

A Comparative Study of Hedging and Boosting in Academic Articles from Eight Disciplines

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Abstract: Hedges and boosters are important metadiscursive resources for writers to mark their epistemic stance and position writer-reader relations. Building on previous research on the differences in the use of hedges and boosters in academic discourse, this study investigates the use of such discourse markers in academic articles from eight disciplines. Based on a corpus of 160 journal articles collected from 8 disciplines of Philosophy, Sociology, Linguistics, Economics, Physics, Cytology, Medicine, and Engineering, this study examines (a) the differences and similarities in the use of hedges and boosters in eight disciplines and (b) the differences and similarities in the use of different types of hedges and boosters in eight disciplines. The study finds that academics in soft disciplines employ more metadiscourse markers to construct their writings than those in natural sciences, and the percentage of the frequencies of hedges and boosters in each discipline is different. Writers in the disciplines of humanities and social sciences more rely on hedges, while writers in the natural sciences incline to use more boosters. Besides, the frequency of the use of specific categories of hedges and boosters varied across disciplines.

Key words: Hedge; booster; academic articles; comparative study

1. Introduction

Academic writing has its own writing styles and writing principles, and it also has the characteristics of formality and objectivity. However, “Over the past decade or so, academic writing has gradually lost its traditional tag as an objective, faceless and impersonal form of discourse and come to be seen as a persuasive endeavour involving interaction between writers and readers” (Hyland, 2005a: 173). Academics use language to construct and negotiate social relations, and by employing language devices, they achieve the effect of convincing argument. Hedges and boosters constitute two categories of interactional metadiscourse strategies that are frequently employed in academic writing, particularly in the genre of the research article (Hyland, 2005a; Hyland and Tse, 2004).

Hedges are self-reflective linguistic expressions (e.g. might, suggest, probably) employed to express epistemic modality and modify the illocutionary force of speech acts (Holmes, 1982, 1988), and hedges indicate the writer wants the information to be presented as an opinion rather than a fact (Hyland, 2005a).

Boosters, on the other hand, are linguistic devices (e.g. demonstrate, clearly, undoubtedly) that increase the illocutionary force of speech acts (Holmes, 1984), and they emphasize certainty and show the writer’s desire to exclude other possible situations (Hyland, 2005b). Thus, hedges and boosters are two sides of the same coin: they are metadiscursive resources that the writer can capitalize on to express uncertainty or certainty about a proposition, withhold or strengthen commitment to a position, and open or close dialogue with the reader (Holmes, 1984). The skillful manipulation of hedges and boosters in academic texts not only signals a writer’s epistemic stance towards propositional content and intended readers, but also marks himself as a competent member of the discourse community (Hyland, 2009, 2005a).

To examine if hedging and boosting strategies differ in the English journal articles of different disciplines written by Chinese scholars, this study compares the use of hedges and boosters from eight disciplines. Specifically, it seeks to answer the following two research questions:

- (1) Are there any differences/similarities in the use of hedges and boosters in eight disciplines?
- (2) Are there any differences/similarities in the use of different types of hedges and boosters in eight disciplines?

2. Corpus and Methods

The text corpus consists of 160 research articles from eight disciplines selected to represent a broad cross-section of academic practice (Each discipline includes 20 research articles). The fields are Philosophy (Phil), Sociology (Soc), Linguistics (Ling), Economics (Eco), Physics (Phy), Cytology (Cyto), Medicine (Medi), Engineering (Engi). The texts were converted to an electronic corpus of 1.05 million words by using Antconc3.2.2 (version 2008). The specific corpus number is as follows:

Table 1. Corpus in each discipline

Phil	Soc	Ling	Eco	Phy	Cyto	Medi	Engi	Total
146281	128186	165252	157924	121323	139690	77439	117524	1053619

There are many linguistic resources of hedges and boosters for writers to express epistemic affective meaning, and they can be divided into different types. Based on Hyland's metadiscourse model (Hyland, 2005b; Hyland and Tse, 2004) and Holmes's research on linguistic resources for expressing epistemic and affective meaning in English (Holmes, 1982, 1988, 1990), in this article hedges and boosters are grouped into four types: modal auxiliaries, epistemic lexical verbs, epistemic adjectives, and epistemic adverbs, and the linguistic items are separately searched in these four types by using Python (version 3.8). The following table shows the examples of searched items in each category.

Table 2. Examples of the four types in hedges and boosters

Metadiscourse marker		Example	Metadiscourse marker		Example
Hedges	Modal auxiliaries	might, could, would	Boosters	Modal auxiliaries	must, will, can
	Epistemic lexical verbs	seem, assume, suggest		Epistemic lexical verbs	demonstrate, show, find
	Epistemic adjectives	possible, likely, doubtful		Epistemic adjectives	certain, clear, obvious
	Epistemic adverbs	perhaps, mainly, about		Epistemic adverbs	actually, always, clearly

3. Results and Discussion

The use of hedges and boosters in eight disciplines and the use of modal auxiliaries, epistemic lexical verbs, epistemic adjectives, and epistemic adverbs of the two category are discussed.

3.1 Comparison of the use of hedges and boosters in eight disciplines

In order to compare the overall use of hedges and boosters in the eight disciplines, Table 3 shows the frequencies and percentage of hedges and boosters in each discipline with items normalized to a text length of 1000 words.

Table 3. Metadiscourse markers by disciplines (per 1000 words)

Metadiscourse marker	Phil	% of total	Soc	% of total	Ling	% of total	Eco	% of total
Hedges	15.0	47.2	11.6	55.0	14.0	59.6	8.7	48.9
Boosters	16.8	52.8	9.5	45.0	9.5	40.4	9.1	51.1
Totals	31.8	100.0	21.1	100.0	23.5	100.0	17.8	100.0
Metadiscourse marker	Phy	% of total	Cyto	% of total	Medi	% of total	Engi	% of total
Hedges	7.2	39.1	5.1	51.0	7.6	59.9	7.0	35.7
Boosters	11.2	60.9	4.9	49.0	5.1	40.1	12.6	64.3
Totals	18.4	100.0	10.0	100.0	12.7	100.0	19.6	100.0

As can be seen, from the perspective of the overall use of hedges and boosters in each discipline, Phil, Ling, and Soc are in the top three, and the following five disciplines in sequence are Engi, Phy, Eco, Medi, and Cyto. The top three disciplines, Phil, Ling, and Soc, all of them are disciplines in the humanities and social science, and academics in these disciplines employ more metadiscourse markers to construct their writing than those in natural science, such as Phy, Medi, and Cyto. Hyland (2005a) claims that writers in the humanities and social science take far more explicitly involved and personal positions than those in the science and engineering fields. These results are in correspondence with Hyland's study (2005a).

There are reasons behind this difference. Natural scientists tend to see their goal as producing public knowledge able to withstand the rigours of falsifiability and developed through relatively steady cumulative growth (Bayer, 1991). Writers in natural fields relatively need more objectivity in their articles, because their findings are usually based on the quantitative studies, while the soft knowledge domains are more interpretive, and have less control of variables and greater possibilities for diverse outcomes, so writers must express their evaluations and try to engage with readers (Hyland, 2005a).

More specifically, the percentage of the frequencies of hedges and boosters in each discipline is different. In Soc, Ling, Cyto, and Medi these four disciplines, hedges are all used more than boosters. Among them, the difference in Medi and Ling is the biggest with a disparity

of almost 20 percent. In contrast, in the disciplines of Phil, Eco, Phy, and Engi, hedges are all used less than boosters. Among these four disciplines, the difference in Engi is the biggest with a disparity of almost 29 percent. In general, disciplines of soft knowledge field use more hedges than boosters. In soft knowledge domains, it perhaps indicates less assurance about what colleagues could be safely assumed to accept (Hyland, 2005a), writers in the disciplines of humanities and social sciences more rely on hedges to soften the tone and make an adequate interpretation and explanation, while writers in the natural sciences incline to use more boosters to make a relatively strong claims according to their accurate experimental data in the empirical studies.

3.2 Comparison of the use of different types in hedges and boosters in eight disciplines

In order to compare the use of specific types of hedges and boosters in the eight disciplines, Table 4 shows the frequencies of modal auxiliaries, epistemic lexical verbs, epistemic adjectives, and epistemic adverbs of hedges and boosters in each discipline.

Table 4. Specific types of hedges and boosters by disciplines (per 1000 words)

Metadiscourse marker		Phil	Soc	Ling	Eco	Phy	Cyto	Medi	Engi	Total
hedges	Modal auxiliaries	6.0	4.9	5.6	3.2	3.5	2.1	3.4	3.1	31.8
	Epistemic lexical verbs	4.3	2.6	3.5	3.0	0.7	1.2	1.9	1.3	18.5
	Epistemic adjectives	1.9	1.0	1.1	0.8	0.7	0.6	0.8	0.9	7.8
	Epistemic adverbs	2.8	3.1	3.8	1.7	2.3	1.2	1.5	1.7	18.1
Total		15.0	11.6	14.0	8.7	7.2	5.1	7.6	7.0	76.2
boosters	Modal auxiliaries	6.6	4.2	3.3	3.9	6.4	1.1	1.0	9.5	36.0
	Epistemic lexical verbs	5.5	3.3	4.6	4.1	3.4	3.1	3.5	2.2	29.7
	Epistemic adjectives	3.1	0.9	0.8	0.4	0.5	0.3	0.4	0.4	6.8
	Epistemic adverbs	1.6	1.1	0.8	0.7	0.9	0.4	0.2	0.5	6.2
Total		16.8	9.5	9.5	9.1	11.2	4.9	5.1	12.6	78.7

From the table, we can see that the overall use of hedges and boosters is in a balanced proportion. However, the specific use of these four types in each category is different. In the use of hedges, the modal auxiliaries are ranked in the top place with 31.8 frequencies per 1000 words, epistemic lexical verbs and adverbs are similarly in the same rank with about 18 frequencies, while epistemic adjectives are least used. In the use of boosters, the modal auxiliaries are also ranked in the top place with 36 frequencies per 1000 words, epistemic lexical verbs are in the second place with 29.7 frequencies, while different from hedges, the epistemic adverbs in boosters are least used with only 6.2 frequencies. In general, the modal auxiliaries are the most frequently used type both in hedges and boosters.

In hedges, the frequency of the modal auxiliaries is the most in all the eight disciplines, while the frequency of the epistemic adjectives is the least. Writers of Phil, Soc, and Ling use more modal auxiliaries than other disciplines with Phil ranked on the top; and in these three disciplines, the frequencies of epistemic adjectives and epistemic adverbs are a little higher than the rest of other five disciplines. Besides, writers of Phil, Ling, Eco, and Soc these four disciplines use more epistemic lexical verbs than other disciplines.

Besides, in the aspect of boosters, writers of Phil, Phy, and Engi these three disciplines use more modal auxiliaries than other disciplines, and the frequency in Engi is much higher than others with the occurrence of 9.5 items per 1000 words; writers of Phil, Ling, and Eco use more epistemic lexical verbs than others with Phil on the top; in the disciplines of Phil, the frequencies of epistemic adjectives are much higher than the rest of other seven disciplines with the occurrence of 3.1 items per 1000 words; in the disciplines of Phil and Soc, the frequencies of epistemic adverbs are a little higher than other disciplines with Phil on the top.

4. Conclusion

In summary, from the perspective of the overall use of hedges and boosters in each discipline, academics in soft disciplines employ more metadiscourse markers to construct their writing than those in natural science. Besides, writers in the disciplines of humanities and social science more rely on hedges to soften the tone and make an adequate interpretation, while writers in the natural science incline to use more boosters to make a relatively strong claims based on accurate experimental data. In addition, the frequency of the use of specific categories of hedges and boosters varied across disciplines.

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