

A Study of the Research Article Discussion Section Written by Non-native Authors: Hyland's (2005) Metadiscourse Model in Focus

¹Jafar Asadi

²Seyed Hesamuddin Aliasin*

³Rasool Moradi-Joz

Research Paper

IJEAP- 2301-1937

Received: 2023-02-20

Accepted: 2023-04-15

Published: 2023-04-16

Abstract: Academic writing, and specifically writing research articles, is regarded as an important type of discourse which is challenging for EFL learners owing to its nature and constraints. Metadiscourse is an important element of writing in an academic context, and with the growth of corpus-based studies, research interest in the prominence of academic discourse has been enhanced. Metadiscourse resources can contribute to the writer's effort to organize the text, and assist the readers in their comprehension. The present study is an attempt to explore research article discussion sections written by nonnative researchers with regard to metadiscourse markers. To this end, 40 research article discussions written by nonnative writers from humanities were selected and analyzed to reveal the number and types of metadiscourse resources and rhetorical techniques the writers used in producing these texts. In the current study, the authors deployed Hyland's (2005) metadiscourse Model as the analytical framework to analyze the data. The findings indicate that the writers have a preference to avail of interactive metadiscourse markers two times more than the interactional subcategories. The findings of this study can be said to imply that nonnative writers are expected to get exposed to adequate training on the use of metadiscourse resources. Furthermore, teachers are advised to train their learners on the use of such resources through raising their awareness of using these rhetorical devices effectively, especially in the EFL context.

Keywords: Academic Writing, Discussion, Hyland's (2005) Model, Metadiscourse Markers, Research Articles

Introduction

Academic writing is the most important implementation of handing out academic knowledge to forthcoming usage. It is, consequently, essential for all academicians to have a reasonable knowledge of academic writing, and enjoy an acceptable command of written English. Academic writing, as a self-expression instrument, is a requisite for specialists to spread their credit and distribute their beliefs, attitudes, inferences, and interpretations. Academic writing, as Ezeifeka (2014) observes, encompasses any kind of writing which is the effect of inquiry, study, and analysis, and is intended to publicize academic knowledge in a specialized context. Academic writing is considered an advanced language proficiency and a major component of any advanced program of study. A cognizance and a sound knowledge of the procedures and conventions of writing, consequently, is an instantaneous requisite for those who seek to pursue their studies and ascertain their affiliation to the disciplinary

¹PhD Candidate of TEFL, JafarAsadi2015@gmail.com; English Language Department, Maragheh Branch, Islamic University, Maragheh, Iran.

²Assistant Professor of TEFL (Corresponding Author), hesamaliasin@znu.ac.ir; English Language Department, University of Zanjan, Zanjan, Iran.

³Assistant Professor of Translation Studies, moradijoz@znu.ac.ir; English Language Department, University of Zanjan, Zanjan, Iran.

communities. Academic writing is the resource for the realization of interpersonal connections (Hyland, 2000), which is necessary for spreading academic knowledge for future application.

Research articles make up a substantial manifestation of academic writing. Every day, a whole host of research articles and papers get published in peer-reviewed academic journals presenting research outcomes to members of the pertinent discourse community. In addition, academicians involving professors and graduate students are also required to publish research articles in reputable journals which is an indicator of their academic accomplishment as well as pre-conditions in a field to get a promotion or advance in their career. Writing research articles is also very a demanding and challenging task even for advanced EFL or ESL learners. Producing quality research articles is a demanding task for non-native researchers and, as Thompson (2013) concludes, such an enterprise creates remarkable problems for non-native scholars in terms of the size of the research, organizing the research, and making consistent arguments. This problem is intensified for non-native writers when it comes to the discussion and abstract sections. This failure is, as Farjami (2013) maintains, attributed to the necessity of attending to the structure of the discussion and abstract sections in English for a particular audience in terms of the genre, design, and conventions favored by this type of writing. The metadiscourse resources, as a solution to the issues of academic writing, have not received due attention in teaching writing, as a whole, and academic writing, specifically, where the writer attempts to establish his recognition and influence the readers. Writers, in the academic context, consequently, need to be trained for this feature of metadiscourse and be encouraged to make use of these metadiscourse resources in writing.

Research Rationale

Meta-discourse research on the discussion section of research articles can provide valuable insights into how academic writers use language to communicate their research findings and arguments to their readers. By analyzing the language and discourse features used in these sections, researchers can better understand how academic writers establish their authority, present their arguments, and interpret their results. The reasons for conducting meta-discourse research on the discussion section of research articles include:

Understanding the rhetorical moves and strategies used in academic writing: Meta-discourse research can help identify the typical discourse features and strategies used in academic writing. This can be particularly useful for novice writers who are unfamiliar with the conventions of academic writing and for instructors who are teaching academic writing.

Identifying linguistic patterns and tendencies: Meta-discourse research can identify linguistic patterns and tendencies in academic writing. For example, researchers might look at how often writers use hedging or tentative language to qualify their claims, or how they use signaling devices such as "however" or "in contrast" to indicate shifts in their argument.

Assessing the effectiveness of communication: Meta-discourse research can help assess the effectiveness of the communication in the discussion section of research articles. Researchers can look at how well writers convey their arguments and how readers might perceive and understand the arguments being made.

Comparing disciplinary practices: Meta-discourse research can compare disciplinary practices across different fields and disciplines. For example, researchers might compare the use of hedging in scientific writing with its use in humanities writing.

Overall, meta-discourse research on the discussion section of research articles can help us better understand how academic writers communicate their ideas and how readers understand and interpret academic writing. It can also provide insights into the conventions and practices of academic writing in different fields and disciplines.

Literature Review

Metadiscourse is the ways through which writers/speakers interrelate with readers/listeners by using language. It is an extensively used word in existing discourse analysis, pragmatics and language teaching. Research interest in metadiscourse has widely evolved over the past years as a result of, as Hyland (2017) believes, a need to know the connection between language and its contexts, and to use this knowledge in the service of language and literacy education. It is the link between language and the situation where it is used, and covers the ways people use language to position (Hyland, 2019) and take specific communicative needs as well as indicate their own positions and clarify meanings to their audiences.

Metadiscourse is a crucial component of writing in an academic context, and with the growth of corpus-based studies, research interest in the prominence of academic discourse has been strengthened (Hyland, 2017). Academic writing consists of various text types from textbooks to research papers with each having its specific and specialized conventions as well as a way of communication with the readers using metadiscourse resources. These differences have been pinpointed by some scholars, such as Ädel (2010) and Kuhi and Behnam (2011). Metadiscourse does not lend itself to a precise and comprehensive definition and scholars have tried to describe it as they have viewed it. Harris (1952) thinks of metadiscourse as the way writers employ language to support readers' understanding of a text, and in Vande Kopple's (1985) terms, metadiscourse is a discourse about discourse. For Hyland (2019), metadiscourse is the language used to communicate interactional meanings in a text, supporting the writer (or speaker) to convey an idea and engage with readers as members of a particular discourse community. Metadiscourse covers all the resources which support readers to know and appreciate the meaning of a text. Metadiscourse, consequently, is the text structure that practically unifies the discourse and links the ideas as well as the resources which stipulate the writers' viewpoints concerning the readers and the content of the text. Metadiscourse, therefore, is useful in supporting the writer in creating an effective text and contributing to readers' understanding of the text. Meanwhile, metadiscourse resources are quite effective in helping writers expound their attitudes with regard to the content and the readers grasp the argument better.

Generally speaking, metadiscourse is a term for the resources writers employ in order to designate the direction and objectives of a particular text. Grounded in the Greek roots for 'beyond' and 'discourse', metadiscourse is by and large conceptualized as discourse about discourse, or, as Crismore (1989) sees it, those facets of a text that impact the connection between the writers and the readers. In the context of academic writing, as Williams (2012) holds, metadiscourse is found most regularly in introductions where the writer makes claims and announces intentions. Metadiscourse is basically originated in the three communicative language meta-functions in Systemic Functional Linguistics proposed by Halliday (1994). Various scholars in the field of metadiscourse, such as Hyland (2000); Hyland and Tse (2004); and Vande Kopple (1985), have presumed that metadiscourse is taken from the textual and interpersonal language meta function in SFL framework functions. Accordingly, the three language functions in Halliday's (2004) theory are as follows:

The Ideational function: the content of language, language use, and its function as a tool for the expression and representation of our experiences and ideas (Halliday, 1974).
The Interpersonal function: the use of language to create interaction, and for the writer to express his viewpoint toward the content and the reader, permitting us to engage with others, to take on roles and state and convey evaluations and mental state.
The Textual function: the application of language to form and unify sensibly the text itself, coherently linking what is said to the world and to readers in order to fit the text in the context and realize its meaning as a message.

The conceptualization of discourse merely as an ideational function has underrated the other two language meta functions (i.e., interpersonal and textual). The interpersonal metadiscourse (Hyland, 2019), in a similar way, is as important as it describes how the content is evaluated by the writer and what readers' expectations are. Discourse and metadiscourse is, as Hyland (2009) notes,

the study of language in action with regard to a specific social context to distinguish language particularities in particular genres. In this sense, discourse analysis, as a whole, and metadiscourse, specifically, have currently engrossed a great deal of research in the field of linguistics. Metadiscourse, therefore, is seen as the connection between the writers or speakers with their readers or listeners using language. It is, hence, a kind of elucidation of a text or an utterance by the creator, and a comprehensively used terminology in language teaching, discourse analysis and pragmatics.

As metadiscourse is exposed to many conceptualizations and explanations, different scholars have approached it and attempted to define and describe it from various perspectives to capture its most common features. Vande Kopple (1985) offered the first metadiscourse framework proposing two classifications of metadiscourse: textual and interpersonal. There are four textual metadiscourse elements comprising text connectives (TCs), code glosses (CGs), validity markers (VMs) and narrators, and three interpersonal metadiscourse classes containing illocution markers (IMs), attitude markers (AMs), and commentaries. Later Crismore et al. (1993) reviewed and reformed Kopple's model as they found it imprecise with functionally overlapping elements. The revised model (Crismore et al., 1993) contains three metadiscoursal categories: textual, interpretive, and interpersonal. The Textual group covers elements which organize the discourse, and interpretive markers are the elements which contribute to the readers' interpretation and comprehension of the message. Metadiscourse research is inspired by the need of linking language to the context of use and the relationship between language and the community (Hyland, 2019). Metadiscourse scholars, therefore, are eager to ascertain how to make use of language to explain the communicative situations as well as make the preferred meanings obvious to the interlocutors using their familiarity with the communicative situation. Metadiscourse, hence, can benefit language teaching as well as literacy training. There, however, emerging problems which are, in Hyland's (2017) attitude, due to clear-cut delineations, precise categorization, and in-depth analysis.

The analytical framework in this study is Hyland's (2005) model which is a sound model for the analysis of meta-textual and interpersonal items of metadiscourse in academic writing. Citation is a distinctive trait of Hyland's framework (Adel, 2006) which is a good part of metadiscourse. Citation makes more sense for the investigation of metadiscourse in academic writings: this is because claims and arguments are critical in research writing and a lot of intertextualities are required to illustrate who first made the assertion and how it connects to the existing argument (Hyland, 2005). Furthermore, citations are also indispensable to attain approval for new claims by offering the support needed for arguments and demonstrating the originality of statements. In Hyland's (2005) framework, meta-textual items are called *interactive metadiscourse*, and interpersonal items are referred to as *interactional metadiscourse*. Interactive items, accordingly, function to shape propositional information in order for a possible target audience to find the text logical and meaningful. Interactional resources act to offer the writer's perspective toward both propositional information and readers themselves. Tables 1 and 2 demonstrate Hyland's (2005) framework. Tables 1 and 2 display the constituents of the interactive and interactional metadiscourse markers with their applications (definitions). Examples are also provided in the table to clarify the points as cases of the use of these resources in context.

Table 1

Interactive Metadiscourse (Hyland, 2005)

Metadiscourse	Functions	Examples
Transitions	Express semantic relation between main clauses or sentences	In addition, but, and
Frame markers		Finally, my purpose is to
Endophoric markers	Refer to discourse acts, sequences or text stages	Noted above, in Section 2
Evidential	Refer to information in other part of the text	According to X, (Y, 1990)
Code glosses	Refer to sources of information from other texts	Namely, e.g., such as, In
	Help readers grasp meanings of ideational material	other words

Table 2

Interactional Metadiscourse (Hyland, 2005)

Metadiscourse	Functions	Examples
Hedges	Withhold commitment to a proposition and open	Might, perhaps, possible, about
Boosters	dialogue Emphasize certainty or close dialogue	In fact, definitely, it is clear that
Attitude markers	Express writer's attitude to proposition	Unfortunately, surprisingly
Engagement marker	Build relationship with the reader by addressing the reader	Consider, note that, you can see that
Self-mention	Explicit reference to author	I, We, my, our

Scholars have been doing research on various genres of written discourse such as research articles (Esfandiari & Allaf-Akbary, 2022), masters' dissertations (Harris, 1991), business letters (Hyland, 1998), textbooks (Hewings, 1990; Swales, 1995), medical articles (Webber, 1994) as well as jokes, job application, lab reports, interviews, speech act theory (Beauvais, 1989), and academic writing (Bhatia, 1993). Doing corpus-based investigation on 120 research articles in humanities (education, psychology and applied linguistics) with an aim of exploring interactive metadiscourse resources, Cao and Hu (2014) noticed that there were typical variations among writers in using transition and evidence resources. They concluded that these observed variations are epistemologically based, and cause the qualitative and quantitative patterns to differ. They also cause a difference in knowledge-knower form prevailing in the discipline being scrutinized and investigated. The findings from another study by Hu and Cao (2015), disciplinary influences on interactional metadiscourse in research articles, also supports these results. In an investigation of the abstract sections of research articles, by Khedri et al. (2013), on the use of interactive metadiscourse resources in applied linguistics and economics, it was discovered that the interactive metadiscourse markers abound in applied linguistics, and Transition markers were the more plentifully employed categories. It was also revealed that different textual preferences were used across the two disciplines. The researchers, eventually, concluded that writers are required to heed the discursive strategies and techniques of best practices and familiarize themselves with the appropriate use of these resources to assist readers in the relevant preferred meaning.

Khatibi and Esfandiari (2021) conducted a study on the introduction and conclusion sections of research articles, using Hyland's (2019) interpersonal model, to learn about engagement items and their functions. They noticed a difference in the occurrence of engagement elements in the three different sub-corpora, that is, American Corpus, Persian International Corpus, and Persian National Corpus. They also found that both American researchers and internationally published Persian researchers used similar types of metadiscourse resources. In addition, they also discovered that Persian scholars' cultural predilections had an impact on their engagement choices, and concluded that linguistic experience and cultural predispositions influenced the way writers converse their stances to others in creating research articles. Duruk (2017) examined 20 MA dissertations written by nonnative Turkish writers in English language teaching (ELT). These dissertations were studied in terms of the three subsections including methodology, results, and discussion. The investigation was implemented to explore the use of interpersonal metadiscourse markers. It was indicated that whereas Turkish writers used 'hedges', 'emphatics (boosters)', and 'attitude markers', to a certain point, 'attitude markers' were the most common resources employed by them. Furthermore, regarding personal markers, variations were observed among the writers. In another study, Taymaz (2021) scrutinized 10 MA theses and 10 PhD dissertations written by the same students to compare the likely changes and advances between the two academic stages. It was noticed that the occurrence of boosters was higher in PhD than in MA level, although the students employed more hedges in their MA theses than in PhD dissertations. He, consequently, observed a growth in students' self-confidence in expressing ideas and discussing their conclusions from MA to PhD level, according to their extensive academic awareness and knowledge, along with a certain level of unfamiliarity in both levels in terms of using meta-discourse resources and academic writing techniques.

Research Question One: What is the frequency of different types of metadiscourse markers used in nonnative research article discussion sections?

Research Question Two: Are all metadiscourse markers equally distributed in nonnative writings?

Methodology

Corpus Selection

In this study, 40 research article discussions are selected from the humanities and social sciences to find out and detect probable patterns. The texts included in the study were taken from various journals of nonnative writers, in the field of applied linguistics, to learn about nonnative meta-discursive preferences. The researcher selected these research article discussion sections from among the latest publications in humanities and social sciences dating from the 2020s onward.

Data Collection and Analysis Procedure

The identification of the textual elements is based on the keywords used as cues and signs of the presence and types of the metadiscourse (interactive and interactional) resources. The next step is the categorization of these cases based on the same cues as used to identify them. In order to meticulously discover the similarities and variations, the metadiscourse elements were numbered from 1 to 10. The researcher first selected the texts. Working within the framework of Hyland's (2005) metadiscourse model, data were collected by identifying and recording metadiscourse markers in the texts. Data analysis in this study involves the identification of metadiscourse markers in each text, and then coding and assigning the resources to relevant categories. The frequency and percentage of the resources are calculated, compared, and contrasted both within and across the main classes of metadiscourse elements. Having identified metadiscourse elements, the quantitative and qualitative analyses of the items was performed. In the quantitative stage, the total number of metadiscourse items used in each text and the frequency of interactive and interpersonal items are calculated. The qualitative phase involves the analysis of the ways these metadiscourse items serve various purposes and the probable explanations for the differences.

The next step was to identify metadiscourse elements in the texts by carefully examining each text. This step, checking for metadiscourse markers, was done twice after some two-month interval to make sure of consistency in selection and coding. Next, after identification, the metadiscourse resources were coded and subsumed under relevant categories (Interactive, Interpersonal). They were further incorporated into the subcategories. Later, the researcher counted each of these items, and calculated the frequency and percentages of each. Finally, the frequencies were compared and contrasted both within and across the main fields and subfields.

Results

It is observed that, as Table 3 and Figure 1 display, the frequency of interactive metadiscourse markers, with its subcategories, is 69.5 percent in research article discussions, while that of the interactional metadiscourse markers is 30.5 percent. Thus, interactive metadiscourse items are employed two times more than the interactional metadiscourse markers. This is the answer to research question 1, and as Table 3 shows, the distribution of metadiscourse markers is not identical which provides information to answer the second research question.

Table 3

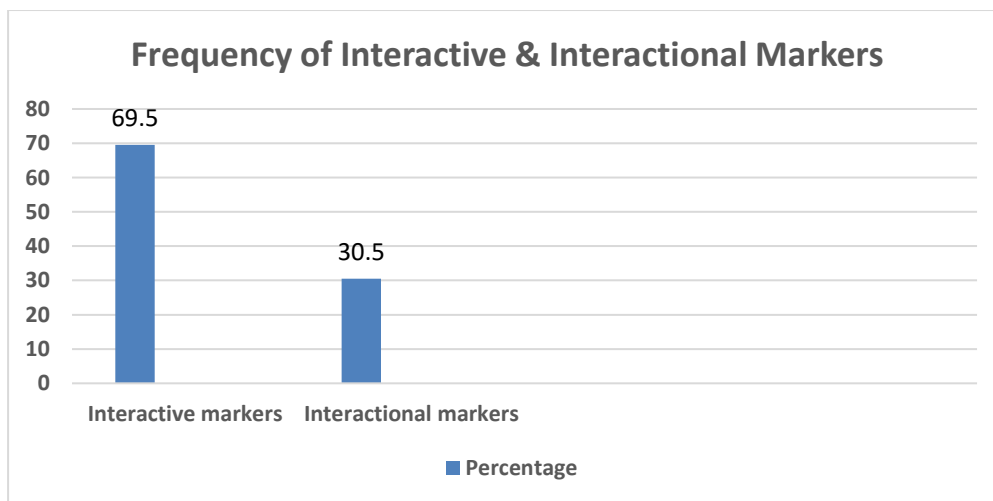
The Frequency of Interactive and Interactional Metadiscourse Markers

	Metadiscourse Markers	Frequency	Percentage
Interactive	Transitions	242	28.5
	Frame Markers	132	15.5
	Code Glosses	60	7
	Evidential	94	11
	Endophorics	55	6.6
Interactional	Self-mentions	24	2.9
	Engagement Markers	10	1.3
	Attitudes	18	2.2
	Hedges	164	19.4
	Boosters	47	5.4
	Total	846	100

Nonnative (Iranian) writers used interactive metadiscourse markers two times more than interactional metadiscourse resources in research article discussions (Figure 1 below). This preference for interactive markers indicates their focus more on the structure and organization of their writings. This is an accepted tradition as accuracy in academic writing is recommended to the practitioners in the academic context.

Figure 1

Frequency of Interactive and Interactional Markers in Nonnative Writing



The writers use fewer attitude markers in research article discussions. We can, hence, conclude that nonnative writers are less probable to state personal attitudes in their discussions and utter their conclusions. This might be due to the tendency of nonnative writers to stay impersonal and avoid coloring the outcomes with their personal taste and outlook. It also can be a sign of insecurity in nonnative writers who avoid giving personal attitudes and expressing their feelings and judgments to the reader. This is, however, a missing link that leads to a failure in engaging the reader and establishing a level of solidarity with the reader as well as convincing the reader to accept and follow the arguments. In terms of booster metadiscourse markers, nonnative writers indicate a good performance. Nonnative writers, accordingly, are able to stress the issues they raise and convey certainty which is probably to help create persuasion. The same level of success in performance is also observed in engagement metadiscourse markers. In this case, nonnative writers show an effective

performance which indicates their potential to draw attentions to the points made by direct appeal to the reader in their way to make claims and support their arguments.

As for code glosses, nonnative writers have excellent performance which mean they are able to convey ideational meanings through exemplification and provide assistance for the reader to grasp meanings of ideational materials. Endophorics witness the same level of access in nonnative writers and, hence, these writers fail to appropriately direct the reader through the text by providing proper reference to other parts to establish cohesion and coherence. This sense of failure of access has been obvious in the use of frame markers, too, where the writers try to state the stages and sequences in the text. This is effective in helping the reader move smoothly through the text, and have a neat and orderly text which is a requirement for better and successful comprehension and interpretation and avoiding ambiguity.

In the case of evidential metadiscourse items, in contrast to endophorics, just as observed in code glosses, nonnative writers showed a good performance and demonstrated an effective knowledge and awareness of supporting their claims and arguments by reference to similar findings in the literature which is a crucial skill in research and helps the reader accept the argument and follow it. Nonnative writers are more adept in the use of hedges metadiscourse markers. In so doing, nonnative writers are aware of avoiding too broad conclusions or assertions and try to leave the arguments open for other possible interpretations and dialogues. In self-mentions, nonnative writers perform lower level which might be due to the impersonality of these writers or the fact that they might be less certain or even less confident. Transition markers, also, see a rather good performance in the nonnative writers. That is to say that nonnative writers are able to express a semantic relationship between the clauses and sentences and have an organized and a structured discussion, and create cohesion and coherence.

Discussion

Interactive metadiscourse are those resources employed to create an appropriate organization and structure for the text to make it easy for the reader to comprehend it. Interactive metadiscourse resources direct the reader through the text, control the flow of the ideas and information, make it possible for the reader to get the points clearly, and interpret it unambiguously as originally expected. Similar to Abdulaal's (2020) findings, in this study nonnative writers used interactive metadiscourse items two times as much as interactional items. The prominence of interactive metadiscourse markers is also supported in another research done by Khedri et al. (2013). This observation is also reported by a similar study on the use of metadiscourse markers in research articles conducted by Abdi and Ahmadi (2015).

Given the constituents of the interactive metadiscourse markers, transition resources make up the most frequently-used ones, roughly about 28.5 percent of the entire interactive metadiscourse resources. We might conclude, therefore, that the writers are concerned more about the structure, organization, and surface validity of the text by establishing the right semantic link between the earlier and later phrases, clauses, and sentences. The result is in line with Lin (2005) which indicate the same preference for interactive resources as the main category and transition items as the subcategory. Drawing on such resources, the writers attempt to establish the bond between the individual sentences and the text in general, make their meanings evident, help follow the arguments appropriately, and, as a consequence, avoid confusion and misunderstanding.

The next frequent resources are frame markers forming 15.5 percent of the whole interactive metadiscourse items. Frame markers refer to discourse acts, sequences, and text stages. Through such devices the author shows what is being done in each part, and what is done earlier or what to expect later. The accurate application of frame markers can do well to make the point efficiently as well as topic variation where there are diverse topics or point coverage takes too long in one place. Evidential markers are also amply used in the discussion section of research articles and make up about 11 percent. In Harwood's (2009) view, evidential items are essential in specialized scientific writing

situations, that is because, through appropriate citation, the writers reveal their field knowledge, provide research background, make support and credibility for their work, and create their own stance to suit the context by certifying or differing earlier works.

Code glosses, as another component of the interactive metadiscourse markers, form the next frequently used elements in the research article discussions investigated in the current study (7 percent). By means of these resources, writers make their propositional meanings clear through exemplifications and explanations of complex notions and try to provide the reader with a comprehensible and user-friendly text. The writers also exhibit their responsiveness and empathy by foretelling readers' problems and coming up with solutions.

Endophoric interactive metadiscourse resources make 6.6 percent of the resources and refer the reader to other units of the text. Endophoric is employed to refer to tables and figures used in the other sections above or below the specific part. There are, usually, numerous such figures and tables in academic writing used to graphically present information in an easy, striking, and quick way. Sometimes, it was noticed that there was a long space between the tables and their referents that the reader might have lost the connection.

Interactional metadiscourse resources suggest writers' orientation and stance regarding the points mentioned and involve the reader in the argument, too. The low percentage of interactional metadiscourse markers is indicative of the popularity of the idea of the significance of structure and organization in academic writing than other issues such as attitude, support, direct appeal, engagement, and interaction. Hence, these writers are also more concerned about the content and claims. In line with Lin (2005), hedges form the most frequently used interactional metadiscourse markers (19.4 percent) in the present research. Hedges assist to create reader-friendly discussions by having carefully supported arguments, and avoiding overconfidence and hasty and inaccurate statements. They, hence, make effort to pass on exact and precise information and not mere assumptions, and base their arguments on reason and logic to assure credibility. Booster metadiscourse markers, in contrast to hedges, enjoy the third level in terms of frequency which might lead to the assumption that the writers favor truthful treatment of the claims and arguments. This is, the researcher assumes, logically that the writers attempt to indicate their commitment to the validity of the claims which is, in reality, the heart of academic writing where practitioners are recommended to avoid careless and unsupported assumptions.

Self-mentions make plain reference to the writers, in the use of first-person pronouns. This is a normal technique in which authors endorse themselves and introduce their new publications in the field which is more common in great authors who give authority and corroboration to the field. Self-mentions are very low (2.9 percent) and many writers tend to avoid them, which is also maintained by Mozayan, Allami, and Fazilatfar (2018). This is relatively expected as the writers are instructed to be objective and impersonal. Engagement interactional metadiscourse markers make up the least frequent resources (1.3 percent). Engagement markers are operative in establishing an effective rapport with the reader by addressing him as a participant. The writers, as a consequence, failed to address directly the reader and create a direct relationship which is effective in convincing the reader and establishing solidarity.

Conclusion and Implications

Writing research articles, with specific sections, structure, and organization, is a vital mode of written discourse which is a difficult text type for students, especially for EFL learners. This study attempted to analyze research article discussion sections written by nonnative researchers in terms of metadiscourse markers. To this end, 40 research article discussions by nonnative writers from humanities and social sciences were selected and analyzed on the basis of Hyland's (2005) Metadiscourse Model. The purpose of the study was to discover nonnative writers' preferences in the number and types of metadiscourse markers and rhetorical techniques in composing these texts. Based on the outcomes of this study, the writers, studied in the research, intensely employed interactive

metadiscourse resources in their research article discussions. It could be concluded, accordingly, that these writers are more careful about the organization and structure of their productions and care more about supporting the reading process and reading comprehension. They employed the greatest number of such metadiscourse markers as code glosses, transitions and evidential, and, as a result, focus more on truth, simplicity, and support for their arguments. Given the low distribution of interactional metadiscourse resources, the writers, consequently, clearly favor such resources which suggest that metadiscourse is not simply a personal rhetorical option, rather it is subject to attention to audience and generic and disciplinary needs which define the requirement of the discourse community, and restricts the type and frequency of the metadiscourse markers.

The tendency to opt more for some specific metadiscourse resources (more interactive and less interactional) might be ascribed, partially, to the text types, (discussion sections in this study), which naturally necessitates more simplicity and accuracy in the discussion of the findings and results. Given the difference of research articles, in nature and requirements, with other genres, the use of metadiscourse resources also differs from other types, too. The writers, accordingly, worked out to meet these needs, and craft a reader-friendly and comprehensible text through the right application of metadiscourse items in an attempt to create a good discussion and persuasion. The outcome of the present research has some pedagogical implications for nonnative writers. Nonnative writers are advised to get exposed to obvious training on the use of metadiscourse resources. Furthermore, teachers are also advised to train their learners on the right use of such resources through raising learners' conscious knowledge of using these rhetorical devices effectively, especially in the EFL context.

Acknowledgements

I would like to thank all those who helped me consult this research by giving comments or helped us in data analysis.

Declaration of Conflicting Interests

All the manuscripts must be accompanied by a declaration by the authors that they do not have any conflicts of interest to declare. It should be included in the manuscript under a separate heading, following Acknowledgements.

Funding Details

After the Declaration of Conflicting Interests section, manuscripts should have a funding acknowledgement statement included in the text. The name of the section is Funding Details.

References

- Abdi, R. & Ahmadi, P (2015): Research article introductions and disciplinary influences based on interactive metadiscourse markers. *English Language Teaching*, 2(1),85-99
- Abdulaal, M.A. A. (2020). A Cross-linguistic analysis of formulaic language and metadiscourse in Linguistics research articles by natives and Arabs: Modeling Saudis and Egyptians. *Arab World English Journal*, 11(3),193-211.
- Ädel, A. (2010). Just to give you kind of a map of where we are going: A taxonomy of metadiscourse in spoken and written academic English. *Nordic Journal of English Studies*, 9 (2), 69-97.
- Beauvais, P. J. (1989). A speech act theory of metadiscourse. *WrittenCommunication*, 6 (1), 11-30.
- Bhatia, V. (1993). *Analyzing genre: Language use in professional settings*. London: Longman.

- Cao, F. & Hu, G. (2014). Interactive metadiscourse in research articles: A comparative study of paradigmatic and disciplinary influences. *Journal of Pragmatics*, 66, 15–31.
- Crismore, A., Markkanen, R., & Steffensen, M. S. (1993). Metadiscourse in persuasive writing. *Written Communication*, 10 (1), 39-71.
- Crismore, Avon. (1989). *Talking with readers: Metadiscourse as rhetorical act*. New York: Peter Lang.
- Duruk, E. (2017). Analysis of metadiscourse markers in academic written discourse produced by Turkish researchers. *Journal of Language and Linguistic Studies*, 13 (1), 1-9.
- Esfandiari, R., Allaf-Akbary, O. (2022). Metadiscursive features in research articles: The role of stimulated recall. *Journal of English Language Teaching and Learning*, 14 (29), 245-263. DOI: 10.22034/ELT.2021.51232.2487
- Ezeifeke, C. R. (2014). Grammatical metaphor in SFL: A rhetorical resource for academic writing. *UJAH: Unizik Journal of Arts and Humanities*, 12 (1), 207-221.
- Farjami, H. (2013). A corpus-based study of the lexical make-up of applied linguistics article abstracts. *The Journal of Teaching Language Skills (JTLS)*, 5 (2), 27-50.
- Halliday, M., & Hasan, R. (1976). *Cohesion in English*. London: Longman Group Ltd.
- Halliday, M. (1974). *Language and social man*. Longman for the Schools Council
- Halliday, M. (1994). *An Introduction to functional grammar*. London: Arnold.
- Harris, J. A. (1991). *Abusive parenting attitudes in parent training subgroups*. UNLV Retrospective Theses & Dissertations. 145. <http://dx.doi.org/10.25669/2hy5-191n>
- Harris, Z. (1952). Discourse analysis. *Language*, 28 (1), 1-30.
- Hu, G., & Cao, F. (2015). Disciplinary and paradigmatic influences on interactional metadiscourse in research articles. *English for Specific Purposes*, 39 (3), 12–25.
- Hyland, K. (1998). Persuasion and context: The pragmatics of academic metadiscourse. *Journal of Pragmatics*, 30 (2), 437-455. DOI: 10.1016/S0378-2166(98)00009-5.
- Hyland, K. (1999). Talking to students: Metadiscourse in introductory course books. *English for Specific Purposes*, 18(1), 3-26. DOI: 10.1016/S0889-4906(97)00025-2
- Hyland, K. (2000). *Disciplinary discourses: Social interactions in Academic writing*. London: Longman.
- Hyland, K. (2004). Metadiscourse in Academic Writing: A Reappraisal. *Applied Linguistics*, 2 (5), 33-48. <https://doi.org/10.1093/applin/25.2.156>
- Hyland, K. (2005). *Metadiscourse: Exploring writing in interaction*. London: Continuum, 13-15.
- Hyland, K. (2009). Writing in the disciplines: Research evidence for specificity. *Taiwan International ESP Journal*, 1 (1), 5-22.
- Hyland, K. (2010) Metadiscourse: Mapping interactions in academic writing. *Nordic Journal of English Studies*, 9 (2), 125-143.
- Hyland, K. (2017). Metadiscourse: What is it and where is it going? *Journal of Pragmatics*, 1 (13), 16–29. DOI: 10.1016/j.pragma.2017.03.007
- Hyland, K. (2019). *Metadiscourse: Exploring interaction in writing* (2nd edition). London: Continuum.
- Hyland, K., & Tse, P. (2004). Metadiscourse in academic writing: A reappraisal. *Applied Linguistics*, 25 (2), 156-177.

- Hewings, G. (1990). Regional growth and development theory: Summary and evaluation, Working Paper Series, *Regional Economic*, 2 (9), 55-71, Federal Reserve Bank of Chicago.
- Khatibi, Z., & Esfandiari, R. (2021). Comparative analysis of engagement markers in research article introductions and conclusions. *Journal of Modern Research in English Language Studies*, 8(3), 1-24.
- Khedri, M., Ebrahimi, S. J., & Heng, C. S. (2013). Interactional metadiscourse markers in academic research article result and discussion sections. *The Southeast Asian Journal of English Language Studies*, 19 (1), 65–74.
- Kuhi, D., & Behnam, B. (2011). Generic variations and metadiscourse use in the writing of applied linguists: A comparative study and preliminary framework. *Written Communication*, 28 (1), 97-141.
- Lin, C. (2005): Metadiscourse in academic writing: An investigation of graduate students' MA theses in Taiwan. *Taiwan Journal of TESOL. Vol. 2.1, 1-66*
- Mozayan, M. R., Allami, H., & Fazilatfar, A. M. (2018). Metadiscourse features in medical research articles: Subdisciplinary and paradigmatic influences in English and Persian practice. *Journal of Research in Applied Linguistics*, 9(1), 83-104.
- Swales, J. (1995). The role of the textbook in EAP writing research. *English for Specific Purposes*, 14 (1), 3-18.
- Taymaz, N. (2021). A corpus-based comparison of use of hedges and boosters by Turkish ELT MA and PhD students. *Journal of Language and Linguistic Studies*, 17 (1), 33-49.
- Thompson, P. (2013). Thesis and dissertation writing. In B. Paltridge, & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 283-299). West Essex, UK: Wiley Blackwell.
- Vande Kopple, W. J. (1985). Some explanatory discourse on metadiscourse. *College Composition and Communication* 36, 82–93
- Vande Kopple, W. (2002). Metadiscourse, discourse and issues in composition and rhetoric. In E. Barton, & G. Stygall (Eds.), *Discourse studies in composition* (pp. 91-113). Cresskill, NJ: Hampton Press.
- Webber, P. (1994). The function of questions in different medical journal genres. *English for Specific Purposes*, 13(3), 257-268. [https://doi.org/10.1016/0889-4906\(94\)90005](https://doi.org/10.1016/0889-4906(94)90005)
- Williams, J. (2012). The potential role(s) of writing in second language development. *Journal of Second Language Writing*, 21 (4), 321-331.