the role of discourse within the sustainability discussion and potential directions for interdisciplinary collaborations such as findings, stakeholders, and implications.

3.1 | Data collection

The dataset was retrieved using the search string *sustainab** on the field *topic* of the Web of Science (WoS) Core Collection (indexed in SSCI and A&HCI), a database of indexed journal articles. The asterisk [*] indicates that any character following the head has been searched for, such as *sustainable* and *sustainability*, whereas the field *topic* allows searching within the title, abstract, and keywords. The search was limited to English-language journal articles, including those ahead-of-print, while conference proceedings and book chapters were excluded. The search was further limited to journals in the three WoS categories: *language*, *linguistics*, and *communication*. This resulted in 1154

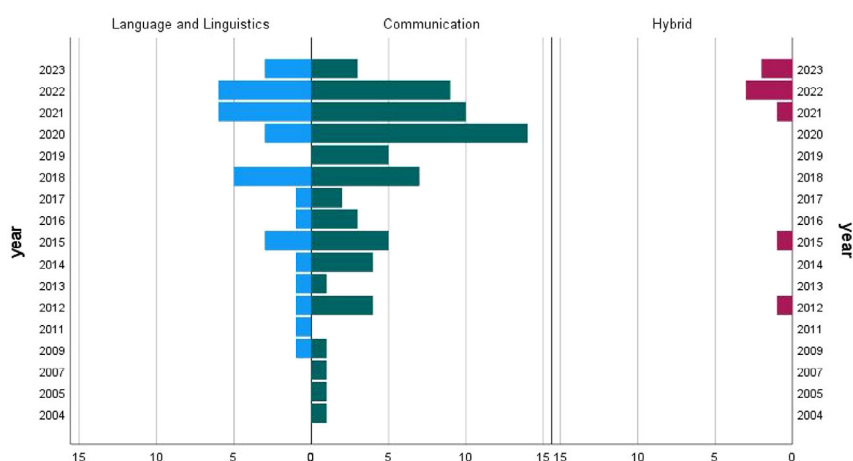


FIGURE 1 Sustainability-related studies over the years. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/jl.12571)]

articles: 308 from *language and linguistics* journals, 838 from *communication* journals, and 8 from *language, linguistics, and communication* journals.

Articles using applied linguistics frameworks as the research design to limit the scope to empirical discipline-related studies and provide an overview of frameworks used and datasets were shortlisted and analyzed. Therefore, screening criteria included (i) the use of applied linguistic frameworks/methods to study sustainability-related issues and (ii) at least one semiotic feature that was studied, such as textual, visual, verbal, written, gestural, or multimodal features. After screening, nonempirical works, such as announcements, forewords, afterwords, introductions to a series, commentaries, and book reviews, were excluded. Articles briefly mentioning sustainability with a broader meaning (e.g., sustainable over time) were also redacted. After discarding inaccessible articles (e.g., broken links), 114 articles remained: 35 from LL journals, 71 from Comm journals, and 8 from Hybrid (see Figure 1).

As shown in Figure 1, the first LL paper about sustainability dates back to Mafela (2009) on the sustainability of classroom language practices. The first Comm paper dates back to Dorsey et al. (2004) on ecotourism. Furthermore, the peak volumes of LL and Comm papers on sustainability appeared in 2021 and 2020, respectively.

3.2 | Data analysis

The collected articles were reviewed in two stages: ESG classification and methodological analysis. During ESG classification, two coders categorized the nature of *sustainability* in the respective articles according to the GRI standard, which explains that sustainability in different domains falls under the umbrella of ESG. The two coders annotated the ESG categories for 12% ($N = 14$) of the articles in which satisfactory interrater agreement was achieved (using SPSS 27, Cohen's weighted kappa 0.875 for p -value = 0.000 was obtained; see Table 1). Each coder classified half of the remaining 100 papers. The coders then annotated methodological analyses using an open-coding approach. The first and second coders annotated the same 12% ($N = 14$) of papers regarding datasets, methodologies, findings, and implications and discussed discrepancies until reaching agreement with a third coder. The two coders then coded the remaining 100 papers separately.

The coding scheme developed for this study (Figure 2) was partially adapted from previous reviews of linguistics studies, such as Crosthwaite et al. (2022) on the diachronic changes of research topics in second language writing and languages and geographical sources explored in corpus linguistics research; and Liu et al. (2022) on the linguistic markers in learner corpus research.

TABLE 1 Interrater Cohen's weighted kappa.

Ratings	Weighted kappa ^b	Asymptotic		95% Asymptotic confidence interval		
		Std. error ^c	z ^d	Sig.	Lower bound	Upper bound
1st coder – 2nd coder ^a	0.875	0.123	4.090	0.000	0.635	1.115

^aCategories are determined by observed values and values with defined value labels.^bWeighted kappa estimation uses linear weights.^cValue depends on neither null nor alternative hypotheses.^dAsymptotic standard error is estimated under the null hypothesis assumption that weighted kappa is zero.

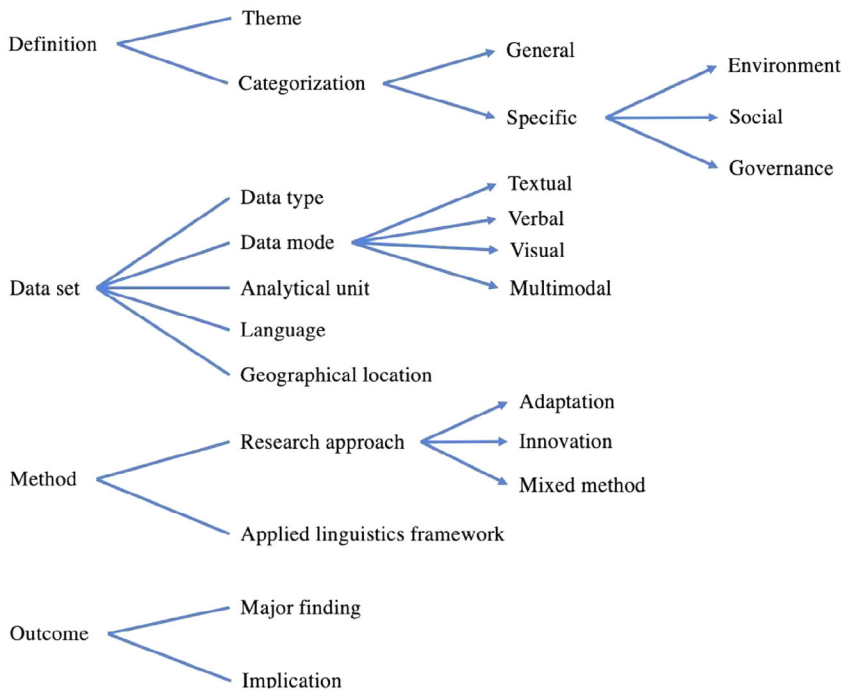


FIGURE 2 Coding scheme. Note: Arrows represent mutually exclusive choices. [Color figure can be viewed at wileyonlinelibrary.com]

As shown in Figure 2, the first part defines *sustainability* in context by differentiating whether *sustainability* refers to ESG in *general* or a *specific* type and noting the respective article's major *theme*. ESG pertains to a comprehensive set of criteria employed to assess a company's performance in three key areas. First, the environmental aspect (E) focuses on the company's commitment to environmental conservation (Koutoupis et al., 2021; Zhao et al., 2023) and its efforts to enhance environmental performance while minimizing the ecological costs linked to its operations (Brooks & Oikonomou, 2018). Second, the social aspect (S) includes adherence to legal standards, business and social ethics, respect for human rights, and the importance placed on relationships with the broader society (Gao et al., 2021; Lee et al., 2016). Finally, the governance aspect (G) refers to the company's management practices, executive compensation, and other related factors. It emphasizes a well-structured management system where the rights of shareholders and the responsibilities of the board of directors are appropriately balanced, with a focus on those who can be entrusted with responsibilities (Gao et al., 2021). These definitions were used together with the GRI framework to annotate the ESG categories; however, for the specific themes, a data-driven approach was used based on the keywords of each article.

The second part characterizes the dataset, including the data type (e.g., newspaper articles), data mode (e.g., textual), analytical objects (e.g., keywords, metaphors, and visual compositions), languages, and geographical locations. The third part differentiates research approaches, such as whether existing frameworks are applied to study cases (i.e., *adaptation*); a new framework (i.e., *innovation*) is created; or both approaches (i.e., *mixed methods*) are used. The third part identifies the applied linguistics framework. The final section discusses the major findings and implications for future research.

4 | FINDINGS AND DISCUSSION

The present study analyzed 114 articles using a two-stage review approach. Research on sustainability in applied linguistics mainly focuses on *environmental sustainability*, which is equally popular in LL and Comm studies. *Social sustainability* is preferred by LL articles, while *governance sustainability* is preferred by Comm articles. Regarding environmental sustainability, both LL and Comm scholars discussed themes like *climate and energy*, *lifestyle and view*, *pollution*, *food and resources*, and *environmental education*; Comm scholars further explored the environmental perspectives of sustainability in *corporate branding* (e.g., *greenwashing* and *green branding*). As for social sustainability, both LL and Comm scholars studied *culture*, but LL scholars further examined *language and education*. Regarding governance, LL scholars focused on micro-themes, such as drafting sustainability reports, whereas Comm scholars focused on macro-themes, such as governance, policy, and business models.

Both LL and Comm scholars analyzed *corporate texts*, *government texts*, *media texts*, *social media texts*, and *texts of nongovernmental organizations (NGO)*, but Comm scholars further sampled multimodal data types such as *advertisements*, *corporate materials*, and *online materials*. Although scholars in both disciplines predominantly sampled textual data, recent Comm studies (2021) mostly sampled *multimodal* data. While LL scholars analyzed word- and sentence-level objects, such as *concordances*, *words*, *keywords*, and *collocations*, Comm scholars analyzed a wider variety of themes (e.g., *metaphors*, *images*, and *themes*). Regarding methods, LL and Comm scholars primarily applied existing frameworks to study cases (i.e., *adaptation*), but a few Comm scholars have generated new frameworks (i.e., *innovation*) since 2019. LL scholars most frequently adopted *corpus linguistics*, which first appeared in LL sustainability studies in 2012 and was often triangulated with *critical discourse analysis (CDA)* and *discourse analysis*. Meanwhile, Comm articles most frequently adopted *discourse analysis*, which first appeared in Comm sustainability studies in 2005 and was used alone until blended with *ecolinguistics* and *rhetorics* in 2020.

These LL and Comm studies on sustainability have engendered rich findings in various forms, with most presented in such a *conclusive* manner as to support or reject arguments. Furthermore, authors of LL articles conclude their findings more often in a *contrastive* manner (i.e., comparing different cohorts/variables), while Comm authors often conclude their findings in a *confirmatory* manner (i.e., concluding without cross-group comparison). Instead of presenting *new findings* on tangible parameters, Comm authors are more likely to depict cases (i.e., *descriptive findings*).

4.1 | Sustainability

4.1.1 | Sustainability themes

The LL, Comm, and Hybrid articles predominantly refer to ESG sustainability themes. Sustainability was considered a general topic in one third of LL articles, a quarter of Hybrid articles, and a smaller proportion of Comm articles. Comm-specific and LL-specific sustainability articles peaked in 2020 and 2022, respectively. Table 2 shows that environmental sustainability is discussed in more than half of the Comm articles, with 15% and 13% referring to governance and social sustainability, respectively. Although LL articles are also mainly concerned with environmental sustainability, social sustainability (26%) has been highlighted more than governance (9%). As Hybrid articles are fewer

TABLE 2 Environment, social, and governance sustainability classification.

		WoS categories (henceforth disciplines)		
ESG classification		Language and linguistics	Communication	Hybrid*
General		10 (28.57%)	13 (18.31%)	2 (25.00%)
Specific	Environment	13 (37.14%)	38 (53.52%)	5 (62.50%)
	Social	9 (25.71%)	9 (12.68%)	1 (12.50%)
	Governance	3 (8.57%)	11 (15.49%)	0 (0.00%)
Total		35 (100%)	71 (100%)	8 (100%)

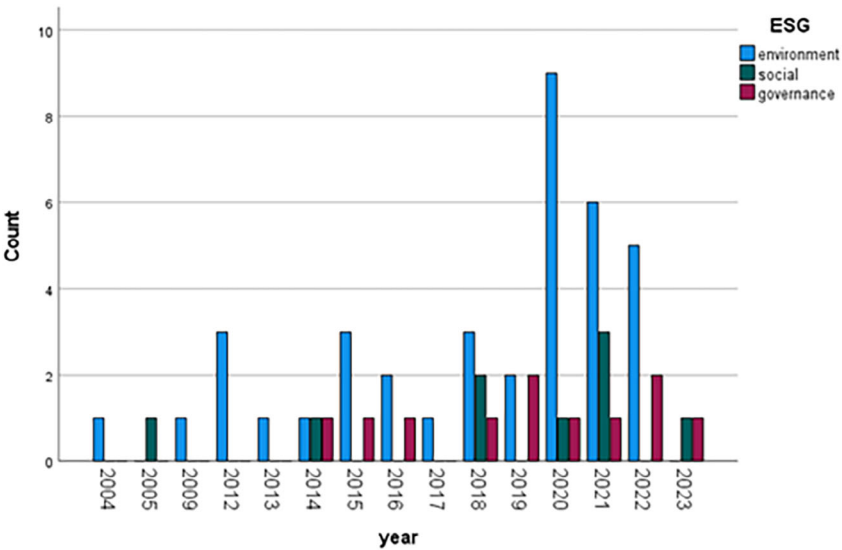


FIGURE 3 Diachronic development of environment, social, and governance sustainability categories in Comm. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

in number ($N = 8$), their distribution shows an environmental-to-social ratio of 5:1, and governance sustainability is not mentioned.

The earliest-reviewed Comm article, written in 2004, examined environmental sustainability. In 2005, another paper focused on social sustainability. Since 2014, Comm scholars have focused on governance sustainability. For Comm articles, environmental and governance sustainability have a decade-long gap, but all three categories have attracted scholarly attention since 2014. Throughout the years, environmental sustainability has remained the most frequent category in Comm articles. Regarding the timeline (see Figure 3 below), the first Comm article on environmental sustainability was written in 2004, probably in response to the 2000 Millennium Development Goals. The first Comm article on governance sustainability in 2014 may have resulted from the 2012 RIO+20 Summit. The Comm environmental articles peaked in 2020, likely in response to the Paris Agreement signed by the 2019 UN Climate Action Summit.

Unlike Comm articles, the earliest LL article, published in 2009, focused on social sustainability. Furthermore, LL articles are primarily environmental sustainability studies that peaked in 2015, while social sustainability was only occasionally highlighted. If we match the timeline in Figure 4 with monumental events, we observe that the increase in LL sustainability articles since 2015 coincides with the 2030 Agenda released in 2015. As the agenda set 17 goals encapsulating all ESG categories, all three sustainability themes have been studied since then. Finally, LL

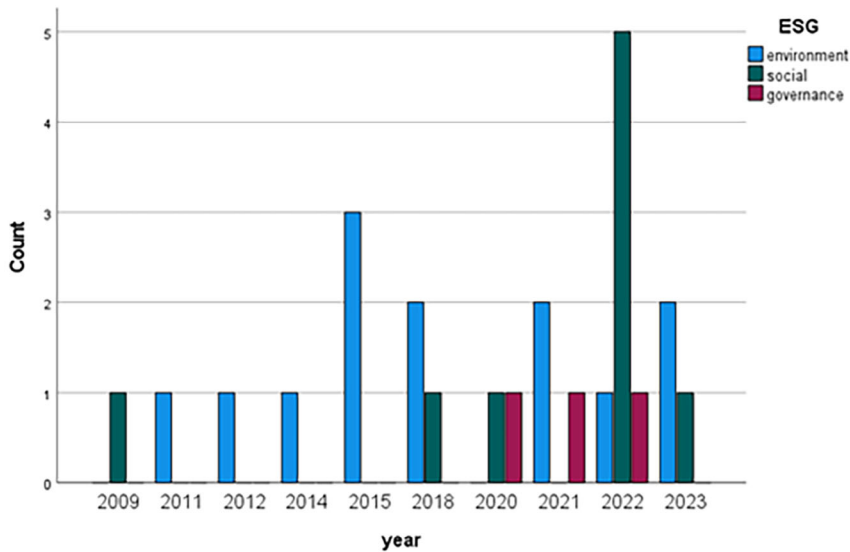


FIGURE 4 Diachronic development of environment, social, and governance sustainability categories in language and linguistics. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/jall.1257)]

social sustainability studies peaked in 2022, perhaps in response to the UN Human Rights Council's 2021 declaration that defined a sustainable environment as a human right.

Comm scholars primarily studied environmental and governance sustainability, whereas LL scholars focused on environmental and social sustainability. Second, scholars in both the Comm and LL categories are aware of the same monumental events (e.g., 2012 RIO+20 Summit, 2015 release of the 2023 Agenda, 2019 UN Climate Action Summit) but are responsive to different events.

4.1.2 | Major themes of sustainability

Both LL and Comm scholars studied corporate social responsibility (CSR), corporate sustainability, Sustainable Development Goals (SDGs), sustainable development in abstraction, and the future of certain industries, such as fashion and biotechnology. Regarding the environment, all three disciplines studied *climate and energy* and *lifestyle and view*. Within *climate and energy*, LL scholars focused on studies concerning clean and renewable energies; Comm scholars mainly examined texts about energy conservation and production (e.g., fracking and shale gas); and Hybrid scholars researched behavior and market solutions in response to climate change. Within the category of *lifestyle and view*, LL scholars investigated individualism and anthropocentrism; Comm scholars identified modernization and biocentrism approach; and Hybrid scholars shifted the attention to minimalism and veganism. Furthermore, only LL and Comm articles shared other themes, including *pollution*, *food and resources*, and *environmental education*. While LL scholars only studied pollution topics, such as carbon emissions and radioactive waste, Comm scholars studied recycling and biodegradability in addition to pollution. Both LL and Comm scholars focused on food production and consumption, fishing, agriculture, and environmental education. However, Comm scholars further examined the environmental perspectives of sustainability in corporate branding, such as greenwashing and green branding, corporate environmental sustainability construction through environmental issue reports, and corporate responses to climate change. The environmental aspect of corporate branding was not found in LL sustainability studies.

Social sustainability studies have a wider range of themes in LL than in Comm articles. The theme pertaining to all three disciplines is *culture*, which is represented by different topics in different disciplines (e.g., LL authors mentioned

cultural sustainability; Comm authors studied ecofeminism; Hybrid authors analyzed tangible items such as design signs). While culture is generally included under the social dimension, some scholars have previously singled it out and suggested it as a pillar on its own. Hardoy et al. (1992) outline two crucial interpretations of cultural sustainability. The first interpretation pertains to the role of shared values, perceptions, and attitudes in achieving sustainable development. The second interpretation focuses on the sustainability of the culture itself, viewing culture as a vital element of development. Hayward (2002) argues that while Ecologically Sustainable Development (ESD) has been formally recognized, it encompasses three dimensions: ecological sustainability, social sustainability, and economic sustainability, with culture absent from this discourse. Therefore, to highlight the importance of cultural factors, especially in local planning, we echo Hayward's (2002) proposal of including cultural sustainability as a fourth pillar of sustainability.

LL and Comm authors also studied *community* and *human rights* in common; LL authors addressed migration issues in the community, while Comm authors investigated community campaigns. LL authors talked about justice as a human right, while Comm authors addressed LGBTQ and labor rights. LL authors thematized *language* and *education*, while Comm authors neglected them. As social sustainability studies in LL surged in 2022 following the declaration of the 2021 UN Human Rights Council, LL authors specified social sustainability topics in language, such as (minority) language preservation and diversity. Social sustainability in education has also been studied through higher education management and classroom language practices.

Governance is a less frequent category than environment and social, especially in LL articles, which focused only on the sustainability of corporate communication in micro topics such as the drafting practices of CSR and sustainability reports and the translation of "accountability" in those reports. Alternatively, Comm authors examined macro-corporate communication topics, such as financial and economic macro discourse and economic system transparency. Figures 5 and 6 show the distribution of sustainability themes and topics.

4.2 | Sustainability datasets

4.2.1 | Genres

LL and Comm scholars collected similar data, which included *corporate genres* such as annual company reports, CSR reports, company sustainability reports, company websites, press/media releases, mission and vision statements, shareholder statements, and promotional materials such as newsletters. The data types also included *government texts* (e.g., LL: parliament documents; Comm: policy documents), *media texts* (e.g., newspaper articles), *social media texts* (e.g., tweets), and *NGO texts* (i.e., LL: community newsletters). With these common data types, the LL and Comm articles differ because Comm authors cover a wider spectrum of multimodal data. Both LL and Comm authors collected multimodal *social media* data (e.g., LL: Instagram posts; Comm: tweets), *videos*, and miscellaneous multimodal *materials* (e.g., LL: stage sets; Comm: cookbooks). Conversely, Comm authors covered a wider spectrum of multimodal data, using rich multimodal datasets in various types of *advertisements* (e.g., product packaging and print ads), traditional *media* (e.g., television programs), *corporate materials* (e.g., public meetings), *online materials* (e.g., websites), and *observation materials* (e.g., recorded interviews).

4.2.2 | Modes

Since LL articles focus on language and linguistics, the *textual* (i.e., written language) mode was predominantly investigated. Figure 7 shows that the number of LL articles that sampled textual data doubled in 2018 and remained constant in 2021 and 2022. While the earliest LL articles examined *verbal* language data, the analysis of verbal data generally resumed in 2020. Conversely, multimodal data were used periodically during 2014/15 and 2021 onward, perhaps because LL scholars preferred textual data.

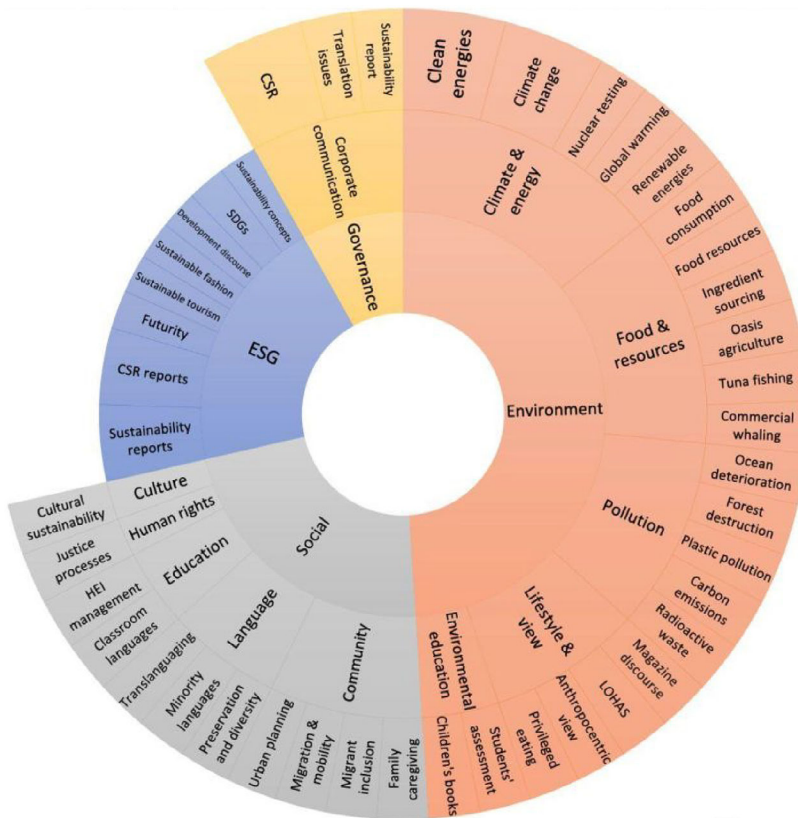
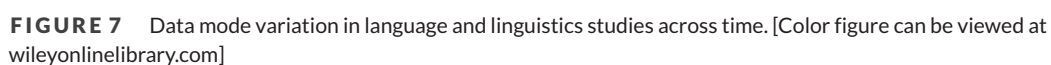
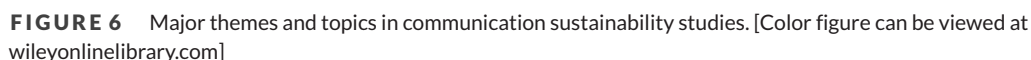


FIGURE 5 Major themes and topics in language and linguistics sustainability studies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/jall.1257)]

Compared to LL scholars' preference for textual datasets, Comm scholars displayed a wider range of data modes, including textual, verbal, visual, and multimodal data. Although the most frequent mode is still textual, Comm scholars have sampled an increasing amount of multimodal data since the first Comm sustainability article in 2004 (see Figure 8). The number of multimodal Comm articles peaked in 2020, surpassing the number of textual Comm articles published in that year and outnumbering the peak number of textual Comm articles in 2022. In short, both textual and multimodal datasets have been extensively studied in Comm articles. Verbal and visual data were also used in Comm articles published in 2012 and 2021. Therefore, data modes are more evenly distributed in Comm articles. As the authors of both LL and Comm studies in the current review used applied linguistic methods or frameworks, we might ask the following question: Why are Comm authors more receptive to different modes of data as both disciplines (in the current review) apply similar frameworks? Is this due to different selections of applied linguistic frameworks or different research designs? (see Section 4.3).

4.2.3 | Object of analysis

Summarizing and comparing results is challenging owing to the varying objects of analysis without visualization tools. Therefore, two-word clouds (Figures 9 and 10) were generated based on the lists of the different objects of analysis in the LL and Comm articles. The larger the wording, the more often the object is studied. To clean the data, stop words were redacted, and multiple-word items were indicated with the symbol ~ (e.g., rhetorical strategies).



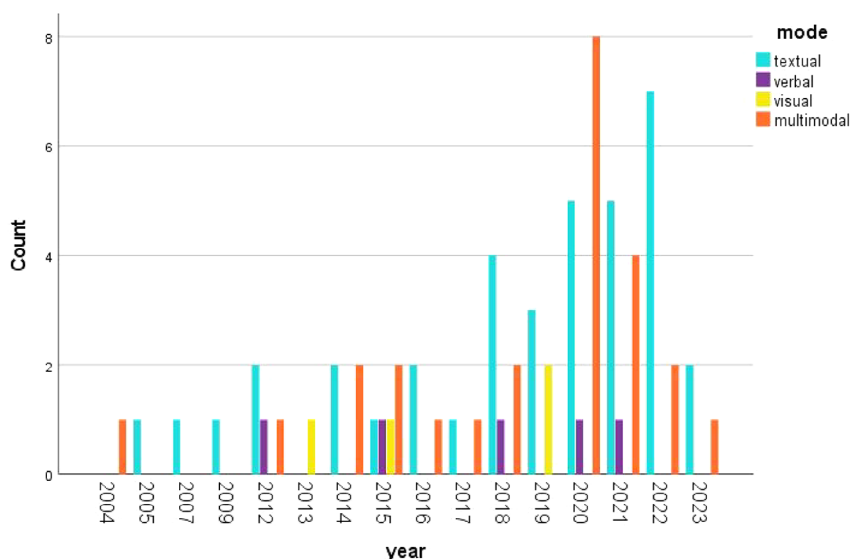
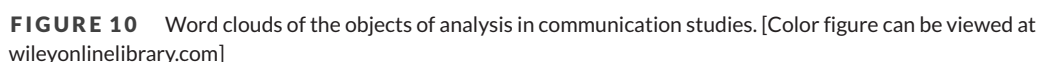


FIGURE 8 Data mode variation in communication studies across time. [Color figure can be viewed at wileyonlinelibrary.com]



FIGURE 9 Word clouds of the objects of analysis in language and linguistics studies. [Color figure can be viewed at wileyonlinelibrary.com]



Articles were classified into three types: *adaptation*, *innovation*, and *mixed methods*. *Adaptation* refers to the application of existing theories, frameworks, or methodologies to examine cases or empirical data. *Innovation* refers to the opposite approach, in which patterns are inductively derived from empirical data in studies to generate new theories.

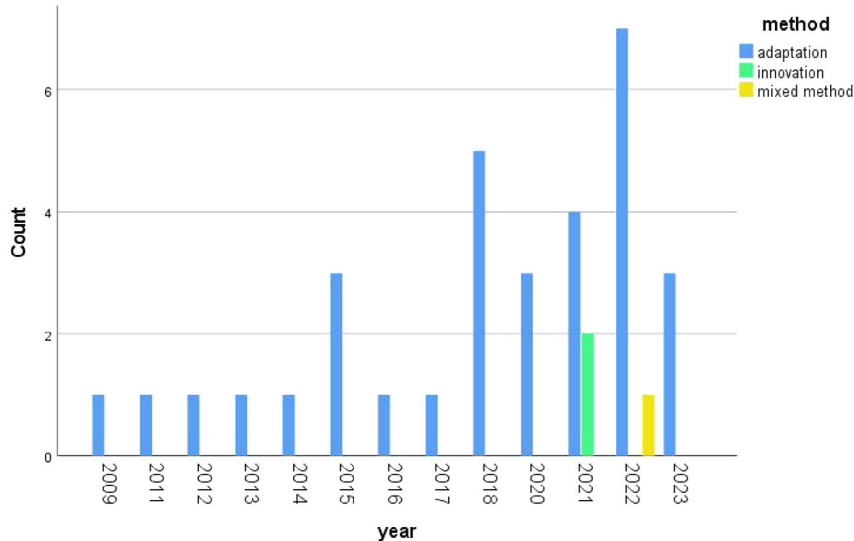


FIGURE 11 Research approaches in language and linguistics studies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

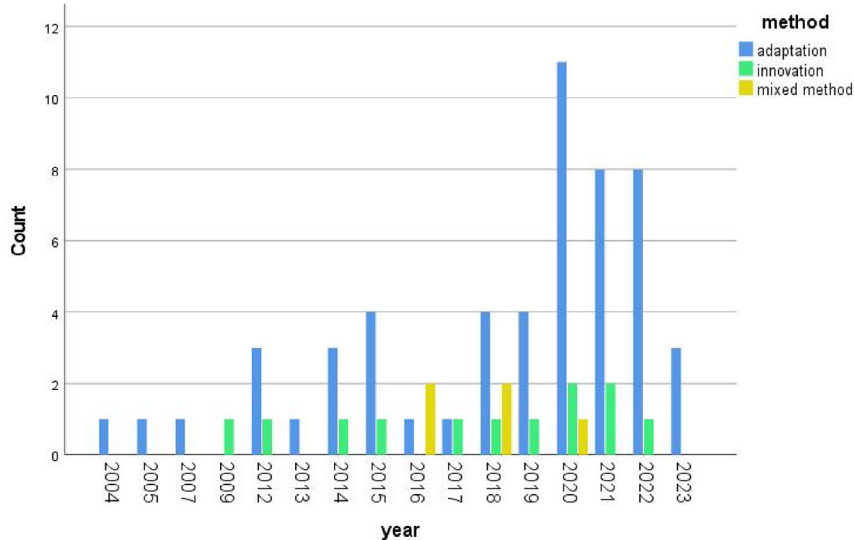


FIGURE 12 Research approaches in communication studies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

frameworks, or research methods. The *mixed method* involves bidirectional approaches—a hybrid of adaptation and innovation. LL, Comm, and Hybrid articles showed a tendency toward *adaptation* (Figures 11–13).

Figure 11 shows that LL articles primarily take an *adaptation* approach to conducting research, which means that LL sustainability studies tend to apply existing applied linguistic frameworks to investigate sustainability linguistic phenomena. Alternative approaches are rarely used in LL articles, except for two LL articles in which an *innovation* approach (2021) and a *mixed methods* approach (2022) were taken. With the increasing number of LL sustainability articles, the *adaptation* approach gradually peaked in 2022. Nevertheless, a strong preference for the *adaptation* approach

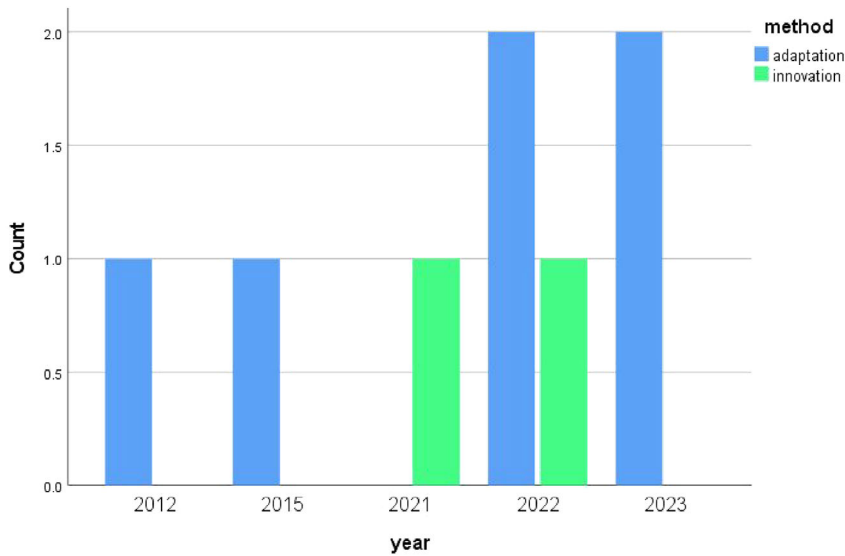


FIGURE 13 Research approaches in hybrid studies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/j.1473-9172.2024.3)]

approach reveals that, apart from case studies, novel theories have yet to be established in LL sustainability studies. Contrastingly, Comm articles are more receptive to different approaches. Although the dominant approach is still *adaptation*, individual studies in which an *innovation* approach was taken were still found between 2009 and 2022. In summary, despite the strong preference for *adaptation*, the authors of some Comm articles attempted to create new frameworks and methods. We argue that this is crucial for the development of sustainability research, as frameworks should be constantly revised and developed for future studies.

4.3.2 | Major applied linguistics frameworks for analyzing sustainability discourse

The applied linguistic frameworks cited as the dominant article frameworks were coded and grouped into clusters using a grounded approach. Because frameworks often involve more than one research tradition, more than one code was assigned to a single framework. For example, *corpus-based discourse analysis* has two codes: (i) corpus linguistics and (ii) discourse analysis. Summing the counts for each framework family, the framework distributions were cross-compared for LL, Comm, and Hybrid regarding time.

For LL sustainability articles, the most frequent type of framework features *corpus linguistics* (CL) ($N = 12$ times), dating back to 2012, when Sinclair's (1991, 2004) studies were adapted. In the same year, in LL articles, CL was already blended with other research traditions, such as CDA, and was subsequently applied to *discourse analysis*, following Partington (2010) and Baker et al. (2008). *Corpus-assisted discourse studies* (CADS) used common CL frameworks. However, CL was also blended with content and framing analyses. Recently, apart from analyzing keywords and collocations, authors of LL articles have utilized CL to explore the computational analysis of sustainability (e.g., using topic modeling to derive clusters of sustainability topics). Second is *discourse analysis* (DA) ($N = 7$), first adapted in LL sustainability articles in 2004 to blend with Bhatia's (2004) genre analysis. In LL articles, DA was mixed with CL to form the CADS in 2020, and DA was mixed with van Leeuwen's (2007, 2008) legitimation theory. DA was adapted to a positive discourse analysis in 2021 and mixed with pragmatic theories in 2022. The third group of frequently used frameworks falls under CDA. In LL articles, CDA subsidiaries, such as scales theory, were explored, and CDA was blended with CL and multimodality. *Multimodality* ($N = 5$) was the fourth most frequent framework family, in which Kress and van Leeuwen's (2006) social semiotics has been frequently cited. Although LL articles have mainly

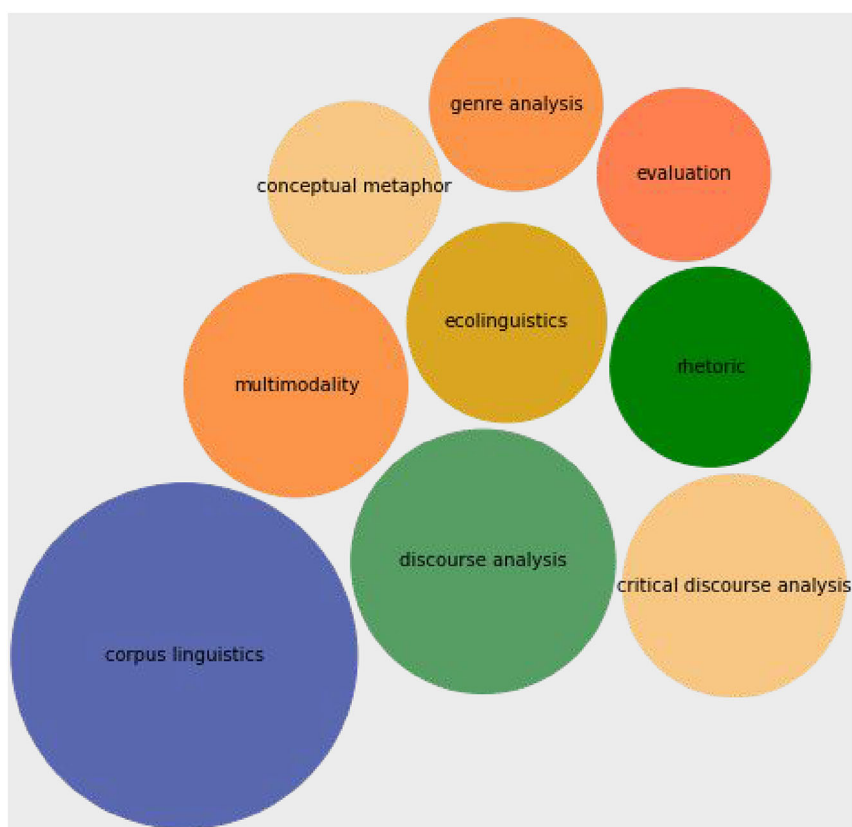


FIGURE 14 Major applied linguistics frameworks and research traditions in language and linguistics studies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/jall.1257)]

examined environmental sustainability, *ecolinguistics* (EL) ($N = 4$) has not been adapted as much as expected. Authors of LL articles mostly refer to Stibbe's (2015) seminal work without blending EL with any other framework. They also resorted to other framework groups, such as *rhetoric* ($N = 4$) (e.g., polylogue and argumentation), *genre analysis* ($N = 3$), *evaluation* ($N = 3$) (e.g., appraisal systems and stance markers), and *metaphors* ($N = 3$). The authors of LL articles on sustainability metaphors not only referred to Lakoff and Johnson's (1981) classic *conceptual metaphor theory* but also sought newer frameworks built on that foundation, such as the *dynamic relations of conceptual metaphors* (Döring & Nerlich, 2006) and the *simplifying model* (Aubrun et al., 2006). Figure 14 shows a visualization of the major applied linguistic frameworks, with larger bubbles indicating more frequent adaptation.

Contrary to LL authors' preference for *corpus linguistics* (CL), Comm authors prioritized *discourse analysis* (DA) ($N = 18$) over CL. The first Comm article to apply DA to sustainability studies dates back to 2005. In Comm articles published between 2015 and 2020, DA was used in a single framework. Since 2020, authors have started to blend DA with other framework groups in Comm articles, such as *ecolinguistics* (EL) in 2021 and *rhetoric* in 2020/22. Although Comm authors prefer DA, they use fewer varieties of DA than LL authors do. Moreover, as Figure 15 shows, the *multimodality* bubble is the same size as the CL and CDA bubbles. This means that multimodal frameworks were frequently adopted in Comm articles, similar to the CL and CDA frameworks. In fact, *multimodality* ($N = 15$) slightly outperformed CL ($N = 14$) and CDA ($N = 14$) in Comm articles, perhaps because of the high degree of compatibility of *multimodality*: in Comm articles, *multimodality* was blended not only with *rhetoric* in 2015 but also with CDA in 2020 and with *genre analysis* in 2021. Such preferences for multimodal frameworks are consistent with the multimodal datasets of Comm articles. Regarding the third most frequently adopted framework, CL has been used in Comm articles since 2007.

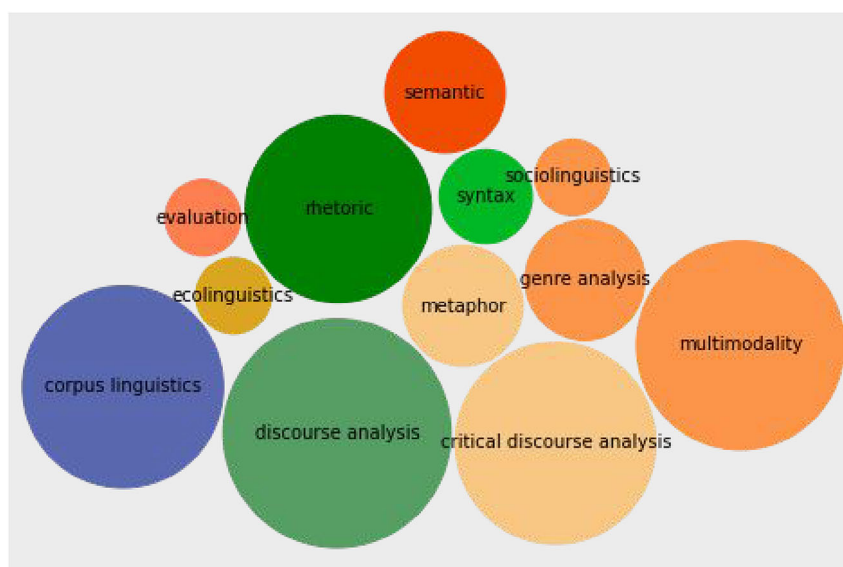


FIGURE 15 Major applied linguistics frameworks and research traditions in communication studies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/j.1473-9172.2024.3)]

Similar to LL articles, CL was also applied in Comm articles to analyze keywords and co-occurrences. However, CL was further applied in Comm articles to study semantics in 2016 and sentiments from 2016 to 2020. CDA was occasionally adopted by Comm articles, with most referring to Fairclough's CDA. The frameworks that have been gaining scholarly attention include *rhetoric* ($N = 12$) and new categories, such as *semantics* ($N = 5$), *syntax* ($N = 3$), and *sociolinguistics* (SL) ($N = 2$), which are not found in LL articles. Consistent with the previous finding that an innovative approach has been taken in some Comm articles, we found that many novel frameworks in *rhetoric* and *metaphor* are the authors' works.

4.4 | Major findings and implications of the studies

4.4.1 | Major findings in sustainability studies

The reviewed articles presented major findings in the following domains: sustainability definitions, sustainability reports, legitimization strategies and contradictions, representations, business models, food and elite discourse, campaigns, and empowerment. Leitch and Davenport (2007) was the earliest reviewed article that found sustainability as a keyword in policy documents; Orna-Montesinos (2015, p. 442) later found that sustainability was depicted as "a goal, a problem, or an object of study." Sustainability was also framed as "white family farm" (Pilgeram & Meeuf, 2015) and collocated with adjectives like corporate, financial, and long term and with nouns like development, living, and business (Zappettini & Unerman, 2016). Investigating sustainability legitimization strategies, scholars raised concerns over corporations' use of "greenwashing" to construe a positive image (Chen et al., 2021). Such incongruence was also found between advertisement and sustainability discourse (Dorsey et al., 2004); between language and environmental issues (Dannenberg et al., 2012); between "stay away" and "get close" messages in forest conservation (Dickinson, 2014); and between promoting fashion recycling and additional consumption (Lascity & Cairns, 2020). Recently, scholars applied the concept of sustainability in formulating business models, such as better integration (Cornia et al., 2020) and sustainable funding (Konieczna & Robinson, 2014); scholars were also interested in how sustainable food production and food practice were taken up by people, as revealed by the discussion on sustainable food production

TABLE 3 Major types of findings in sustainability studies.

Types of findings	LL	Comm	Hybrid
New findings	<i>Discourse</i> (N = 2)	<i>Dialectic relationship</i>	<i>Compound</i>
	<i>Discursivity</i>	<i>Discourse</i> (N = 2)	<i>Reasoning</i>
	<i>Frame</i>	<i>Frame</i> (N = 3)	
	<i>Metaphor</i>	<i>Interactive strategy</i>	
	<i>Topic</i>	<i>IR structure legitimation strategy</i>	
	<i>Verb form</i>	<i>Norm</i>	
		<i>Problems of SDGs</i>	
		<i>Proposition</i>	
		<i>Rhetorical strategy</i>	
		<i>Role</i>	
	N = 7 (20.59%)	Storylines	N = 2 (25%)
		N = 15 (20.55%)	
Conclusive findings	<i>Contrastive</i> (N = 11) <i>Confirmatory</i> (N = 9) N = 20 (58.82%)	<i>Contrastive</i> (N = 18) <i>Confirmatory</i> (N = 23) N = 41 (56.16%)	<i>Contrastive</i> (N = 2) <i>Confirmatory</i> (N = 3) N = 5 (62.5%)
Descriptive findings	N = 7 (20.59%)	N = 17 (23.29%)	N = 1 (12.5%)
Total	N = 34 (100%)	N = 73 (100%)	N = 8 (100%)

on social media (Jaspaert et al., 2011), the polarity of comments and solutions (Swenson et al., 2016), and food equity (Soma & Nuckchady 2021). Food equity is directly related to elite discourse, which Mapes (2018) found disguised in the rhetoric of locality and sustainability. That said, sustainability can also be put into a positive cause, for example, enhancing campaign solidarity (Choi & Park, 2014) and initiating political actions that resolve “structural inequality, social injustice, and violations of human rights” (Ngai, 2020, p. 1093). Finally, scholars found evidence of sustainability supporting empowerment, such as African women being given a voice in environmental sustainability (Gorsevski, 2012) and migrant students being allowed to use multilingual resources in class (Krause et al., 2022).

The findings of LL, Comm, and Hybrid articles were annotated and categorized based on the following categories: *new findings*, *conclusive findings*, and *descriptive findings*. *New findings* refer to those that explicitly produced tangible findings, such as a set of legitimation strategies or discursive features. *Conclusive findings* are characterized by the confirmation or rejection of an argument or even a hypothesis that may be realized in the form of *contrastive* or *confirmatory* conclusive findings. While *contrastive* conclusive findings often highlight differences and present findings in stratification, *confirmatory* conclusive findings do not emphasize differences between groups but simply confirm or reject an argument. Finally, *descriptive findings* describe linguistic or social phenomena, and attempts are not explicitly made to generalize the findings.

The most prominent finding of all three categories is the *conclusive finding*, which either contrasts differences between groups or confirms or rejects an argument. However, we observed minor differences between the LL and Comm findings. First, in terms of *conclusive findings*, LL articles contained slightly more *contrastive* findings, whereas Comm articles contained more *confirmatory* findings. Second, while LL papers had an equal share of *new findings* and *descriptive findings*, Comm papers had a larger share of *descriptive findings* than *new findings*. Finally, *new findings* in both LL and Comm involved multiple parameters ranging from micro-level *verb forms* and *metaphors* to macro-level *structures* and *strategies*. More types of macro units can be found in Comm’s *new findings*, such as *frames*, *discourses*, *rhetoric*, *legitimation*, and *interactive strategies*. See Table 3 for detailed findings.

4.5 | Major implications for different stakeholders

The implications were categorized according to target stakeholders, including academic researchers, educators, society in general, governments and politicians, companies and advertisers, media, nongovernmental or not-for-profit organizations (NGOs), and translators.

LL scholars suggested that researchers consider more linguistic choices and structures in future sustainability studies, such as lexical makers, stance markers, word choices in different lifestyles, meaning construction through multiple modes, and opposing multimodality between different ecologies. The LL authors urged academic researchers to expand methodologies by proposing more solution-oriented frameworks, utilizing structural modeling, following procedural processes for discourse studies, and using linguistic ethnography for the study of interactional strategies.

Sharing implications for other stakeholders, LL scholars argued that society as a whole should increase worldwide ecological awareness, prevent the extinction of minority cultures by promoting cultural treasures (e.g., folk songs), and better understand land management. They called on governments and politicians to gain a better understanding of media campaigning, monitor governmental accounts of sustainability goals, search for new solutions based on substantive knowledge, seek more socially sustainable urban planning, and focus on legal victims' priorities. Moreover, the authors advised companies to ensure greater accessibility to their non-financial reports (e.g., enhancing readability), construct a better image based on positive achievements, utilize "forward-looking" statements to construct trustworthy identities, and reveal the weights of disclosure versus self-promotion in sustainability reporting. Further, LL authors requested media firms to disclose how they shaped public understanding of "sustainability" and requested translators to clearly define "good governance" in the reproduction of "accountability" in different languages.

Comm articles also have implications for academic researchers, societies, governments and politicians, companies and advertisers, the media, and NGOs. Comm authors have called on researchers to interpret linguistic features to reveal ideologies and promote studies on alternative modes, such as visual and visual impact metaphors, color, camera angles, image composition, argumentative structures, and rhetorical strategies. Comm authors believe that more factors should be considered for a cross-country, longitudinal, and cross-media analysis of less-established brands. In light of the various research methodologies available, Comm authors specified potential applications of existing frameworks in sustainability studies. Comm authors thought that some topics needed further investigation: green technology, green financing, green incubation, public-private partnerships, for-profit environmental cleanliness, and water conservation campaigns across countries.

Targeting society and the government, Comm scholars have stated several implications for sustainable development. Comm authors advocated looking for common ground to resolve conflicts. Therefore, global partnerships should be substantially reviewed to achieve global equality. At the national level, Comm authors called on governments and politicians to explore potential changes brought about by language use in organizational structures.

Comm scholars gave practical advice to companies and advertisers, such as using language in online conversations; ensuring accessibility and readability in sustainability reporting; and utilizing interactive tools, such as hashtags, audiovisual content, hypertext, and semantic framing of issues in the PR communication of CSR activities. Comm authors believe that companies can construct a positive image if they take action, proactively communicate on pressing issues, and reduce emissions. Companies may also use environment-related metaphors to shape an environmentally responsible corporate image, take different approaches to construct a responsible corporate image when faced with different legitimization challenges, and protect their reputation with optimal response strategies to crises.

Comm scholars insisted that media should comprehensively report on environmental issues; environmental reports should be strongly committed to sustainable development; journalists should actively engage in promoting sustainable resource use, environmental management, and economic development; media should have a dedicated desk for the environment in the newsroom; and documentaries should not ignore questions about community and cultural conceptions. Comm authors believed that NGOs could also play a role in perpetuating sustainability.

5 | CONCLUSIONS

This study shows how studies on environmental and social sustainability have been triggered by global events and, simultaneously, how cultural sustainability may be considered a category on its own. Furthermore, the study also demonstrates that governance is a more recent concept, which may represent a future direction for applied linguists interested in examining sustainability discourse. Besides the themes, the investigation of modes revealed the need for applied linguistics to cope with the multimodal turn owing to the advances in technology and the proliferation of sustainability discourse on channels in which a more prominent role has been taken by semiotic modes other than language (such as images).

The findings strengthen the role of discourse in sustainability discussions and the importance for researchers in the LL and Comm fields to expand research by developing frameworks to provide solutions to current challenges. The implications of this review lie in advising scholars in the fields of LL and Comm to fill the current gaps and promote the development of highly integrated and interdisciplinary frameworks to analyze increasingly multimodal datasets and create transmedia narratives. Drawing upon those conclusions, the first author has been working on multimodal digital data and developing integrated frameworks to promote the use of applied linguistics to address challenges within the business sector.

The limitations of the study lie in the data collection, which was limited to LL and Comm journals, while journals from other disciplines or interdisciplinary journals may still include articles adopting applied linguistic frameworks. However, this choice was made to map out studies that supposedly represent the ones that applied linguists would first consult and that were published in discipline-specific journals and the neighboring field of communication.

ACKNOWLEDGMENTS

This study was funded by the City University of Hong Kong through the Start-Up Grant & Top-Up Grant [Project No. (CityU Ref. No. 7200720)] and the Research Grants Council of the Hong Kong Special Administrative Region, China [Project No. (RGC Ref. No. 21609922), Project No. (CityU Ref. No. 9048260)]. The authors thank Mr. Zhou Zixuan for his help with data visualization.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Not available because subject to copyright.

ORCID

Esterina Nervino  <https://orcid.org/0000-0003-1945-2130>

Joyce Oiwan Cheung  <https://orcid.org/0000-0002-2110-5720>

REFERENCES

- Alhaddi, H. (2015). Triple bottom line and sustainability: A literature review. *Business and Management Studies*, 1(2), 6–10. <http://doi.org/10.11114/bms.v1i2.752>
- Aubrun, A., Brown, A., & Joseph, G. (2006). Conceptualizing US food systems with simplifying models: Findings from Talk Back Testing. Frameworks Institute. <http://www.frameworksinstitute.org/wp-content/uploads/2020/05/foodSystems.pdf>
- Baker, P., Gabrielatos, C., KhosraviNik, M., Krzyżanowski, M., McEnery, T., & Wodak, R. (2008). A useful methodological synergy? Combining critical discourse analysis and corpus linguistics to examine discourses of refugees and asylum seekers in the UK press. *Discourse & Society*, 19(3), 273–306.
- Bhatia, V. (2004). *Worlds of written discourse: A genre-based view*. Bloomsbury Publishing Plc.
- Brooks, C., & Oikonomou, I. (2018). The effects of environmental, social and governance disclosures and performance on firm value: A review of the literature in accounting and finance. *The British Accounting Review*, 50(1), 1–15. <https://doi.org/10.1016/j.bar.2017.11.005>

- Brundtland, G. H. (1987). Report of the World Commission on environment and development: Our common future. United Nations General Assembly Document A/42/427. <http://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>
- Chen, W., Bartlett, T., & Peng, H. (2021). The erasure of nature in the discourse of oil production an enhanced eco-discourse analysis, part 1. *Pragmatics and Society*, 12(1), 6–32. <http://10.1075/ps.20034.che>
- Choi, S., & Park, H. W. (2014). An exploratory approach to a twitter-based community centered on a political goal in South Korea: Who organized it, what they shared, and how they acted. *New Media & Society*, 16(1), 129–148.
- Cornia, A., Sehl, A., & Nielsen, R. K. (2020). 'We no longer live in a time of separation': A comparative analysis of how editorial and commercial integration became a norm. *Journalism*, 21(2), 172–190. <https://doi.org/10.1177/1464884918779919>
- Crosthwaite, P., Ningrum, S., & Lee, I. (2022). Research trends in L2 written corrective feedback: A bibliometric analysis of three decades of Scopus-indexed research on L2 WCF. *Journal of Second Language Writing*, 58, 100934.
- Dannenberg, C. J., Hausman, B. L., Lawrence, H. Y., & Powell, K. M. (2012). The moral appeal of environmental discourses: The implication of ethical rhetorics. *Environmental Communication*, 6(2), 212–232. <https://doi.org/10.1080/17524032.2012.668856>
- Dickinson, E. (2014). Ecocultural schizophrenia: Dialectical environmental discourses and practices. *Communication Culture and Critique*, 7(4), 612–631. <http://10.1111/cccr.12067>
- Döring, M., & Nerlich, B. (2006). Assessing the topology of semantic change: From linguistic fields to ecolinguistics. *Language and Logos*, 6(1), 55–68.
- Dorsey, E., Leslie, S., & Porras, E. (2004). Advertising ecotourism on the Internet: Commodifying environment and culture. *New Media & Society*, 6, 753–779. <https://doi.org/10.1177/146144804044328>
- Fuoli, M. (2018). Building a trustworthy corporate identity: A corpus-based analysis of stance in annual and corporate social responsibility reports. *Applied Linguistics*, 39(6), 846–885. <https://doi.org/10.1093/applin/amw058>
- Gao, S., Meng, F., Gu, Z., Liu, Z., & Farrukh, M. (2021). Mapping and clustering analysis on environmental, social and governance field a bibliometric analysis using Scopus. *Sustainability (Basel, Switzerland)*, 13(13), 7304. <https://doi.org/10.3390/su13137304>
- Global Reporting Initiatives. <http://www.globalreporting.org/>
- Gorsevski, E. W. (2012). Wangari Maathai's emplaced rhetoric: Greening global peacebuilding. *Environmental Communication*, 6(3), 290–307. <http://10.1080/17524032.2012.689776>
- Hardoy, J. E., Mitlin, D., & Satterthwaite, D. (1992). *Environmental problems in Third World cities*. London: Earthscan Publications Limited.
- Hayward, D. (2002). The fourth pillar of sustainability. Culture's essential role in public planning [Review of *The fourth pillar of sustainability. Culture's essential role in public planning*]. *Australian Journal of Public Administration*, 61(4), 111–112.
- Jaspaert, K., Van de Velde, F., Brone, G., Feyaerts, K., & Geeraerts, D. (2011). Does framing work? An empirical study of simplifying models for sustainable food production. *Cognitive Linguistics*, 22(3), 459–490. <https://doi.org/10.1515/cogl.2011.018>
- Jiménez-Yáñez, R.-M., & Fontrodona, J. (2022). The impact of the SDGs on non-financial corporate communications: An analysis of CaixaBank reports (2013–2019). *Ibérica*, 43, 235–259. <https://doi.org/10.17398/2340-2784.43.235>
- Konieczna, M., & Robinson, S. (2014). Emerging news non-profits: a case study for rebuilding community trust. *Journalism*, 15(8), 968–986. <http://10.1177/1464884913505997>
- Koutoupis, A., Kyriakogkonas, P., Pazarskis, M., & Davidopoulos, L. (2021). Corporate governance and COVID-19: A literature review. *Corporate Governance*, 21(6), 969–982. <http://doi.org/10.1108/CG-10-2020-0447>
- Krause, A., Wagner, J., Redder, A., & Prediger, S. (2022). New migrants, new challenges? – Activating multilingual resources for understanding mathematics: Institutional and interactional factors. *European Journal of Applied Linguistics*, 10(1), 1–30. <https://doi.org/10.1515/eujal-2020-0017>
- Kress, G., & Leeuwen, T. (2001). *Multimodal discourse: The modes and media of contemporary communication*. Oxford University Press.
- Kress, G., & Leeuwen, T. (2006). *Reading images: The grammar of visual design* (2nd ed.). Routledge.
- Lakoff, G., & Johnson, M. (1981). *Metaphors we live by*. University of Chicago Press.
- Lascity, M. E., & Cairns, M. R. (2020). Complicated green advertising: Understanding the promotion of clothing recycling efforts. *Westminster Papers in Communication and Culture*, 15(2), 44–62. <https://doi.org/10.16997/wpcc.384>
- Lee, K. H., Cin, B. C., & Lee, E. Y. (2016). Environmental responsibility and firm performance: The application of an environmental, social and governance model. *Business Strategy and the Environment*, 25(1), 40–53. <https://doi.org/10.1002/bse.1855>
- Leeuwen, T. (2007). Legitimation in discourse and communication. *Discourse & Communication*, 1(1), 91–112.
- Leeuwen, T. (2008). *Discourse and practice: New tools for critical discourse analysis*. Oxford University Press. <http://doi.org/10.1093/acprof:oso/9780195323306.001.0001>

- Lei, L., & Dilin, L. (2019a). The research trends and contributions of system's publications over the past four decades (1973–2017): A bibliometric analysis. *System*, 80, 1–13. <http://doi.org/10.1016/j.system.2018.10.003>
- Lei, L., & Dilin, L. (2019b). Research trends in Applied Linguistics from 2005 to 2016: A bibliometric analysis and its implications. *Applied Linguistics*, 40, 540–561. <http://doi.org/10.1093/applin/amy003>
- Leitch, S., & Davenport, S. (2007). Strategic ambiguity as a discourse practice: The role of keywords in the discourse on 'sustainable' biotechnology. *Discourse Studies*, 9(1), 43–61. <http://10.1177/1461445607072106>
- Li, X., & Lei, L. (2019). A bibliometric analysis of topic modelling studies (2000–2017). *Journal of Information Science*, 47(2), 161–175. <http://doi.org/10.1177/0165551519877049>
- Liu, K., Cheung, J. O., & Zhao, N. (2022). Learner corpus research in Hong Kong: Past, present and future. *Corpora*, 17, (Supp.)79–97. <http://10.3366/cor.2022.0248>
- Mafela, L. (2009). Code-switching in Botswana history classrooms in the decade of education for sustainable development. *Language Matters*, 40(1), 56–79. <http://10.1080/10228190903055568>
- Mapes, G. (2018). (De)constructing distinction: Class inequality and elite authenticity in mediatized food discourse. *Journal of Sociolinguistics*, 22(3), 265–287. <http://10.1111/josl.12285>
- Ngai, P. (2020). Local interpretation of the global discourse of sustainability and sustainable development in rural Cambodia. *Environmental Communication*, 14(8), 1079–1096. <https://10.1080/17524032.2020.1768426>
- Nielsen, H., & Villadsen, K. (2023). The ESG discourse is neither timeless nor stable: How Danish companies 'tactically' embrace ESG concepts. *Sustainability*, 15(3), 2766. <http://doi.org/10.3390/su15032766>
- Oppong-Tawiah, D., & Webster, J. (2023). Corporate sustainability communication as 'Fake News': Firms' greenwashing on Twitter. *Sustainability*, 15(8), 6683. <https://doi.org/10.3390/su15086683>
- Orna-Montesinos, C. (2015). The discourses of sustainability in news magazines the rhetorical construction of journalistic stance. *Spanish Journal of Applied Linguistics*, 28(2), 442–464. <https://10.1075/resla.28.2.04orn>
- Partington, A. (2010). Modern diachronic corpus-assisted discourse studies (MD-CADS) on UK newspapers: An overview of the project. *Corpora*, 5(2), 83–108.
- Pastor, R., Fraga, A., & López-Cózar, L. (2023). Interoperable, smart, and sustainable urban energy systems. *Sustainability*, 15(18), 13491. <https://doi.org/10.3390/su151813491>
- Pilgeram, R., & Meeuf, R. (2015). Good food, good intentions: Where pro-sustainability arguments get stale in us food documentaries. *Environmental Communication*, 9(1), 100–117. <http://10.1080/17524032.2014.967706>
- Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford University Press.
- Sinclair, J. (2004). *Trust the text: Language, corpus and discourse*. Routledge.
- Soma, T., & Nuckchady, B. (2021). Communicating the benefits and risks of digital agriculture technologies: Perspectives on the future of digital agricultural education and training. *Frontiers in Communication*, 6, 762201. <http://10.3389/fcomm.2021.762201>
- Stibbe, A. (2015). *Ecolinguistics: Language, ecology and the stories we live by*. Routledge.
- Swenson, R., Gilkerson, N., & Anderson, B. (2016). Taking food fights online: Analysis of chipotle's attempt to cultivate conversation with the scarecrow video. *Public Relations Review*, 42(4), 695–697. <http://10.1016/j.pubrev.2016.04.001>
- Vollero, A. (2022). *Greenwashing: Foundations and emerging research on corporate sustainability and deceptive communication*. Emerald Publishing Limited. <http://10.1108/9781801179669>
- Weder, F., Krainer, L., & Karmasin, M. (2021). *The sustainability communication reader: A reflective compendium*. Springer VS Wiesbaden. <https://doi.org/10.1007/978-3-658-31883-3>
- Zappettini, F., & Unerman, J. (2016). 'Mixing' and 'Bending': The recontextualisation of discourses of sustainability in integrated reporting. *Discourse & Communication*, 10(5), 521–542. <http://10.1177/1750481316659175>
- Zhang, L. J., & Greenier, V. T. (2023). Special Issue. *Applied Linguistics and Language Education for Sustainable Development. Sustainability*.
- Zhao, X., Nan, D., Chen, C., Zhang, S., Che, S., & Kim, J. H. (2023). Bibliometric study on environmental, social, and governance research using CiteSpace. *Frontiers in Environmental Science*, 10, 1087493. <http://10.3389/fenvs.2022.1087493>

How to cite this article: Nervino, E., Cheung, J. O., & Chen, J. (2024). Charting the path of sustainability discourse research: A systematic review of applied linguistic studies. *International Journal of Applied Linguistics*, 34, 862–883. <https://doi.org/10.1111/ijal.12537>