Exploring the possibility of cultural influences on the students' implementation of the scientific conventions of research articles:
A Case Study of Ph.D. Students' Perceptions at the Faculty of Science in El Jadida

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Abstract

This paper investigates the use of hedging and boosting strategies in academic writing, focusing specifically on scientific articles. Its primary objective is to examine the attitudes and preferences of Ph.D. students from the Faculty of Science in El Jadida concerning the categorical expression of claims, tentative language, expressing commitment, and displaying confidence in their academic articles. The study involved a total of 60 participants and employed a quantitative research approach. A close-ended questionnaire was utilized as the research instrument, and data analysis was conducted using SPSS. The study's findings indicate that after attending lectures on these metadiscoursal features in scientific articles, the students still have a certain level of ambiguity in comprehending the conventional use of these devices. As a result, the study concluded that some cultural influences might be at play, making it difficult for these students to adhere to the scientific conventions and fully grasp the meaning of scientific uncertainty. The results indicate a certain tendency among these students to value highly the expression of confidence and commitment. The aim of the research is to point out deficiencies in the students' perceptions of the scientific conventions with a view to correcting them, and, thus, improving the quality of their academic writing and making these students gain more international visibility by publishing articles in accordance with the scientific conventions as they are recognized internationally. More attention

should be paid to teaching these metadiscoursal features in scientific English through authentic texts from original research articles to prepare students to better deal with the requirements of academic/ scientific writing for Ph.D. students in this Faculty. This research path should be explored by future research to find ways to improve the quality of scientific articles published by Moroccan Ph.D. students and researchers in general .

Introduction

The present paper examines the attitudes of PhD students in a Moroccan university towards the use of hedges and boosters in Scientific articles. The prevailing perspective suggests that research articles go beyond being mere factual descriptions; instead, they serve as a realm where authors and readers engage in collaborative and interactive processes to construct knowledge through dialogic and interpersonal activities. Hyland (2014) sheds light on the nuanced and interactive nature of research writing, emphasizing the role of dialogue and persuasion in creating a sense of community and advancing knowledge within specialized academic genres. It underscores the importance of understanding these elements for effective communication in academic and research contexts.

According to Hyland and Bondi (2006), academic discourse is not a single uniform and monolithic entity, differentiated merely by specialist topics and vocabularies. Instead, it has come to be regarded as an outcome of a multitude of practices and strategies, where argument and engagement are crafted within a discourse community. Hence, we may infer that academic writing is not just about conveying ideational content, it is also about the representation of self (Hyland, 2002). Research article writing has now come to be seen as the writer's act of making a rhetorical appeal to the reader in an attempt to achieve persuasion which, in turn, makes his or her research most likely gain recognition within their disciplinary community (Hyland, 2004a). Writing and the power of the written word is a very important aspect of our literate society and writing is integrated into all aspects of our daily life. Good writing skills are essential in social and educational institutions where textual production and related writing activities represent the main framework for knowledge production and dissemination (MacArthur, Graham, & Fitzgerald, 2008). According to MacArthur et al. (2008), writing allows us to communicate with others who are removed by distance and time; it can foster and preserve a sense of heritage and purpose among larger groups of people and can convey knowledge and ideas that represent an important and essential part of any sociocultural and educational system. Writing is not only representative of knowledge in a specific cultural and social system but also and more importantly, is

fundamental for knowledge production and dissemination in any social, cultural and educational institution (Tolchinsky, MacArthur, Graham, & Fitzgerald, 2006).

This paper will explore whether the sociocultural context in which research articles are produced, and discipline solely influences the use of hedges and boosters in research articles. In the pursuit of this scholarly exploration, we aim to unravel the intricate tapestry that characterizes academic writing within the Faculty of Science at El Jadida. By ascertaining the unique challenges faced and strategies employed by Ph.D. students across various disciplines, this research endeavors to contribute valuable insights to the academic community and advance our comprehension of the academic writing process within this specific educational context. In order to meet the foregoing objectives, the researcher has put forth the following questions :

To what extent do Ph.D. students in the Faculty of Science in El Jadida express uncertainty or commitment and confidence in their academic writing, and what are their perceptions of boosting and hedging strategies? How do these attitudes and preferences vary among students in different scientific fields within the Faculty?

Literature review

Lakoff's seminal work in 1972 delved into the fascinating realms of hedges and boosters within the domain of linguistics. He explored these linguistic elements in the context of how they impact the precision and nuance of communication. Hedges, according to Lakoff, are linguistic devices like "rather," "sort of," and "largely" that introduce an element of vagueness or uncertainty into statements, making them less definitive. On the other hand, boosters, though not explicitly mentioned in the provided text, can be seen as words or phrases that enhance the strength or certainty of statements, such as "absolutely," "definitely," or "certainly".

Lakoff's pioneering work in this area highlighted the pivotal role of hedges and boosters in shaping the meaning and interpretation of language, ultimately contributing to our understanding of how language conveys degrees of certainty, ambiguity, and emphasis in communication.

Hedges (e.g. perhaps, might) and boosters (e.g. definitely, clearly) are two interactional features used widely by scientific writers to indicate the presence of diverse viewpoints on an issue they address. As such, they are textual indicators of the social and collaborative nature of scientific claims. As two sides of the same coin, hedges and boosters emphasize the subjectivity of a position. While hedges are devices used to indicate that a position is merely a personal opinion of the writer rather than a fact, thus indicating that there exist other alternative, equally valid, positions, boosters are devices used to fend off those existing viewpoints (Hyland, 2005a). Hedges and boosters, as defined by Hu and Cao (2011), refer to metadiscursive tools used by writers to convey their stance or attitude toward entire propositions, rather than altering specific words or phrases within those propositions. These devices serve as signals that communicate the writer's perspective on the overall validity or certainty of the statements they are making, influencing how readers interpret the information presented in the text.

Metadiscourse, according to Hyland, is "the cover term for the self-reflective expressions used to negotiate interactional meanings in a text, assisting the writer (or speaker) to express a viewpoint and engage with readers as members of a particular community" (Hyland, 2005a, p. 37), of which hedges and boosters are two elements. Zarei and

Mansoori (2011b) studied metadiscourse in research articles from the discipline of computer engineering written in English and Persian. The corpus of the study conducted by Zarei and Mansoori (2011b) consists of 10 randomly chosen research articles (five from each language). The journals from which the articles were drawn were well-known, peer-reviewed ones and were published between 2004 and 2006. Zarei and Mansoori found that English articles contained significantly more hedges than Persian ones. For boosters, on the other hand, Persian articles

significantly outperformed English ones. There was also a striking difference in terms of the proportion of hedges and boosters in the two sets of articles. In Persian articles, boosters were used twice more frequently than hedges, whereas in English articles hedges appeared five times more frequently than boosters, a finding which could be interpreted by the fact that English engineers (at least those whose research articles were included in the corpus) were much more cautious in presenting their propositions compared to their Persian counterparts. Zarei and Mansoori argued that their findings point to the notion that "all language use is a social and communicative act in which cooperation and assistance are socio-culturally determined and provided between the producer and receiver of the language to exchange information" (2011b, p. 1041). To put it briefly, according to Zarei and Mansoori, the use of hedges and boosters in the research articles in their corpus is influenced by the sociocultural context in which the articles were produced.

In the Moroccan context, in their article, Mifdal and Lewis (2023) investigate the use of hedges and boosters in research articles written by PhD students at a Moroccan university. It aims to assess the students' awareness of the semantic and pragmatic aspects of these linguistic devices and their adherence to established academic conventions. The research employs a multifaceted approach, combining textual analysis of the articles with qualitative and quantitative methods such as questionnaires and semi-structured interviews. The findings suggest that while PhD students frequently employ hedges when discussing uncertain or unsatisfactory research outcomes, they tend to use boosters to express confidence and certainty. This discrepancy between the use of hedges and boosters indicates a deviation from the expected academic conventions. It suggests that cultural factors and other contextual elements play a significant role in shaping the students' writing styles. In light of these results, there is a clear need to reconsider and adapt the content of textbooks and teaching methodologies in Moroccan universities. Such revisions should be informed by scientific data and international academic conventions to better prepare students for effective scholarly communication.

In the Moroccan academic context, there is a noticeable scarcity of studies that delve into the intricate use of hedges and boosters within scientific disciplines.

This gap in the existing literature underscores the need for further research in this area. Importantly, the study conducted by Mifdal and Lewis (2023) presents a valuable starting point for such exploration, particularly because it addresses the same academic context .

In essence, existing literature serves as a crucial stepping stone for my research, offering insights into the context and the existing challenges in the use of hedges and boosters. It underscores the importance of context–aware studies and provides a framework for further inquiry, enabling me to embark on my research journey with a strong foundation and a clear sense of purpose within the Moroccan academic landscape.

Theoretical framework

Hyland's (2005) taxonomy, as presented in Table 1, was chosen for this study on the basis that it is considered by Abdi (2011) as the highly preferred taxonomy in modern metadiscourse studies for being recent, simple, clear, and comprehensive .

Table 1. A Model of Hedges and Boosters in Academic Texts

Hedges	Type 1: Low commitment modal auxiliaries	May, Might, Could, Can, Would
Type 2: Introductory verbs	Seem(s), Suggest(s), Appear(s), Believe, Assume(s)	
Type 3: Adjectives and adverbs	Possible/possibly, likely, probably, presumably, perhaps, Apparently	
Boosters	Type 1: High commitment models	Must, Should, Have to, Need to
Type 2: Adjective and adverbs	Certainly, definitely, obviously	
Type 3: Solidarity features	It is a well-known, It is a fact, We all know	

Firstly, hedges are included to reduce the writer's commitment towards the propositional content or knowledge claim (Hu & Cao, 2011). If a writer anticipates opposing views to their proposition, hedges can be used to mitigate face-threatening acts. Writers also use hedges to convey their reluctance to convey information directly (Hyland & Tse, 2004) and to show uncertainty. Hedges are particularly useful when discussing results. Hedges are employed to "negotiate alternative explanations of empirical results, hence opening up a dialogic space and entertaining diverse viewpoints" (Hu & Cao, 2015, p. 17). Hedges take the form of modal verbs (e.g., "could"), verbs (e.g., "indicate", "suggest"), adjectives (e.g., "doubtful"), adverbs (e.g., "plausibly"), nouns (e.g., "possibility"), and expressions (e.g., "to my knowledge").

Secondly, boosters have the opposite function of hedges. Boosters emphasize the certainty of a value and express the confidence that writers may have towards their propositional content by focusing on one narrative. Writers use boosters to divert readers' attention away from anticipated conflicting views to a stand they wish to make (Hyland, 2005). Hyland (2005) listed the following as boosters: modal verbs (e.g., "will"), verbs (e.g., "proves"), adjectives (e.g., "clear"), adverbs (e.g., "evidently"), nouns (e.g., "fact") and expressions (e.g., "no doubt").

Methodology

Participants

The study included approximately 70 Ph.D. students who were enrolled in various scientific disciplines within the Faculty of Science. However, it's noteworthy that only 60 of these participants completed and submitted the questionnaire both before and after the lecture given at the Faculty of Science in El Jadida by the Instructor of English during March, 2023. These students were not specifically selected for the study; rather, they were chosen because they naturally represented a diverse cross-section of the academic community within the faculty.

The lecture was conducted by a highly experienced lecturer who has dedicated nearly a decade to teaching English for Specific Purposes (ESP) within the Faculty of Science. The lecturer's extensive background in delivering ESP education highlighted their substantial expertise in catering to the specialized language needs of students across diverse scientific disciplines.

Instrument

The primary data collection instrument employed in this research was a closed-ended questionnaire consisting of 10 questions. The choice of a closed-ended questionnaire aligns with the exploratory nature of this study. Given the initial stages of the investigation and the aim to gain a preliminary understanding of the subject matter, closed-ended questions were deemed suitable for their capacity to efficiently gather structured data from a relatively large sample of participants. This format facilitated the collection of quantitative data amenable to straightforward analysis and interpretation, allowing for an initial exploration of trends, patterns, and insights within the research domain. The decision to employ closed-ended questions in this context was grounded in their utility for generating preliminary insights, which can subsequently inform more in-depth investigations in the field.

Research Design

This study adopted the quantitative method for its design, the descriptive type. Data collection was based on the research instrument, namely the abovementioned questionnaire (the questionnaire was administered both before and after the lecture), which was distributed to the participants in order to gather the necessary information to answer the research question .

Data Analysis

The data analysis process for this research, covering the departments of Mathematics, Physics, Geology, Chemistry, Mathematics, and Computing,

involved several distinct steps. First, the collected questionnaire responses were meticulously organized into an Excel spreadsheet, ensuring data integrity and completeness. Subsequently, a systematic approach to data analysis was undertaken. The research culminated in a comprehensive report, aligning the data analysis outcomes with existing literature and theoretical frameworks while offering practical recommendations for each department and proposing avenues for future research.

The analysis of the students' responses to the questionnaire

The analysis of how PhD students from the faculty of science perceive the notions of hedging, boosting, politeness, confidence, and commitment is a significant endeavor aimed at gaining insights into the nuanced ways in which writers convey their intentions and attitudes within their written works. This study delves into the intricacies of linguistic choices made by authors, shedding light on the underlying motivations and strategies employed when crafting their texts. This questionnaire-based research aims to explore and dissect these perceptions, ultimately unraveling the multifaceted dimensions of hedging, boosting, politeness, confidence, and commitment as they manifest in the written word. In the following sections, we delve into the details of the questionnaire results, offering a comprehensive analysis of the findings, which contributes to our broader understanding of authorial communication and its implications in various contexts.

The questionnaire comprises ten questions that deal with various aspects related to the publication of research articles. These questions explore respondents' attitudes towards prior research, the content of their articles, their considerations when addressing readers, and their usage of linguistic hedges. Participants have the flexibility to select multiple responses for each question.

The perception of writing an academic research article remains consistent across all departments, given that the respondents believe that academic research takes time and requires many skills and competencies (Q1). In chemistry, for

instance, based on the analysis, after the lecture, there is an increase in the percentage of students who find writing academic research easy (11%). Yet, in biology, there is no change in the percentage of students who find writing an academic research article easy (0%), and the percentage of students who find it takes a lot of time and requires many competencies decreases by 4%. Overall, respondents have a slight impact when it comes to the first question in that they assume that writing a research article is very demanding.

.Based on the analysis of (Q3), we can observe that the lecture has different effects on each department. In Chemistry, it leads to an increase in students using the findings if appropriate. In Physics, it results in a higher percentage of students respecting the findings of others. In Math, the lecture leads to an increase in students respecting the findings of others and a decrease in openly criticizing the findings. Overall, the percentage of respondents who opt for respecting the findings of others and respecting them remains relatively stable, with a slight increase of 1% each. The data indicate that some respondents would openly criticize previous literature if they disagreed with them. There is a slight increase of 7% after the lecture, indicating that respondents would use polite and tentative expressions to revise the previous literature.

The respondents exhibit a higher frequency of employing tentative verbs, indicating a cautious approach, while displaying a reluctance to acknowledge limitations (Q4). The analysis of (Q5) reveals distinct patterns in the preferred expressions for reporting results across the three departments. The PhD students of the Department of Math show a significant shift towards preferring the expression "show(s)" after the lecture. In the case of Chemistry students, there is a notable shift towards using "indicate(s)" to report results. The answers of Biology students show slight changes, with an increased preference for "show(s)" and minor shifts for "suggest(s)" and "indicate(s)." These findings indicate the influence of the lecture on language choices when reporting results in the three departments. The option "the results may suggest" shows an increase in preference after the lecture, indicating a higher inclination to use this expression to express confidence in valid results. The expressions "it is obvious that" and "the results indicate a probable" have relatively

stable percentages with slight changes after the lecture (Q6). From the analysis of (Q7), it is noticeable that the changes after the lecture suggest a decreased fear of rejection and indifference towards readers' opinions .

The changes after the lecture suggest a decreased emphasis on making tentative claims and a shift towards expressing claims with strong commitment. While the preference for expressing claims with confidence decreases only slightly, the overall focus shifts towards categorical and committed expressions. These changes indicate a greater desire to present claims with perceived clarity and conviction after the lecture (Q8). The changes after the lecture suggest a decreased emphasis on being cautious and tentative when making claims as a researcher. There is a shift towards showing conviction and a slightly higher inclination to hesitate when making claims. The emphasis on showing authority remains relatively stable. These changes indicate a shift towards a more assertive and confident approach in research, while still recognizing the need for some level of caution and hesitation. In sum, the analysis reveals that there has been a significant shift toward showing conviction and confidence, as indicated by the high percentage increase in option(b). At the same time, the increase in respondents choosing option (d) implies a growing inclination towards exercising caution and hesitation when making claims. This indicates that respondents are adopting a balanced approach, displaying confidence while being mindful of the need for cautiousness (Q9). The changes after the lecture indicate a reduced belief in the benefits of showing uncertainty for communicating results. There is an increased perception that it may not be helpful and may not contribute to convincing readers. The recognition of uncertainty as a scientific attitude also decreases. These changes reflect a shift toward a more assertive and confident approach to presenting results, potentially prioritizing clarity and persuasiveness over explicit uncertainty (Q10). The comprehensive findings presented in the preceding discussion are visually elucidated in the table 2.

Table 2 :answers to the questionnaire before and after the lecture

	Before	After	Before	After	Before	After	Before	After
1-Writing an academic research article is:	a-easy	a-easy	b- difficult	b- difficult	c- takes a lot of time	c- takes a lot of time	d- requires many competencies (in discipline, language, communication)	d- requires many competencies (in discipline, language, communication)
	3	0	0	1	33	35	39	43
	4%		0%		44%		52%	
		0%		1%		44%		54%
change after lecture		-4%		1%		0%		2%
2- Getting your article published is	a-easy	a-easy	b- easy with the help of my advisor	b- easy with the help of my advisor	c- requires good scientific competence	c- requires good scientific competence	d- depends on the requirements of the journal (indexed or not/ rejection rate high/low)	d- depends on the requirements of the journal (indexed or not/ rejection rate high/low)
	2	0	19	13	21	35	32	29
	3%		26%		28%		43%	
		0%		17%		45%		38%
change after lecture		-3%		-9%		17%		-6%
3- when writing an academic article, how do you deal with previous literature in the field?	a- respect the findings of others	a- respect the findings of others	b- use the findings if appropriate	b- use the findings if appropriate	c- criticize them openly if you do not agree with them	c- criticize them openly if you do not agree with them	d- use polite or tentative expressions to revise them.	d- use polite or tentative expressions to revise them.
	27	26	25	24	22	13	18	23
	29%		27%		24%		20%	
		30%		28%		15%		27%
change after lecture		1%		1%		-9%		7%
4- When discussing your results, you make claims about the findings and you draw conclusions. How do you make your claims?	a-say the findings are clear and obvious	a-say the findings are clear and obvious	b-introduce your claims by using tentative verbs like suggest, indicate or imply	b-introduce your claims by using tentative verbs like suggest, indicate or imply	c- show the limitations of your findings.	c- show the limitations of your findings.		
	6	7	39	43	17	8		
	10%		63%		27%			
		12%		74%		14%		
change after lecture		2%		11%		-14%		
5- Which expression (s) would you prefer when reporting results from a table or a graph?(The results/Figure x/)	a- show(s)	a- show(s)	b- prove(s)	b- prove(s)	c- suggest(s)	c- suggest(s)	d- indicate(s)	d- indicate(s)
	40	29	11	12	13	14	25	30
	45%		12%		15%		28%	
		34%		14%		16%		35%

	a	a	b	b	c	c	d	d
change after lecture	**-11%**		**2%**		**2%**			**7%**
6- If you are confident that your results are valid, what would you say?	a-It is obvious that	a-It is obvious that	b-the results may suggest	b-the results may suggest	c- the results show clearly	c- the results show clearly	d- the results indicate a probable	d- the results indicate a probable
	9	7	11	14	38	31	11	13
	13%		16%		55%		16%	
		11%		22%		48%		20%
change after lecture	**-2%**		**6%**		**-7%**			**4%**
7-Every article has readers, so how do you view your readers?	a-you are afraid they may reject your claims	a-you are afraid they may reject your claims	b-you do not care about their opinion	b-you do not care about their opinion	c- you try to have them accept your results and claims	c- you try to have them accept your results and claims	d- you make your claims with confidence and commitment without caring too much about the readers' reactions.	d- you make your claims with confidence and commitment without caring too much about the readers' reactions.
	5	3	3	1	27	32	19	23
	9%		6%		50%		35%	
		5%		2%		54%		39%
change after lecture	**-4%**		**-4%**		**4%**			**4%**
8- Your claims should be	a- categorical	a- categorical	b- tentative	b- tentative	c- expressed with strong commitment	c- expressed with strong commitment	d- expressed with confidence	d- expressed with confidence
	4	3	17	10	22	26	30	24
	5%		23%		30%		41%	
		5%		16%		41%		38%
change after lecture	**-1%**		**-7%**		**11%**			**-3%**
9- A researcher should	a-show authority	a-show authority	b-show conviction	b-show conviction	c-be cautious and tentative	c-be cautious and tentative	d-hesitate when making claims	d-hesitate when making claims
	6	6	14	19	33	32	7	12
	10%		23%		55%		12%	
		9%		28%		46%		17%
change after lecture	**-1%**		**4%**		**-9%**			**6%**
10- Showing uncertainty	a-is good for communicating results	a-is good for communicating results	b- is not good	b- is not good	c- is a scientific attitude	c- is a scientific attitude	- does not help in convincing readers when presenting claims about results	- does not help in convincing readers when presenting claims about results
	19	13	27	34	10	5	13	18
	28%		39%		14%		19%	
		19%		49%		7%		26%
change after lecture	**-9%**		**9%**		**-7%**			**7%**

The observed slight changes in student responses after the lecture on the use of hedges and boosters of academic writing hint at the potential limitations of a single instructional session in reshaping students' perceptions and understanding in this complex realm. To comprehensively understand the slight changes in student responses and to pinpoint the exact factors contributing to this phenomenon, a rigorous and multi-faceted research study that delves into the intricate interplay of sociocultural variables, teaching methodologies, and individual learning experiences would be indispensable. Such an investigation would provide valuable insights into how best to design effective pedagogical strategies that account for these complex sociocultural dynamics and promote a more profound transformation in students' comprehension and application of metadiscursal features in academic researched articles.

Discussion

From the above analysis, the questionnaire responses have elucidated that within varying contexts, PhD students employ hedges and boosters for differing purposes. The overall assessment analysis of the use of hedges and boosters highlights a discernible pattern among students: they tend to opt for hedges when articulating claims marked by uncertainty while favoring the use of boosters when presenting results that are considered well-established and valid. It is worth mentioning that the analysis suggests that there has been a noticeable shift toward a more confident and committed approach to academic writing and research. While some caution and hesitation are still present, there is a greater emphasis on clarity, conviction, and persuasiveness in presenting findings and claims. This shift, albeit slight, reflects a growing awareness of the importance of communicating research effectively and adhering to scientific standards. However, a marked tendency toward expressing commitment and confidence still persists even after being instructed on prevailing scientific standards and conventions in the scientific community .

The findings highlight the relative impact of the lecture on the language choices made by students when reporting results across departments. Specifically,

there is a noticeable, but not really significant, shift in the use of epistemic verbs, including 'indicate' and 'suggest,' in the responses provided by students who completed the questionnaire for a second time. This shift suggests that the lecture had a slight influence on how students expressed the certainty or uncertainty of their findings. Conforming to the conventions of scientific writing is still a challenge for Moroccan PhD students and this shows that other influences are at play in informing these students' perceptions of the scientific conventions.

However, it is essential to acknowledge that this slight change in language usage should not overshadow the underlying resistance displayed by students towards the clear instructions given to them regarding the use of hedges and boosters. Notably, the verb 'show' was categorized as a booster in these instructions. The fact that students did not fully adhere to these guidelines indicates that there may be a certain level of reluctance or challenge in adopting the recommended language practices, even after receiving explicit guidance.

Conclusion

This paper has investigated the understanding and the actual use of hedges and boosters in research articles by PhD students in the Faculty of Sciences at Chouaib Doukkali University. To facilitate the understanding of the use of hedges and boosters in scholarly papers, the researcher administered a questionnaire to these students both before and after providing guidance on their proper use. The comparison of their answers indicates that, although the respondents were given clear explanations about the use of hedges and boosters, they still value confidence highly .

The present study was aimed at exploring the possibility of cultural influences on the students' implementation of the scientific conventions of research articles; it is evident from the present study that the influence of sociocultural context on the utilization of hedges and boosters in academic writing is a multifaceted and complex phenomenon. However, the extent to which

sociocultural factors precisely affect the deployment of those metadiscoursal features remains a subject that needs more extensive and profound investigation. To this end, we recommend the initiation of a comprehensive corpus-based study designed to provide a more profound understanding of the degree to which sociocultural context impacts the use of hedges and boosters in academic discourse. Such a study should encompass a diverse range of academic disciplines, geographical regions, and temporal periods to capture the full spectrum of sociocultural influences. This research path should be explored by future research to find ways to improve the quality of scientific articles published by Moroccan Ph.D. students and researchers in general. Furthermore, more attention should be paid to teaching these metadiscoursal features in scientific English through authentic texts from original research articles to prepare students to better deal with the requirements of academic/ scientific writing for Ph.D. students in this Faculty.

References

Lakoff G (1972) Hedges: A study in meaning criteria and the logic of fuzzy concepts. Chicago Linguistics Society Papers 8: 183–228.

Hu, G., & Cao, F. (2011). Hedging and boosting in abstracts of applied linguistics articles: A comparative study of English-and Chinese-medium journals. Journal of pragmatics, 43(11), 2795-2809.

Hyland, K. (1996). Writing without conviction: Hedging in science research articles. Applied Linguistics, 17, 433-454. doi: 10.1093/applin/17.4.433

Hyland , K (1998a) Boosting, hedging and the negotiation of academic knowledge. Text 18(3): 349–382.

Hyland K (1998b) Hedging in Scientific Research Articles. Amsterdam: John Benjamins.

Hyland K (2000) Hedges, boosters and lexical invisibility: Noticing modifiers in academic texts. Language Awareness 9(4): 179–197.

Hyland, K., & Bondi, M. (Eds.). (2006). Academic discourse across disciplines (Vol. 42). Peter Lang.

Hyland, K. (2014). Dialogue, community and persuasion in research writing. Dialogicity in written specialized genres, 1–21.

Mifdal, M., & Lewis, M. (2023). Revisiting the use of hedges and boosters in scientific research articles in Morocco: Caution that does not exclude conviction. Cultures of Science, 6(1), 113-130.

Myers GA (1989) The pragmatics of politeness in scientific articles. Applied Linguistics 10(1): 1–35.

Zarei, G. R., & Mansoori, S. (2011). A Contrastive Study on Metadiscourse Elements Used in Humanities vs. Non-Humanities across Persian and English. English Language Teaching, 4(1), 42-50.