Original Paper

Language Use and Disciplinarity: A Literature Review

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Abstract

Disciplinary variation in language use is one of the focal topics in academic discourse research. This paper critically reviews extant literature studies on the close relationship between language use and disciplinarity, in an attempt to clarify the different perspectives, both theoretical and methodological, in exploring the discipline-specific nature of academic discourses. This paper points out that the previous studies mainly adopted a form-first approach to analyzing the lexico-grammatical features of disciplinary discourses and calls for more attention to the meanings, functions, and discourse-semantic patterns in discourses across disciplines by adopting a function-first approach.

Keywords

language use, disciplinary variation, function-first approach, academic discourse analysis

1. Introduction

The investigation of language use across different disciplinary cultures has always been a key topic in English for Academic Purposes (EAP) writing research (Hyland, 1998; Jiang, 2017; Wang & Wei, 2019; Yang et al., 2019; Su & Zhang, 2021). Disciplinary culture, or disciplinarity, is a collection of disciplinary attributes, i.e., the way disciplinary knowledge is constructed (Yang et al., 2019, p. 509), which is then reflected in the linguistic forms of the disciplinary discourses (Becher, 1987, 1994; Becher & Trowler, 2001; Groom, 2007, 2009). In other words, there are close associations between disciplinary cultures and the language use across disciplines. Becher (1987) pointed out that the cultural variations of discipline are reflected in the differences of language forms; similarly, differences in language form can predict variations in disciplinary culture. He further emphasized the importance of exploring language use in understanding the characteristics of disciplinary discourses (ibid., p. 273). In simpler words, describing the language use of a specific discipline helps to reveal the underlying the culture of that discipline.

In the existing literature, numerous studies have been carried out to explore the rhetorical features of academic discourses across disciplinary contexts. Approaching via different theoretical and/or methodological routes, these studies have not only promoted our understanding of the rhetorical and linguistic features of disciplinary discourses but also unveiled the close relationship between language use and disciplinarity (e.g., Hyland & Jiang, 2016a, 2016b, 2017, 2021; Gao, 2017; Wang & Wei, 2019; Yang et al., 2019; Lu et al., 2021; Jiang & Hyland, 2022).

2. Different Approaches to Disciplinary Variations of Language Use

2.1 Disciplinary Variations from the Perspective of Metadiscourse

Under the framework of metadiscourse (Hyland & Jiang, 2018d, 2020), many studies have explored how the expressions of engagement (Hyland & Jiang, 2016a), stance (Hyland & Jiang, 2016b, 2018a), (in)formality (Hyland & Jiang, 2017), citations (Hyland & Jiang, 2018c, 2019b), boosters (Hyland & Jiang, 2019a), academic hype (Hyland & Jiang, 2021) and negation (Jiang & Hyland, 2022) vary across disciplines. For instance, drawing on an interpersonal model of metadiscourse, Hyland and Jiang (2018d) explored whether, and to what extent, metadiscourse had changed in professional writing in different disciplines over the past 50 years and found a marked decline in the use of interactional metadiscourse in the discursive soft knowledge fields and a substantial increase in the science subjects. Furthermore, Hyland and Jiang (2020) examined the use of interactive metadiscourse, which focuses on the ways authors organize their material for particular readers, in an attempt to discover whether, and to what extent, the use of interactive metadiscourse had changed across four disciplines since 1965. The results showed a considerable increase in an orientation to the reader over this period, reflecting changes in both research and publication practices.

In addition, drawing on a corpus of 2.2 million words taken from the top five journals in four disciplines at three distinct time periods, Hyland and Jiang (2016a) sought to catalogue the changes which have occurred in engagement practices in research writing over the past 50 years and have found that the most significant change is the decline in the extent to which writers in the soft knowledge fields now engage with readers. In another study, Hyland and Jiang (2016b) further observed a decline in the overall use of stance markers in academic proses, although the decline in hedges, boosters and markers of attitude is largely confined to the more discursive fields (e.g., Applied Linguistics and Sociology) where "there is a marked trend towards less authorial explicit signaling of stance" (Hyland & Jiang, 2016b, p. 19). In a similar vein, Hyland and Jiang (2017) explored changes in the use of ten key features regarded by applied linguists and style guide authors as representing informality, showing only a small increase in the use of these features which could mainly be accounted for by increases in the hard sciences rather than in the social sciences. Moreover, Hyland and Jiang (2018a) examined the contribution of *that* pattern as a stance marker to the key genre of the academy, i.e., the research articles, across four disciplines, showing that the popularity of this construction had declined over the past 50 years. This study indicated that evaluative *that* structures function to evaluate the 'entity' expressed in the that-clause, particularly the authors' own

claims. The decline in the use of *that* constructions was fairly consistent across disciplines with the heaviest falls in Applied Linguistics (-23%) and electrical engineering (-21%), which was probably due to the tendency for applied linguists and engineers to give proportionately more space to other voices by substantially increasing the number of times they evaluated the work of others rather than their own.

Furthermore, Hyland and Jiang (2017) explored the ways in which academic citation practices had changed over the past 50 years based on the analysis of a corpus consisting of research articles in four disciplines in 1965, 1985, and 2015, respectively, and reported a fall in the use of reporting structures, a growing preference for non-integral forms, research verbs, the present tense, and non-evaluative structures when reporting others' research. The results showed that the past 30 years had seen a relative decline in the use of reporting verbs, an increase in non-integral structures, and generalization replacing summary, most noticeably in the soft fields. In the similar vein, Hyland and Jiang (2018c) traced patterns of self-citation in papers from five journals in four disciplines at three time periods over the past 50 years, and identified a considerable increase in self-citations which was subject to disciplinary variation, with the hard knowledge fields in their corpus containing almost twice as many instances as the sociology and applied linguistics papers.

Additionally, Hyland and Jiang (2021), based on a corpus of 360 articles in leading journals in four disciplines at three periods over the past 50 years, explored whether academic pressure led authors to rhetorically 'sell' or 'hype' their studies. This study demonstrated that increases were most marked in the hard sciences and that hyping manifested the authors' greater willingness to display positive attitude, underline their contribution, and to hype research primacy, methods and the author's prior research. More recently, Jiang and Hyland (2022) also explored how negation contributed to an interpersonal model of academic writing, drawing on a diachronic corpus of research abstracts. They described in detail the forms, functions, and distribution of negation across time and disciplines, showing decreased use of negation in Linguistics, increases in Sociology, and a relative stable use of negation in Biology and Engineering abstracts.

2.2 Disciplinary Variations from the Perspective of Lexical Bundles

The disciplinary variations in terms of the use of lexical bundles, generally referring to recurrent multi-word sequences (Biber et al., 2004), in academic settings have also been richly studied (Cortes, 2004; Hyland, 2008, 2012; Wang, 2017; Hyland & Jiang, 2018b). For example, Cortes (2004) compared lexical bundles in published research articles and student writing in two disciplines (i.e., history and biology). The findings revealed that the use of target bundles by students in biology and history courses at different university levels varied greatly from the use of these bundles by published authors in these two disciplines. Further, Hyland (2008) explored the forms, structures, and functions of four-word bundles in a 3.5-million-word corpus of research articles, doctoral dissertations and master's theses in four disciplines, in order to identify the disciplinary variations in their frequencies and preferred uses. The study indicated lexical bundles occurred behave in dissimilar ways in different disciplinary environments and that writers

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in diffident fields drew on diffident to develop their arguments, establish their credibility, and persuade their readers.

Then, Hyland (2012) discussed the importance of formulaic language in both academic speech and writing and the extent to which it varies in frequency, form, and function by mode, discipline, and genre. He argued that learning to use the more frequent fixed phrases of a discipline can contribute to gaining a communicative competence in a field of study. More recently, Hyland and Jiang (2018b) explored changes in the use of lexical bundles in research articles across four disciplines (i.e., Applied Linguistics, Sociology, Electrical Engineering and Biology) over the past 50 years, and found that bundles were not static and invariant markers of academic writing but were changing in response to new conditions and contexts. Most notably, sociologists and biologists significantly reduced the number of lexical bundles they employed, while applied linguists and electronic engineers followed the opposite trend. The findings of this study demonstrated that the hard science fields exhibited a major shift away from verb-phrase bundles towards noun/prepositional types. Besides, the corpus-based study of Wang (2017) has explored the effects of two factors – genre and discipline – on the use of lexical bundles in spoken academic English as a Lingua Franca (ELF). The findings showed that spoken academic ELF was also subject to genre and disciplinary variation; for instance, the list of lexical bundles in Medicine was dominated by clausal fragments involving the second person pronoun, especially the three-word bundle *you can see*, suggesting that the lecturers in Medicine were more likely to use visual aids than those in the other disciplinary domains.

2.3 Disciplinary Variations from the Phraseological Perspective

The phraseological features in the rhetorical moves of academic genres have also drawn much scholarly attention. For example, Lu, Yoon, and Kisselev (2021) identified three types of phrase-frames (i.e., p-frames) in a corpus of research article introductions in six social science disciplines annotated for rhetorical move-steps: specialized p-frames that occurred in one move-step only, semi-specialized p-frames that occurred primarily in one move-step but also in others, and non-specialized p-frames that occurred in multiple move-steps with no clear association with any of them. In two other studies, Yoon and Casal (2020) analyzed Applied Linguistics writers' use of p-frames across the rhetorical stages of conference abstracts, and Casal and Kessler (2020) examined the role of p-frames in the realization of writers' rhetorical goals in essays submitted as part of Fulbright grant applications, both making explicit the role particular p-frames played in accomplishing or signaling specific rhetorical intentions in the academic genres examined. Further, Lu et al. (2021) investigated variations in the rhetorical and phraseological features of research article introductions among five social science disciplines, showing disciplinary variation in the rhetorical and linguistic features of research article writing and useful implications for academic writing research and pedagogy.

2.4 Disciplinary Variations from the Perspective of Evaluation

It has been observed that disciplinary writers also differ significantly in their ways to express the meaning of evaluation (e.g., Gao, 2017; Wang & Wei, 2019). For instance, Gao (2017) systematically analyzed the linguistics forms of evaluation in the academic papers by Chinese and foreign scholars of two disciplines (i.e., Linguistics and Physics). The study found that the use of evaluative patterns in physics was significantly more frequent than that in linguistics, while the latter was more inclined to hedge propositions or attitudes with evaluative patterns. Similarly, in another study, Wang and Wei (2019) investigated disciplinary variations in the use of evaluative patterns in academic discourses and epistemological and cultural constraints on language use. Drawing on data from a large-scale corpus Beijing CARE (Beijing Collection of Academic Research Essays), this study examined the use and distribution of evaluative *it* patterns in research articles across hard-pure, hard-applied, soft-pure and soft-applied disciplines. The findings suggested that the differences in the use of *it* patterns correspond to the broad distinctions, i.e., hard /soft and pure /applied. It was then argued that epistemological precepts conditioned the use of language to a large extent.

2.5 Disciplinary Variations from the Perspective of Linguistic Positivity Bias

Linguistic positivity bias refers to the tendency to use positive words more frequently and broadly than negative ones in human communication (Dodds et al., 2015, cited in Wen & Lei, 2021). Wen and Lei (2021) then carried out a large-scale diachronic study in life sciences across 50 years, with 775,460 abstracts that were published in 123 scientific journals of different impacts from various disciplines (i.e., biomedical and life sciences, neuroscience and behaviour, psychiatry and psychology, social sciences), to examine linguistic positivity bias in academic writing. The findings of this study indicated that positive words were used more frequently than negative ones, and a significant upward trend of linguistic positivity in academic writing was observed over the past 5 decades.

3. A Brief Evaluation

To recapitulate, the above review of previous studies has demonstrated that language use in academic settings varies according to disciplines. That is, the differences in language use reflect the disciplinary cultures, and to some extent, the disciplinary cultures also constrain and condition the language use. In other words, the discourse in each discipline both shapes and is shaped by the epistemology and culture of that discipline.

However, it has to be noted that most of the previous studies focused on lexico-grammatical features of language use in disciplinary discourse, such as the use of the metadiscourse, lexical bundles, p-frames in rhetorical moves, evaluative patterns, by observing and counting the frequency and distribution of these lexical or phraseological patterns in disciplinary texts.

In recent decades, academic discourse analysts have gradually shifted their attention from lexico-grammatical features of disciplinary discourses to the meanings, functions, and discourse-semantic patterns (e.g., Cortes, 2013; Moreno & Swales, 2018; Whiteside & Wharton, 2019; Yang et al., 2019).

For instance, Yang (2019) explored the disciplinary variations by means of semantic sequence analysis, aiming to summarize and describe in detail Chinese scholar of two highly frequent reporting patterns (i.e., *V that* and *it be Ved that*) in research articles by Chinese scholars across four disciplines and to further demonstrate the constraints of disciplinary culture on the use of language patterns from the perspective of semantic sequence. The analyses indicated that different disciplines across knowledge shared common features while the frequency of each semantic sequence varied according to disciplines, which suggested the complexity of disciplinary cultures. Following this trend, future study could adopt a function-oriented approach to describe the discourse-semantics and to further explore the association between language use and disciplinary cultures.

4. Conclusion

In this paper, we have reported a brief review on the previous investigations on the language use and disciplinary variations. In particular, disciplinary variation in language use is one of the focal topics in academic discourse research; however, previous studies have mainly taken a form-first approach to analyzing features of disciplinary discourse. This review corroborates the argument that academic discourse analysts have gradually shifted their attention from lexico-grammatical features of disciplinary discourses to the meanings, functions, and discourse-semantic patterns.

Since currently only limited attention has been paid to the meaning and functions in disciplinary discourses, there is an urgent need for future research to inquire into disciplined discourses by adopting a function-first approach, and by so doing to portray a fuller picture of the close relationship between language use and disciplinarity and to further develop research methods that can substantially improve the reliability of the description and analysis of language use in various academic contexts.

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