Research Article

Functional Analysis of Hedges and Boosters in Academic Students' Essays: A Disciplinary Study

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Abstract

Hedging and boosting are significant communicative resources to construe and attain persuasion in different fields and particular genres of academic writing. They are mainly used whenever writers consider it not too risky to include them in their propositions. This study aims to investigate the frequencies and functions of hedges and boosters in academic students' essays. To meet this end, 96 students' essays (a total of 269.428 words) were selected from the Michigan Corpus of Upper-Level Student Papers (MICUSP), including English Language Teaching and Psychology disciplines. The corpus was analyzed based on Abdollahzadeh (2019)classification of hedges. The results showed that hedges are more frequently used in both sets of essays compared to little attention devoted to boosters. As to the functions of hedges and boosters, different functions were performed by the use of these markers in two sets of essays indicating disciplinary differences in essay writing. Thus, it could be concluded that hedges and boosters should be considered in teaching writing, either to reduce or increase the force of written utterances. The results of this study could be used directly in the syllabus designed for academic essay writing.

*Keywords***:** English, psychology, essay, hedge, booster, metadiscourse marker, MICUSP

Introduction

Visibility, development, restriction, or modification of human thoughts, as noted by Fulwiler (2002), will be possible through writing, which can also trigger new ideas. Academic writing is among the fundamental components of thinking solidification, called by Bahar (2014) as the general principles of a text genre, the overall rules followed in academic research, and its textualization process. Academic writing also represents scientific writing, or as Bayat (2014) calls it, indicates a robust structure throughout an intellectual system. Aceto (2003, p. 8) believes that such a system needs "logic, clarity, truth" to reach what Karasar (2006) has called the discovery of the unknown and shedding light on darkness.

Fang (2021) expressed that academic writing primarily aims to give information, besides entertaining, which needs to be written in a language that is appropriate and formal but not pretentious. In academic settings, writings are produced for various reasons, such as reading responses, review of book, argumentative writings, review of literature, experimental research papers, grant proposals, conference abstracts, commentaries, memoranda, etc. Every type of academic writing reflects certain objectives, organizational structure, and linguistic characteristics. In addition, it must be specified that scholarly composing could imply the creation, codification, transmission, evaluation, and renovation of knowledge and ideology, along with teaching and learning in academic disciplines. The ability to provide academic writing is a prerequisite and vital for academic achievement.

Grammar is among the linguistic subsystems and an essential phenomenon of learning explained based on two theories: grammatical theory and systematic functional grammatical theory. The former treats language as a set of rules that specify structure, while the latter treats language as a resource for creating meaning through formulation. A systematic functional grammar examines a range of relevant alternatives regarding the types of meanings or functions one wishes to express or perform and the phrases used to describe or perform those meanings or functions. Also, it focuses on how to balance these two options (Thompson, 1996, p. 9). Matthiessen and Halliday (1997) show the three meanings through three metafunctions. First, interpersonal metafunctions are the interactions between speakers and listeners and the implementation of social roles in which grammatical choices are common, especially linguistically, through dialogue interactions such as creating, modifying, and maintaining interpersonal relationships. Second, the ideal metafunction translates into imagination, which is a grammatical choice for constructing our experience of the world around us and within us. Third, text metafunction is about text expansion, accomplished by presenting idealistic,

interpersonal meanings as textual information shared between speaker and listener and unfolding in context.

According to Hyland (2010), within the realm of academic writing, the communication of a message has fundamental significance because of reflecting how writers can place themselves in their discourse to show their perception of material and audience. Hyland (2010) refers to this as m*etadiscourse*. Thus, how a writer can convey their message to the readers is regarded as metadiscourse. Delivering a viewpoint and a perspective for the writer makes a difference. It can improve the expressions and feelings of the writer and hence is deemed practical and proper in analyzing texts. Moreover, text analysis utilizing metadiscourse can be the best way for readers to get the specific words and phrases used by the writer. Hyland (2005) proposed that metadiscourse is a term for arranging interpersonal meaning in a discourse that makes a difference in scholars expressing their views and setting up intuition with the reader in a specific discourse community. The definition proposed by Hyland (2005) recommends that metadiscourse represents the self-reflective expressions utilized for the interactional meaning negotiation throughout a text, helping the writer to focus on perspective specification and engagement with readers using strategies accepted by most individuals.

From the perspective of writing as a social and communicative process in which both the essayist and audience are involved, metadiscourse highlights how scholars illustrate their attitudes toward the text's content and audience. Metadiscourse represents an intuitively interesting concept because of offering a motivated way of uniting the range of devices utilized by writers for the explicit organization of their texts, engagement with the audience, and highlighting their viewpoints toward material and audience (Hyland, 2018).

Metadiscourse markers play a principal role in scholarly writing. In academic writing, since academic writers must distinguish supposition from fact in their compositions, demonstrating doubt and certainty can reflect a crucial skill for professional communication. Hedges and boosters make up these necessary metadiscursive resources expressing doubt and certainty. From the language and linguistics viewpoint, hedges are utilized to alleviate the intensity of utterances while tempering the effects of declarations. In English academic writing, writers should be able to adopt a perspective toward issues raised throughout the text and toward those holding viewpoints on the issues discussed (Hyland, 2005), which is possible using hedges and boosters. Therefore, these concepts are presented by (Hyland, 2005) as stance markers. Hedges are defined by Hyland, as words, such as might, possible, and perhaps, implying propositions according to possible reasoning rather

than specific knowledge. Thus, readers are provided with a discursive space to signify their comments.

Words such as clearly, obviously, and demonstrate are called boosters by Hyland (2005), who used boosters to negotiate certainty in what is expressed and to highlight their engagement with the topic and unity with the audience. He knows emphasis on common information, membership in a group, and involvement with the audience as the main function of boosters. Hyland (2005) states that boosters can assure writers when writing and affect interpersonal unity while establishing caution and self-effacement proposed by hedges against assertion and engagement. Besides, Hyland and Tse (2004) consider boosters as components indicating certainty and emphasizing the force of propositions, unlike hedges. Hedges and boosters contribute significantly to academic writing due to their considerable impact on the writers' expression of themselves throughout the text and the interpretations made by the audience from these texts (Akman & Karahan, 2023).

Recognizing and utilizing metadiscourse markers in argumentative and evaluative students' essays is critical for academic writing. The absence of up-to-date professors, and need for sufficient knowledge and involvement to properly introduce the course resources, and the lack of team spirit with other colleagues prevent the introduction of efficient and up-to-date resources to students concerning writing essays are the most common issues in educating and learning academic writing. Studies within academic and other contexts are mainly carried out within historically based and considerably arbitrary established disciplines (Campbell, 2014). Nevertheless, emerging phenomena cannot fit well into the disciplinary realm, necessitating cross-disciplinary research, which often involves corresponding cooperation (Hall, Feng, Moser, Stokols, & Taylor, 2008). Higher education learning and instruction can be regarded as a research area comprising complicated phenomena that cannot be well addressed within a single discipline. Higher education provides students with the professional knowledge required for their future profession (Blömeke, Gustafsson, & Shavelson, 2015). The current paper wants to illustrate the frequencies and functions of hedges and boosters utilized by English and Psychology students, and our results will provide a pattern for using these metadiscursive resources in teaching writing skills. The following questions guided the study:

RQ 1. How frequent are hedges and boosters used in essays written by English Language Teaching and Psychology students?

RQ 2. What are the functions of hedges and boosters in essays written by English Language Teaching and Psychology students?

RQ 3. What are the most and the least used hedges and boosters used in essays written by English Language Teaching and Psychology students?

Literature Review

Systemic Functional Linguistics (SFL) has global applications, particularly within the realm of language education, to satisfy different objectives, such as discourse analysis (Almurashi, 2016). Halliday introduced Systemic functional grammar/linguistics (SFG and SFL, respectively) in the 1960s. SFL belongs to the broader area of a social semiotic approach to a language known as systemic linguistics, which considers languages as a network of systems or interdependent sets of choices to make meaning. Here, "functional" reflects concerns with meaning, while formal grammar examines classes like nouns and verbs, usually with no reference beyond the individual clause. The primary concern of SFG is with the options speakers and writers are provided through grammar aimed at relating speakers' and writers' intentions to concrete language forms. Matthiessen and Halliday (1997) show three meanings within three metafunctions, which include interpersonal (reflecting speech function, exchange structure, presentation of attitudes, etc.), ideational (indicating the content or idea illustrated through an utterance), and textual (part of the meaning potential making a text into a text and including phenomena like thematic and information structure, as well as cohesion).

Writing primarily aims at message communication, which represents social involvement by seeking to engage the audience in specific ways. Writers have to employ various writing techniques to ensure audience engagement, revealing the close integration of writing strategies with the writing process, making them inseparable. Language skill development for professional communication has attracted significant interest (Swales, 2004). Research on Language and Communication has revealed the critical role of writing proficiency for writers, particularly because of diverse readers and the principal contribution of language as a means of communication.

Hyland (1998) states that metadiscourse reflects textual explicitly organizing the discourse, engaging the readers, and signaling the writer's attitudes, continuing essentially to persuasive writing. Based on Hyland and Tse (2004), metadiscourse indicates the writers' communication with their audience using a specific discourse to reveal their viewpoint toward the text content and audience. This concept is further defined as a self-reflective linguistic material representing the text development, along with the writer and potential audience of the text (Hyland & Tse, 2004). The audience and the writer are actively engagedwith the writing process because of reflecting a 'social engagement' (Hyland & Tse, 2004).

Based on Doyuran (2009), Lakoff used the term 'hedge' in 1972, after which several scholars (Chafe, 1985; Chafe & Danielewicz, 1987; Holmes, 1984) interpreted the concept and characterized it in different ways both within spoken and written discourse given their complexity and abundance. Halliday (1994:35) described modality as "the area of meaning between yes and no", taking in "either yes or no" and "both yes and no". Boosters reflect the writer's or speaker's trust in the believability of their utterance (Holmes, 1982)(18-20). Similarly, from Hyland's viewpoint, boosters reinforce propositions and highlight the writer's commitment to the provided arguments (1998a: 353). Boosters considerably facilitate the achievement of the basic writers' requirement to ensure readers concerning the truth in their propositions.

Hryniuk (2018) sought to find how frequently advanced Swedish learners of English used epistemic modality to show uncertainty (hedges) and certainty (boosters) in their academic essays while also investigating the possible gender-related differences. Hence, the random selection of 20 essays compiled by Swedish students of English was conducted in some universities for comparative analysis, slightly indicating more willingness of females to present more basic commitments to the propositional information supplied compared to males. However, both genders used hedges considerably more than boosters. Besides, there were more frequent applications of hedges and boosters in the Introduction and Discussion sections of the academic writings compared to other sections. The applications of boosters in applied linguistics doctoral dissertations of native English writers in the USA and non-native Thai writers were compared by Ngampradit (2020) adopting part of Hyland (2005) list of metadiscoursal boosters (adjectives, adverbs, verbs, and modals) to search and analyze booster markers. As shown, the American writers displaced a higher frequency of booster markers and a greater variety of boosters compared to their Thai counterparts.

Demir (2018) examined the application of lexical boosters in research papers compiled by native (Anglophone) and non-native (non-Anglophone) writers of English to compile native-like academic essays. Vassileva (2001) taxonomy of boosters (modals, verbs, adjectives, adverbs, determiners) was adopted to examine the research corpus comprising papers from different ELT journals. As highlighted by the results, Anglophone writers used different lexical boosters to ensure cohesion and understandability of the text in comparison with non-Anglophone writers. Hyland (1998b) examined 28 research papers compiled in English as the writers' native language in microbiology, marketing, astrophysics, and applied linguistics to illustrate the role of hedges and boosters. According to the research results, marketing papers used 20% more metadiscourse markers, especially hedges, compared

to other disciplines. Besides, applied linguistics revealed a greater frequency of interactional metadiscourse markers. The crucial role of hedges in research writing, particularly in the humanities and social sciences, was therefore confirmed. In the same vein, (Hyland, 1998a) analyzed 56 research articles in mechanical and electrical engineering, marketing, philosophy, sociology, applied linguistics, physics, and microbiology to explore hedges and boosters. The results showed four times more hedges and boosters in philosophy compared to physics. Besides, three times more hedges were found in the whole corpus than boosters, with the highest frequency belonging to the words may, would, and possible. More than 70% of hedges were found in the humanities and social sciences. It is worth noting that philosophy and electrical engineering had the maximum and minimum (<7%) number of boosters, respectively. These studies introduced hedges as the highest frequently used metadiscourse markers throughout the corpus, confirming the writers' need to argue cautiously and respect the readers' viewpoints.

Method
Study Corpora

The study corpora were drawn from the Michigan Corpus of Upper-level Student papers (MICUSP), comprising 96 students' essays (a total of 269.428 words), selected from 2 disciplines, which were 70 essays written by English Language Teaching students and 26 essays written by Psychology students. These essays are written in English.

This paper examined the frequencies of hedges and boosters across students' academic writings. Table 1 presents the corpus characteristics.

Table 1
Corpus Characteristics

Disciplines	Paper	Types of papers	Number	Total word count
English	70	Argumentative Essays	65	196.180
		Critique/Evaluation	5	
Psychology	26	Argumentative Essays	16	73.248
		Critique/Evaluation	10	

Analytical Framework

This research employed Abdollahzadeh (2019) classification of hedges, along with one category of this classification for boosters. The macro category, subcategory, and examples can be observed in Table 2.

Table 2
Hedges and Boosters Subcategories

Macro Category	Subcategory	Examples
Hedges/ Boosters	Epistemic Modals	1. It may be an implicit reference to the men who built the road. 2. This outsider status could possibly symbolize a future exclusion from Heaven for Jessica. 3. Continuity and ethnic authenticity are most clearly expressed, and with whom they might be resolved.
	Epistemic Adv/Adj/N	4. Indeed, it the perfect nature of the love in question. 5. It truly captures the reader's attention because it is beautiful. 6. Undoubtedly, writing is technical and certainly a technique.
	Judgmental Verbal	-
	Evidential Verbal	7. That is to say, it seems that what is meant by the heart is not the heart in the chest. 8. Rather, it seems the heart that is meant is the seat of the will. 9. In these two lines, Marvell appears to be referring to the coming together of the mind, which is based on rational thought, with the stars, which have a heavenly.

In recent decades and years, researchers, including Hinkel (2005), Bayyurt (2010), Jalilifar and Alavi-Nia (2012), Abdollahzadeh (2019), etc., have classified hedges and boosters for specific purposes. Considering the

functions of hedges and boosters, Abdollahzadeh (2019) model seemed appropriate because the pedagogical approach of this study makes this classification and the extracted data comprehensible and transferable for teachers and students.

Data Analysis Procedures

The current study used two corpora from two disciplines, including 70 and 26 academic students' essays in English and Psychology, respectively, with the former consisting of 196.180 words and the latter consisting of 73.248 words. First, the 96 argumentative and evaluative students' essays were downloaded from MICUSP. As described on the website, MICUSP has a collection of approximately 830 A-grade articles (around 2.6 million words) belonging to several disciplines under four academic divisions (Humanities & Arts, Social Sciences, Biological & Health Sciences, and Physical Sciences) of the University of Michigan (U-M) and saved in 2 separate PDF files. Second, hedges and boosters in argumentative and evaluative students' writings were scrutinized based on Abdollahzadeh (2019) classification of hedges. Hedges and boosters with different functions were counted in the frequency of use. Abdollahzadeh (2019) classification of hedges indicates epistemic modals, epistemic adv./adj./n, judgmental verbal, and evidential verbal. Figure 1 illustrates this step perfectly.

Eysenck critique 1

The field of psychology has endured many critiques during its clinical and academic history. Perhaps one of the most memorable criticisms emerged from an article by Hans Eysenck entitled, "The Effects of Psychotherapy: An Evaluation." The publication of this article in the 1950's sparked a huge debate among those involved with any aspect of psychology. Over fifty years later, Eysenck's article is still being discussed in regards to his many claims and the effects that they had on psychology.

Throughout his article, Eysenck makes a variety of both direct and implied claims regarding the use of psychotherapy as a form of treatment. Perhaps one of Eysenck's most obvious claims states that psychotherapy is not an effective method of treating mentally ill patients. According to Eysenck, seeking the help of a general practitioner helped patients to "improve to the extent of seventy-two percent" (Eysenck, 1952, p. 332). This figure is much higher than the forty-four percent success of those in psychoanalysis (Eysenck, 1952). In fact, Eysenck goes on to claim that the less psychotherapy one received the greater their improvement rate. This implies that the patient who never has psychotherapy is actually better off. As expected, Eysenck's had

Figure 1. A Sample of Analyzed Students' Essays

Third, in addition to the category of the items in Abdollahzadeh (2019) classification of hedges, one category was also used for boosters. The selected essays were analyzed closely based on the category proposed; each sample essays was read to identify the number, type, and function of hedges and boosters. Figure 2 illustrates this step perfectly. Fourth, each category of hedges and boosters was rechecked to ensure they were correctly classified. Finally, the results were tabulated and elaborated.

Title: Eysenck critique 1

cat	Type	Sentence	Tool
2	Hedge	Perhaps one of the most memorable criticisms emerged from an article by Hans Eysenck entitled, "The Effects of Psychotherapy: An Evaluation."	perhaps
2	Hedge	Perhaps one of Eysenck's most obvious claims states that psychotherapy is not an effective method of treating mentally ill patients.	"
1	Evidential	According to Eysenck, seeking the help of a general practitioner helped patients to "improve to the extent of seventy-two percent" (Eysenck, 1952, p. 332).	According to
2	Booster	In fact, Eysenck goes on to claim that the less psychotherapy one received the greater their improvement rate	In fact
2	Hedge	If there was any truth behind Eysenck's claims, the practice of psychoanalysis would be useless and perhaps even harmful to patients suffering from neurotic illnesses	perhaps
1	Transition	In addition, there would be abandonment of virtually all psychiatry and psychology clinical positions	In addition
2	Hedge	With al of these negative implications for psychology, many may not want to believe there is truth behind Eysenck's words	may
2	Booster	Of course it is important to consider the alternative option that Eysenck claims are false.	Of course
2	Hedge	Accepting psychotherapy as the preferred choice of treatment for mental illness may encourage others to show more respect to those with this diagnosis	may

Figure 2. Examples of Available functions of Hedge and Booster in Analyzed Students' Essays

Results

The data were analyzed and the results were tabulated to answer the research questions.

Frequency of Hedges and Boosters in ENG and PSY

The first research question focused on the frequency of hedges and boosters in academic writings of English and Psychology students. Table 3 shows how frequent hedges and boosters are across students' essays.

Table 3
Frequency of Hedges and Boosters across English and Psychology Students' Essays

Disciplines	Function	Frequency	Word Count	Per 10.000 Word
ELT	Hedges	384	196.180	19.57
	Boosters	178		9.07
Psychology	Hedges	324	73.248	44.23
	Boosters	20		2.73

As can be seen, 384 realizations of the hedges and 178 realizations of the boosters were identified in the analyzed students' essays in English (Examples 1, 2, 3, and 4); in some texts, 2 hedges were used at the same time. Besides, 324 realizations of the hedges and 20 realizations of the boosters were found in the analyzed students' essays in Psychology (Examples 5, 6, 7, and 8); in some texts, 2 hedges were used at the same time.

- Example 1

*Hosea **may** see the use of love then as the motivation needed to inspire the people to stay with God.*

- Example 2

***Almost** every story ever written has a moral.*

- Example 3

*In today's college classrooms, and in contemporary world, writing and writing well form a critical skill and an **absolute** requirement.*

- Example 4

***Surely**, by then he had known enough of the Primroses' benevolence to give up his masquerade for something as important as…*

- Example 5

*For example, an institution **might be** strongly psychodynamic in nature and regard the Rorschach as highly useful which may and **may not be** the case depending on how the test is used.*

- Example 6

*The inclusion of this "culture" section **seems** to be one of the most important progresses made in DSM revisions.*

- Example 7

***In fact**, this study found no direct relationship between maternal education, per capita income, and maternal psychological functioning with children's competence and adjustment.*

- Example 8

***Quite obviously**, much is at stake if Rosenhan's major claim is considered to be true.*

Functions and Frequency of Hedges and Boosters in ENG and PSY

The second research question focused on the functions of hedges and boosters throughout academic writings of English and Psychology students. According to the classification of Abdollahzadeh (2019), hedges are divided into 4 main categories, as shown in Table 4, which indicate **epistemic modals** (*could, would, May, etc.*), **epistemic adverbials/adjectivals/nouns** (*perhaps, likely, some, etc.*) **judgmental verbs** (*suggest, show, indicate, etc.*) **evidential verbs** (*appear, seem, observe, etc.*). We also used one category of this classification to analyze boosters, **epistemic adverbials/adjectivals/nouns**.

The third research question focused on the most and the least utilized hedges and boosters in academic writings of English and Psychology students. Table 4 represents the frequencies of hedges and boosters in function across students' essays.

Table 4
Frequency of Hedges and Boosters Concerning Function

Hedges	Frequency (Per 10.000 Words)				Total
ELT	Epistemic Modals	Epistemic Adv/Adj/N	Judgmental Verbal	Evidential Verbal	۱۹٬۵۶
	8	3/61	0	9/75	
Psychology	34/26	2/73	0	7/23	44/22

Boosters	Frequency (Per 10.000 Words)			Total
ELT	Epistemic Adverbials	Epistemic Adjectivals	Epistemic Nouns	9/06
	7/74	1/22	0/1	
Psychology	2/59	0/13	0	2/72

Concerning the frequencies of hedges and boosters in function, shown in Table 4, in English, there were 19.56 hedges and ۹.۰۶ boosters in every 10.000 words. On the other hand, in Psychology, there were 44.22 hedges and ۲.۷۲ boosters in every 10.000 words. More precisely, ۸ epistemic modals, 3.61 epistemic adv/adj/n, 0 judgmental verbal, and 7.95 evidential verbal were the hedges utilized by English students. Boosters in English included ۷.۷۴ epistemic adverbials, 1.22 epistemic adjectivals, and 0.۱۰ epistemic nouns in 10.000 words. However, Psychology students used 34.26 epistemic modals, ۲.۷۳ epistemic adv./adj./n, 0 judgmental verbal, and ۷.۲۳ evidential verbal in 10.000 words. Boosters in Psychology had ۲.۵۹ epistemic adverbials, 0.۱۳ epistemic adjectivals, and 0 epistemic nouns. Overall, Psychology displayed a greater number of hedges, and English showed a greater number of boosters. According to Table 4, epistemic modals had the greatest frequency among hedges utilized in both disciplines, and epistemic adverbials formed the most frequent booster's category used in both disciplines. The least frequent hedges category in both disciplines was judgmental verbal, and the least frequent boosters were epistemic nouns.

The results in Diagram 1 show **a)** the type and classifications of hedges used in the present study according to Abdollahzadeh's (2019) classification of hedges, **b)** the frequency of these markers in 96 students' essays, and **c)** the type of hedges with the most and the least realizations in academic students' essays.
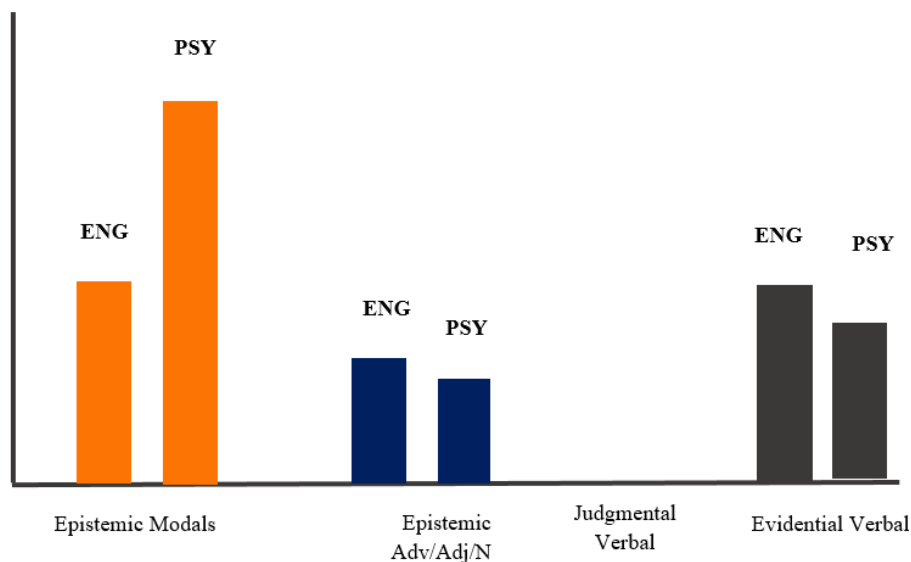

Diagram 1. *Frequency of Hedges in Functions*

Diagram 1 shows that hedges could be classified into 4 main categories, the first of which was **epistemic modals** ENG 0.80 and PSY 3.42, and the second was **epistemic adv/adj/n** ENG 0.36 and PSY 0.27. The third category was **judgmental verbal** ENG 0 and PSY 0, and the fourth was **evidential verbal** ENG 0.79 and PSY 0.72. Regarding frequency, Psychology had the most, and English had the least number of appearances.

The results in Diagram 2 show **a)** the type and classifications of boosters used in the present study, according to Abdollahzadeh (2019), **b)** the frequency of these markers in 96 students' essays, and **c)** the type of boosters with the most and the least realizations in academic students' essays.
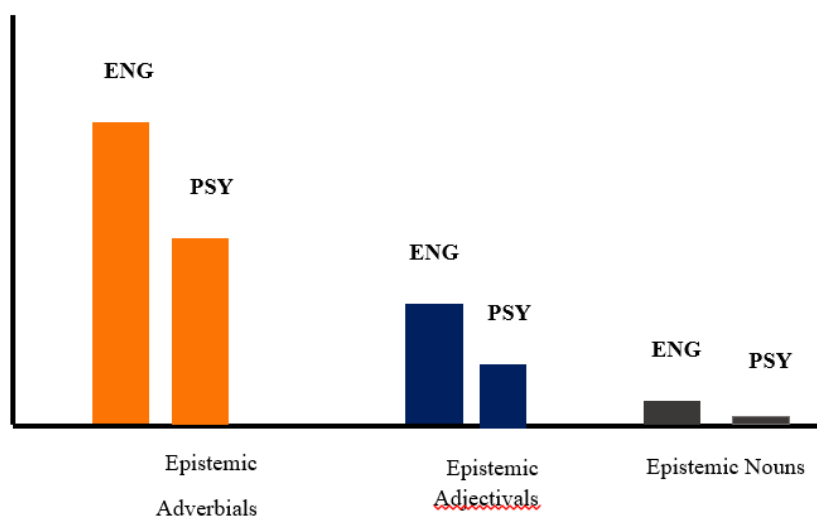

Diagram 2. *Frequency of Boosters in Functions*

Diagram 2 shows that boosters could be classified into 3 main categories, the first of which was **epistemic adverbials** ENG 0.77 and PSY 0.25, the second was **epistemic adjectivals** ENG 0.12 and PSY 0.01, and the third was **epistemic nouns** ENG 0.01 and PSY 0. In terms of frequency, English had the most and Psychology had the least number of appearances.

List of Most Frequently Used Hedges in ENG and PSY

As stated by Markkanen and Schröder (1997), it may be possible to use hedges to manipulate the text and keep the readers in the dark concerning the true value of the expression and those in charge of it. After the analysis, a list was created for the most frequently used hedges in English and Psychology

(Table 5). The list of hedges, shown in Table 5, represents the markers with the highest frequency across both disciplines.

Table 5.
List of most Frequently used Hedges in ENG and PSY

Epistemic Modals	Epistemic Adv/Adj/N	Judgmental verbal	Evidential Verbal
Might Could May Can	Potentially Presumably Possibly Arguably Possible Perhaps Almost Likely Maybe	-	Appear Seem
Psychology			
Might Could May	Probably Possibly Perhaps Likely Maybe	-	Appear Seem

Based on Table 5, learners utilize hedges frequently in their writings but employ a restricted set of them, particularly the ones for epistemic adv./adj./n and evidential verbal.

List of Most Frequently Used Boosters in ENG and PSY
Boosters leave little opportunity for readers' interpretations and contribute to establishing interpersonal unity with the audience (Hyland, 1998a). After the analysis, a list was created for the most frequently used boosters in English and Psychology (Table 6). The list of boosters, shown in Table 6, represents the markers with the highest frequency across both disciplines.

Table 6.
List of most Frequently used Boosters in ENG and PSY

English		
Epistemic Adverbials	Epistemic Adjectivals	Epistemic Nouns
Unquestionably	Apparent	Fact
Significantly	Absolute	
Importantly	Obvious	
Undoubtedly	Evident	
Essentially	Clear	
Precisely		
Definitely		
Eminently		
Especially		
Certainly		
Of course		
Actually		
Clearly		
Indeed		
Surely		
Truly		
Psychology		
Undoubtedly	Apparent	-
Certainly	Absolute	
Of course	Obvious	
Actually	Evident	
Clearly	Clear	
Indeed		

Based on Table 6, learners utilize boosters frequently in their writings but employ a restricted set of them, particularly the ones for nouns and adjectives.

Discussion

The current paper sought to investigate the frequencies and functions of hedges and boosters within academic argumentative and evaluative essays written by English and Psychology students. Writing often reflects the writer's confidence in the claims made. Words such as perhaps or possibly indicate uncertainty about the truth, while confidence is accompanied by claiming the clarity or truth of something. Such words, known as hedges and boosters influence writing tone and are efficiently used by professional writers. The first question of the current research focused on determining how frequent

hedges and boosters were within English and Psychology disciplines. According to the nature of the texts, and the results (Table 3), the two disciplines were significantly different concerning their utilization of hedges and boosters, which agrees with the results obtained by Hryniuk (2018), indicating that the number of hedges used was higher than boosters. The results also agree with those of Sepehri, Hajijalili, and Namaziandost (2019), indicating significant differences in the frequencies of hedges in medical sciences and engineering research papers. It was also revealed that learners frequently utilize hedges and boosters in their writings, although a limited set is used. Hedges and boosters are used based on individual decisions made by researchers/writers considering their individual characteristics, preferred writing style, and professional experiences. It is also notable that hedges have common applications as a politeness strategy to admit any flaws in claims (Demirel, 2019). An in-depth analysis highlighted uneven distribution of markers, according to which 32 hedges were found in one essay, while there were 0 in another; in one essay, there were 7 boosters, whereas in the other, there were 0. Besides, the frequency of hedges used in Psychology was more than in English, and the frequency of boosters used in English was more than in Psychology. These dispersions may have two reasons, including the topic of the essays and the nature of the sentences. Insufficient attention is usually paid to the ambiguity of academic writing context, especially by non-native English speakers. Consequently, many factors influencing how writers present themselves in academic papers have been ignored. This paper examined the frequencies and functions of hedges and boosters to provide writers of academic texts, ESL/EFL learners, and educators with deeper insights into writing academic texts (Akman & Karahan, 2023). Farrokhi and Emami (2008) focused on the application of hedges and boosters within the research papers compiled in the Electrical Engineering and Applied Linguistics disciplines. They also sought to find out how native and non-native writers of English utilized hedges and boosters in their writing. The analysis of 20 research papers helped calculate the total rhetorical and categorical distribution of hedges and boosters throughout abstracts, introductions, discussions, and conclusions of the research papers. As shown by the results, hedges and boosters had a greater overall distribution in Applied Linguistics compared to Electrical Engineering. Besides, native and non-native writers were significantly different in their utilization of hedges and boosters.

There are a few different categories into which hedges and boosters are placed. These categories are determined by the purpose and use of the word. The second research question focused on determining the functions of hedges

and boosters in essays written by English and Psychology students. Hedging represents waffling on an issue to stay away from committing oneself. This concept literally represented hiding in a bush or hedge. On the other hand, hedges and boosters can be defined as communicative strategies that help to enhance or decrease the persuasiveness of statements (Akman & Karahan, 2023). Nowadays, hedging is a straightforward technique used to express uncertainty or hesitation. Boosters display confidence, in some cases making learners seem overconfident and pompous. Nevertheless, if learners use them infrequently, the right amount of self-assurance can be conveyed through their application. Based on the results (Table 4), hedges include **epistemic modals** (*may, would, can, could, will, etc.*), **epistemic adverbials/adjectivals/nouns (EAAN)** (*perhaps, likely, possibly, generally, certain, etc.*), **judgmental verbs** (*suggest, show, indicate, imply, tend to, etc.*), and **evidential verbs** (*appear, argue, observe, report, seem, etc.*). From the examples we extracted from the students' essays, it is easy to see how hedges show their functions.

As seen in example one, the hedge is displayed as an epistemic modal.

- Example 1

*This **could be** because of the increasing importance of the marriage market.*

As example two shows, the hedge is displayed as an epistemic adverbial/adjectival/noun.

- Example 2

*…and **perhaps** one or two college courses, usually designate remedial…*

The hedge related to the judgmental verbs function was not found in the analyzed essays.

As seen in example three, the hedge is displayed as an evidential verb.

- Example 3

*Rather, it **seems** the heart that is meant is the seat of the will.*

Results are in contrast with the findings of Ngampradit (2020) and Demir (2018), which can be due to the type of classifications they considered for the analysis of boosters. In the first and second studies, respectively, the group of verbs and determiners were different from the classification of the current paper. Another reason is that only one discipline was examined in both studies, while the current study compares boosters of two disciplines. Considering the nature of the texts and the results (Table 4), boosters include **adverbs** (*certainly, essentially, significantly, etc.*), **adjectives** (*absolute, apparent, obvious, etc.*), and **nouns** (*doubt, fact, ocean, etc.*).

According to the examples extracted from the students' essays, it is easy to see how boosters show their functions.

As seen in example four, the booster is displayed as an adverb.

- Example 4

Certainly *seems to have played a large part in the myths of both figures, as well in their respective deaths.*

As seen in example five, the booster is displayed as an adjective.

- Example 5

*It is **obvious** from the raised statement what the "academy" says.*

As seen in example six, the booster is displayed as a noun.

- Example 6

*No **doubt**, writing is technical and certainly a technique.*

Hryniuk (2018) sought to find out how frequently epistemic modality was used by advanced Swedish learners of English to show uncertainty (hedges) and certainty (boosters) when writing academic essays while also examining potential gender-related differences. Hence, the random selection of 20 essays compiled by Swedish students of English was carried out in some universities for comparative analysis, slightly indicating more willingness of females to present more basic commitments to the propositional information supplied compared to males. However, both genders used hedges considerably more than boosters. Besides, there were more frequent applications of hedges and boosters in the Introduction and Discussion sections of the academic writings compared to other sections.

The third research question focused on determining the most and the least used hedges and boosters in writings of English and Psychology students. Based on the results (Table 5 and 6; Diagrams 1 and 2), it can be argued that Psychology displayed a higher number of hedges, which is similar to (Hyland, 1998a) findings, as he also found out that hedges exceeded boosters. It is, therefore, implied that current academic writing trends frequently welcome a decrease in more than an emphasis on the strength of claims. In contrast, English displayed a higher number of boosters. As shown (Table 5 and 6; Diagrams 1 and 2), the most frequent hedges category used in both disciplines was epistemic modals, and the most frequent boosters' category used in both disciplines was epistemic adverbials. The least frequent hedges category in both disciplines was judgmental verbal, and the least frequent boosters in both disciplines was epistemic nouns. If students do not decide carefully, hedging may have adverse impacts on their writing, possibly leading to a lack of confidence. It is also possible that hedging clutters up students' sentences. Hedges reflect the writers' care and willingness to stay away from

generalizations. Texts containing hedges are open, inviting more discussion and additional research. Selectively using boosters convinces the audience that the writer has sufficient information and is an expert. The applications of boosters in applied linguistics doctoral dissertations of native English writers in the USA and non-native Thai writers were compared by Ngampradit (2020), adopting part of Hyland (2005) list of metadiscoursal boosters (adjectives, adverbs, verbs, and modals) to search and analyze booster markers. As shown, the American writers displayed a higher frequency of booster markers and a greater variety of boosters compared to their Thai counterparts.

Conclusion

Academic writing seeks to satisfy specific goals. Therefore, the development of such texts focuses on persuading, arguing, describing, contrasting, and comparing facts. Cross-disciplinary studies refer to research and creative methods comprising two or more academic disciplines. Cross-disciplinary research collaborations in learning and instruction contexts contribute significantly to dealing with the sophisticated challenges of 22nd-century education. The current paper examined the frequency and functions of hedges and boosters utilized throughout academic writings, which were argumentative and evaluative students' essays. Furthermore, results will provide a pattern for using these metadiscourse markers in teaching writing skills to students of different disciplines.

To respond to the first research question, hedges, and boosters are pretty frequent in students' writings in English and Psychology, with a slight difference between the two disciplines. As shown, 384 realizations of the hedges and 178 realizations of the boosters were identified in the analyzed students' essays in English. Also, 324 realizations of the hedges and 20 realizations of the boosters were found in the analyzed students' essays in Psychology. To answer the second research question, regarding functions, hedges, and boosters form communicative techniques utilized to enhance or lower the strength of statements. Hedges in the current study include epistemic modals, epistemic adv./adj./n, judgmental verbal, and evidential verbal. Boosters in the current study include adverbials, adjectivals, and nouns. To respond to the third research question, in English, there were 19.56 hedges and ۹.۰۶ boosters in every 10.000 words. Similarly, in Psychology, 44.22 hedges and ۲.۷۲ boosters in every 10.000 words were found. The most frequent hedges category utilized in both disciplines was epistemic modals, and the most frequent boosters category used in both disciplines was epistemic adverbials. The least frequent hedges category in both disciplines

was judgmental verbal, and the least frequent booster in both disciplines was epistemic nouns.

Expressing both uncertainty and certainty seems critical for academic writing since the writers must differentiate opinions from facts while evaluating their assertions in convincing ways, which can be achieved using hedges and boosters. While teaching hedges and boosters, teachers should explain both the function and the meaning of these markers to provide learners with the chance to figure out what different categories of hedges and boosters offer. Educators also need to encourage learners to think about their audience, and how they would like for the audience to understand the written text to enhance their general knowledge of metadiscourse, as it is an essential element of communication. The research results have pedagogical implications for both teaching and learning academic writing, as well as creating reader-friendly academic writing. These functional analyses of hedges and boosters have been applied in academic writing textbooks of various disciplines by curriculum designers to highlight them. Interested researchers and people in this field can update their information and become aware of the most recent achievements.

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