

Stance and Engagement: A Corpus Linguistic Study of Published English Review Articles

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Abstract

There has recently been an increased interest in examining the role of stance and engagement in distinguishing how different published academic written materials of hard disciplines are from those of soft ones. So far, however, there remains a paucity of evidence on how stance and engagement contribute to disciplinary variations in published English review articles. In this study, we draw on Hyland's stance and engagement framework to explore how academics employ linguistic resources to express their positions and connect with readers in review articles across disciplines. Based on a self-compiled corpus approximately 545,300 words of published English review articles from ten disciplines, the results show that there is a statistically significant difference in the overall use of stance and engagement markers between the review articles of natural and social disciplines. The findings in this study shed new light on the relationship between disciplinary variation and stance and engagement markers. It has also the pedagogical value of helping students to become aware of the genre features of review articles.

Keywords

Stance; Engagement; Academic Writing; Corpus Linguistics.

1. Introduction

More recently, there has been a greater focus placed upon stance and engagement in academic writing. Stance generally refers to speakers or writers' position-taking in their speeches or writings in which they express their attitudes, viewpoints, comments, etc., whereas engagement is mainly about how addressers or writers establish the relationship between their addressees or readers and them through the opinions presented in discourses [1]. Research investigating the linguistic resources associated with stance and engagement has been undertaken in the areas of academic writing and speaking [2, 3, 4, 5, 6, 7, 8, 9, 10, 11]. The review article is a typical academic written genre, which is usually written by experts in academic fields and published in annual or monthly journals. Review papers aim for the provision of new conceptual frameworks, the uncovering of inconsistencies in the existing body of research, the integration of different results and the exhibition of the newest, most advanced stage in the development of a field [12]. However, the role played by stance and engagement in review articles has received little attention in previous literature. This paper attempts to remedy this oversight by examining the link between stance and engagement markers and review articles. In this study, therefore, we aim to explore the following questions:

- (1) What are the stance and engagement features employed in review articles across disciplines?
- (2) How can we explain those features?

2. Previous Studies of Stance and Engagement

During the last decade, there has been a surge of interest in the study of stance and engagement in written and spoken discourses. These previous studies can be generally categorized into two sub-groups according to the models or frameworks used in them. The first popular and widely-adopted model is Hyland's [1] stance and engagement model. For example, McGrath and Kuteeva [3] relied on Hyland's [1] stance and engagement model and investigated research papers in pure mathematics. They pointed out that the proportion of hedges and attitude expressions was relatively lower than that proportion in other hard and soft disciplines. By contrast, the linguistic resources related to expected shared knowledge and reader references were much more than those in other hard and soft disciplines. Likewise, Lee and Deakin [6] applied Hyland's [1] analytical framework to the study of argumentative essays which were written by some ESL college students in China. They pointed out that hedges were used fairly frequently in clear and effective essays compared with those expressions in poor writing. Lancaster [5] undertook a contrastive approach to the high quality and low-quality course papers of two different undergraduate courses based on Hyland's [1] model and Martin and White's [13] framework, and found that the stance-laden markers in high-quality papers were much more than those in low-quality papers. Yoon and Römer [8] used a qualitative and quantitative case study approach to investigate how student writers deployed stance and engagement resources in their writing based on the Michigan Corpus of Upper-level Student Papers with the aid of Hyland's model. One of the findings in the study demonstrated a statistically significant difference in the use of stance and engagement markers between soft and hard scientific disciplines. Yin and Parkinson [10] drew upon Hyland's [1] model and Swales's [14] rhetorical move framework to research how academic reviewers utilized stance and engagement expressions in news and views articles. The findings showed that the use of stance and engagement markers in news and views articles and research articles was in proximity to each other. Alghazo, Al Salem and Alrashdan [9] examined the abstracts of published English and Arabic research papers in social sciences within Hyland's [1] framework. They pointed out that Arabic and English scholar writers differed in the use of stance and engagement linguistic expressions by which Arabic academic writers demonstrated less uncertainty in their research articles than paper writers whose first language was English. Wu and Paltridge [11] investigated stance markers (hedges, boosters, attitude markers, and self-mention markers) in Chinese students' MA dissertations and Ph.D. theses and found that there was a variation of the use of stance expressions in Master and Doctor degree levels. The study showed that compared with the Master level writers, the doctoral-level writers presented more doubts and were able to diversify their linguistic resources to reveal their attitudes towards statements, propositions, assumptions, etc., in their articles. Jiang and Hyland [4] conducted a corpus analysis of the *Noun Complement* construction in a corpus of academic articles across eight different disciplines. The results showed that academics frequently drew on the phrasal pattern to convey their judgments, attitudes, opinions, comments to their readers. Besides, there was a disciplinary variation in the use of the *Noun Complement* construction.

Another group of research was carried out primarily based on Martin and White's [13] *Appraisal* framework that was influential and well-known. For instance, Chang and Schleppegrell [2] explored the introduction sections of published papers in the area of educational research. They employed the *Appraisal* framework [13] and the rhetorical move framework [14] to study how professional academic writers displayed their stance in the paper-writing process and aimed to help L2 student writers become aware of the characteristics of those stance markers and stance-taking methods. Lam and Crosthwaite [7] carried out a contrastive study of the essays of native English writers and the writings of English learners in China from the perspective of Martin and White's [13] *Appraisal* framework. The

results indicated that there was a significant difference between the two groups. Native writers were more likely to use engagement markers whereas English-learning writers were dependent more on negative attitude markers in their written discourses.

This section aims to provide a snapshot of relevant literature. Those previous studies have presented that stance and engagement in academic writing grabs considerable scholarly attention in recent decades. Hyland's [1] model and Martin and White's [13] framework have been adopted widely in the investigation into stance-taking and writer-reader interaction in academic communication. However, most studies have only been carried out to analyze research articles and little attempt has been made to figure out what kind of function stance and engagement markers fulfill in review articles across disciplines. The main goal of the current study was to determine the role played by stance and engagement expressions in review articles. It is hoped that this study will shed new light on how academics in different disciplines use written linguistic resources to engage with their readers and to convince their readers of their arguments.

3. The Analytical Framework

An available framework is of great importance to the analysis of linguistic materials since it generally elucidates the core concepts and the application of the framework systematically, which can facilitate the data analysis and the interpretation of findings. This section will provide a general description of the analytical framework of this study.

Table 1. A modified version of stance and engagement elements [1]

Framework	Elements	Examples
Stance	hedges	<i>possible, might, perhaps</i>
	attitude markers	<i>agree, unfortunately, remarkable</i>
	boosters	<i>clearly, obviously, demonstrate</i>
	self-mention	<i>I, my</i>
Engagement	reader pronouns	<i>you, your</i>
	appeals to shared knowledge	<i>obviously, distinctly</i>
	questions	<i>Why should we be bound by taxonomy instead of seeking explanations?</i>

A spoken or written discourse has been usually considered the most common communicative way for conveying their evaluation about something. Researchers have been interested in how writers and speakers use linguistic resources in discourses to establish a kind of interpersonal relationship with their readers and listeners. One well-known approach to these analyses is that of Martin and White's [13] *Appraisal* model. This model includes three dimensions: attitude, engagement and graduation. It is primarily used for the exploration of mass media discourses, such as news, TV programs, public speeches, etc. Another model is Hyland's innovative work, which pioneered a new approach to examining academic writing. In his seminal paper entitled "Stance and Engagement: A Model of Interaction in Academic Discourse", Hyland [1] created a stance and engagement framework and adopted it to investigate the linguistic expressions of

stance-taking and engagement-building in research articles across disciplines. He argued that academic writing was highly reliant upon stance and engagement markers, for those expressions strengthened the bonds between writers and readers.

In Hyland's [1] stance and engagement framework (see Table 1), four elements (hedges, attitude markers, boosters, and self-mention) generally refer to stance, and three core aspects (reader pronouns, appeals to shared knowledge, and questions) are broadly related to engagement. This present work will adopt Hyland's [1] stance and engagement framework, for it was primarily used for the study of academic writing and the corpus data in this study is academic writing in nature.

4. The Corpus and Analytical Procedures

4.1. The Corpus

The corpus for this research is comprised of published English review articles from ten disciplines which can be categorized into hard and soft sciences. The corpus is called the Corpus of English Review Articles (henceforth CERA). CERA consists of two sub-corpora: the corpus of English review articles from hard disciplines (henceforth CERA-H), and the corpus of English review articles from soft disciplines (henceforth CERA-S). The two sub-corpora is indispensable for the contrastive analysis of stance and engagement expressions across disciplines. Besides, we collected the data based on several standards: (1) the content of review articles must be complete; (2) review articles must be written in English; (3) review articles have been published in peer-reviewed leading journals; (4) the words in CERA-H and CERA-S should be as nearly equal as possible. So the data of CERA comes from these hard disciplines (*Cardiology, Chemistry, Earth & Environment, Genetics, Physics*) and soft disciplines (*Anthropology, Education, Law, Linguistics, Sociology*). The data has been stored in the code form of Unicode and UTF-8 for the convenience of the analytical procedures.

4.2. Research Procedures

Firstly, we used WordSmith Tools version 7 [15] to produce the statistics of the data and to search for the stance and engagement markers based on the modified list of potential markers of stance and engagement [16]. Table 2 displays the summary statistics for the corpus data. As shown in Table 2, the Type-Token ratio (TTR) of CERA-S is slightly larger than the ratio of CERA-H, which suggests that review writers in soft disciplines generally demonstrate more lexical diversity in their review articles than review writers in hard disciplines.

Table 2. The basic statistics of the corpora

Corpus	Tokens	Types	TTR	STTR
CERA	545,340	25,611	4.70	40.67
CERA-H	276,865	14,739	5.32	39.49
CERA-S	268,475	17,201	6.41	41.90

Note: CERA, CERA-H and CERA-S refer to the Corpus of English Review Articles, the corpus of review articles from hard disciplines and the corpus of review articles from soft disciplines, respectively. Also, TTR and STTR refer to type/token ratio and standardized type/token ratio (per 1000 words), respectively.

Secondly, the concordance lines containing stance and engagement markers were manually checked to ensure data validity. Besides, we normalized the results to 1000 words to make

available the contrast between the two corpora and used Log-Likelihood Calculator [17] to determine statistical significance.

5. Results and Analysis

5.1. The Distribution of Stance Markers in Two Corpora

There are four subcategories of stance markers based on Hyland's [1] framework. From the data in Table 3, there is a statistically significant difference in the use of stance markers between CERA-H and CERA-S (log-likelihood=350.48, $p < 0.001$). This finding indicates that the overall distribution of stance expressions in review articles across hard and soft sciences is dramatically different. What is interesting about the figures in this table is that review writers in social sciences used striking much more self-mention markers (e.g., WE, OUR, I) than review writers in natural sciences (log-likelihood=658.73, $p < 0.001$). This suggests that academics writers in soft disciplines prefer to present a discourse self in their review articles. Besides, it can be seen that the difference between hard and soft disciplines regarding attitude markers is slightly significant (log-likelihood=5.20, $p < 0.05$). This indicates that as for the expressing of attitudes across hard and soft disciplines, review writers in these two distinct fields broadly bear some similarities with each other. For example:

(1) While all members of the community ***might*** agree on what constitutes their shared cuisine, everyone in the community ***might*** not have access to certain foods, or enough food, for a variety of reasons.

(Annual Review of Anthropology)

(2) Human behaviour is ***complex*** and scientists ***should*** focus on how SLR hazards ***might*** translate into migration signals.

(Nature Reviews | Earth & Environment)

Table 3. The distribution of stance markers across the two corpora

Category	Elements	Freq. in CERA-H	Freq. in CERA-S	LL	Sig. (P)		
Stance	hedges	2,938	3,448	57.98	0.000	***	-
	attitude markers	1,583	1,663	5.20	0.023	*	-
	boosters	1,430	1,738	40.22	0.000	***	-
	self-mention	480	1,586	658.73	0.000	***	-
Total		6,431	8,485	350.48	0.000	***	-

Note. CERA-H and CERA-S refer to the corpus of review articles from hard disciplines and the corpus of review articles from soft disciplines, respectively. LL refers to the value calculated in log-likelihood. The asterisks (*) indicate significance level: (*), statistically significant at the 0.05 level; (**), statistically significant at the 0.01 level; (***), statistically significant at the 0.001 level. The "+" and "-" signs on the right side indicate "overuse" and "underuse".

Table 4 presents the proportion of stance markers in each discipline that has been normalized to a text length of 1000 words. From this data, we can see that stance markers were employed quite frequently in soft disciplines compared with them used in hard disciplines, averaging 23.23 vs 31.60 cases per 1000 words.

Table 4. The proportion of stance markers (per 1000 words)

Elem.	Che.	Phy.	Car.	Ear.	Gen.	H.	Edu.	Ant.	Lin.	Soc.	Law	S.
hedges	1.70	1.76	2.04	2.51	2.62	10.61	2.00	2.42	2.55	2.67	3.42	12.45
attitude markers	1.27	1.156	1.21	0.91	1.159	5.72	1.38	1.22	1.08	1.13	1.38	6.00
boosters	1.04	1.25	1.11	0.66	1.11	5.16	1.33	1.14	1.31	1.41	1.28	6.47
self-mention	0.36	0.42	0.22	0.41	0.25	1.73	1.56	0.53	1.42	1.43	0.60	5.91
Total	HARD					23.23	SOFT					31.60

5.2. The Distribution of Engagement Markers in Two Corpora

Engagement markers can be broadly grouped into three sub-types: reader pronouns, appeals to shared knowledge, and questions according to Hyland's [1] model. It can be seen from the data in Table 5 that there is a statistically significant difference in the use of engagement markers between hard disciplines and soft disciplines (log-likelihood=341.07, $p < 0.001$). This suggests that academic writers in soft disciplines are usually eager to use more engagement expressions to construct the relationship between them and their readers in their review articles. Moreover, considerable variations were found in the use of knowledge appeals in two corpora, with the differences in that dimension being statistically significant (log-likelihood=10.53, $p < 0.01$). This suggests that scholars in hard disciplines are generally more likely to position their readers in the scope of evidently naturalized boundaries of disciplinary knowledge [1]. For example:

(1) In this Review, ***we*** discuss strategies to identify and validate new non-coding RNA molecules as targets for CVD therapeutics, focusing on preclinical studies performed in the past 10 years.

(Nature Reviews | Cardiology)

(2) However, these authors also found, as had prior studies, that districts underestimated the amount they were investing in PD and that the management of these resources was scattered across multiple departments that were ***typically*** not coordinating with one another.

(Review of Educational Research)

Table 5. The distribution of engagement markers across the two corpora

Category	Elements	Freq. in CERA-H	Freq. in CERA-S	LL	Sig. (P)		
Engage-ment	reader pronouns	444	1,331	491.55	0.000	***	-
	appeals to shared knowledge	438	336	10.53	0.001	**	+
	questions	35	168	98.92	0.000	***	-
Total		917	1,835	341.07	0.000	***	-

Table 6 illustrates the proportion of different categories of engagement markers in each discipline normalized to a text length of 1000 words. As shown in Table 6, engagement markers even in the same discipline were used differently in review articles. For example, reader pronouns were employed much frequently per 1000 words by writers in the field of earth and environment in hard disciplines, whereas reader pronouns were used more commonly per 1000 words in education review articles in soft disciplines. This indicates that each discipline

has its linguistic characteristics in the manifestation of stance and engagement. Moreover, questions were the least used among the three sub-types of engagement markers in review articles. This suggests that review articles are generally statement-laden rather than interrogative, which conforms to the textual features of academic genres.

Table 6. The proportion of engagement markers (per 1000 words)

Elem.	Che.	Phy.	Car.	Ear.	Gen.	H.	Edu.	Ant.	Lin.	Soc.	Law	S.
reader pronouns	0.36	0.41	0.15	0.40	0.33	1.60	1.51	0.39	1.04	1.49	0.54	4.96
shared knowledge	0.33	0.45	0.30	0.20	0.30	1.58	0.14	0.22	0.45	0.26	0.19	1.25
questions	0.03	0.03	0.01	0.01	0.05	0.13	0.09	0.07	0.09	0.08	0.17	0.50
Total	HARD					3.31	SOFT					6.84

As Table 7 shows, there is a significant difference (log-likelihood=597.95, $p < 0.001$) between the two corpora. This suggests that review article writers in hard science disciplines are usually less likely to utilize the linguistic resources related to stance and engagement in their writing compared with the writers in soft social sciences.

Table 7. The overall distribution of stance and engagement markers

Category	Freq. in CERA-H	Freq. in CERA-S	LL	Sig. (P)		
Stance and engagement	7,348	10,320	597.95	000	***	-

6. Conclusions and Discussion

The current study investigated the stance and engagement characteristics in review articles across hard and soft disciplines. The findings indicate that the overall frequency of stance and engagement markers in review articles across hard and soft sciences is typically distinct. These characteristics may partly be explained by the fact that “rhetorical practices are inextricably related to the purposes of the disciplines”. In other words, academics in natural disciplines are more likely to regard their writing activities as imparting innovative knowledge which cannot be easily falsified, and as benefiting the accrual of discipline knowledge. On the other hand, scholars in social disciplines are more inclined to convey their subjective understandings of social facts and eagerly associate themselves with their readers through stance and engagement markers in their academic writing.

Our findings are broadly consistent with those of Hyland who argued that scholars in natural or social scientific fields usually convey their ideas, attitudes, judgments, etc., to their readers in different ways. For example, writers in soft disciplines prefer to present more obviously involved and personal positions in their academic writing compared with those writers in hard science fields. Hence the present research confirms the relationship between the use of stance and engagement expressions in academic writing and discipline variation.

This study was limited in several ways. The most important limitation lies in the fact that the data size is small since we only collected the data from ten disciplines. This means that it is unclear to what extent those differences agree with discipline variation. So a further study with more focus on to what degree the use of stance and engagement markers can determine the discipline variation is therefore suggested. Besides, the study is limited by the lack of information on directly relevant previous studies based on the similar linguistic materials used

in this study, which suggests that it is impossible to consider the effect size of our results. Thus, in the future, it will be important and necessary to take the effect size into consideration.

References

- [1] Hyland, K. (2005). Stance and engagement: A modal of interaction in academic discourse. *Discourse Studies*, 7(2), 173-192.
- [2] Chang, P., & Schleppegrell, M. (2011). Taking an effective authorial stance in academic writing: Making the linguistic resources explicit for L2 writers in the social sciences. *Journal of English for academic purposes*, 10(3), 140-151.
- [3] McGrath, L., & Kuteeva, M. (2012). Stance and engagement in pure mathematics research articles: Linking discourse features to disciplinary practices. *English for Specific Purposes*, 31(3), 161-173.
- [4] Jiang, F., & Hyland, K. (2015). 'The fact that': Stance nouns in disciplinary writing. *Discourse Studies*, 17(5), 529-550.
- [5] Lancaster, Z. (2016). Expressing stance in undergraduate writing: Discipline-specific and general qualities. *Journal of English for Academic Purposes*, 23, 16-30.
- [6] Lee, J. J., & Deakin, L. (2016). Interactions in L1 and L2 undergraduate student writing: Interactional metadiscourse in successful and less-successful argumentative essays. *Journal of second language writing*, 33, 21-34.
- [7] Lam, S. L., & Crosthwaite, P. (2018). Appraisal resources in L1 and L2 argumentative essays: A contrastive learner corpus-informed study of evaluative stance. *Journal of Corpora and Discourse Studies*, 1(1), 8-35.
- [8] Yoon, H. J., & Römer, U. (2020). Quantifying disciplinary voices: An automated approach to interactional metadiscourse in successful student writing. *Written Communication*, 37(2), 208-244.
- [9] Alghazo, S., Al Salem, M. N., & Alrashdan, I. (2021). Stance and engagement in English and Arabic research article abstracts. *System*, 103, 102681.
- [10] Yin, Z., & Parkinson, J. (2021). Critical review of literature: The case of the news and views genre. *Journal of English for Academic Purposes*, 51, 100972.
- [11] Wu, B., & Paltridge, B. (2021). Stance expressions in academic writing: A corpus-based comparison of Chinese students' MA dissertations and PhD theses. *Lingua*, 253, 103071.
- [12] Palmatier, R. W., Houston, M. B., & Hulland, J. (2018). Review articles: Purpose, process, and structure. *Journal of the Academy of Marketing Science*, 46(1), 1-5.
- [13] Martin, J. R., & White, P. R. (2005). *The language of evaluation: Appraisal in English*. Hampshire: Palgrave Macmillan.
- [14] Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.
- [15] Scott, M. (2016). *WordSmith Tools version 7*. Liverpool: Lexical Analysis Software. Available online.
- [16] Qiu, X., & Jiang, F. K. (2021). Stance and engagement in 3MT presentations: How students communicate disciplinary knowledge to a wide audience. *Journal of English for Academic Purposes*, 51, 100976.
- [17] Liang, M. (2009). *Chi-square and Log-Likelihood Calculator*. National Research Center for Foreign Language Education, Beijing Foreign Studies University.
- [18] Becher, T. (1989). *Academic tribes and territories: Intellectual inquiry and the cultures of disciplines*. Milton Keynes: SRHE/OUP.
- [19] Dillon, G. (1991) *Contending Rhetorics: Writing in academic disciplines*. Bloomington: Indiana University Press.
- [20] Hyland, K. (2000) *Disciplinary discourses: Social interactions in academic writing*. London: Longman.