

## **Interactional Metadiscourse Strategies in Academic Discourse: An Analysis of Research Articles Produced by Arab Writers**

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### **ABSTRACT**

Interactional metadiscourse (MD) features in academic writing have gained much currency in today's research. These features are manifested through various linguistic devices which express epistemic stance and sensitivity to audience. Although a large body of research on interactional MD has been produced, little attention was given to the study of these features in L2 writing in the Arabic context. This paper examines the extent to which Arab L2 writers deploy interactional MD strategies in academic writing. In this context, a corpus of 20 applied linguistics research articles (RAs) were compiled. Following Hyland's MD taxonomy, interactional MD features were identified and analyzed. Based on Hyland's MD model, the analysis was conducted using ANTCNC, a corpus analytical software. Compared to existing research on MD, the findings indicate that Arab L2 writers tend to use limited MD resources in their writing. The findings also reveal that there is a lack of balance in the use of interactional MD types in the corpus. Some interactional MD types are heavily used while some others are scarce. The discussion section of RAs received

the highest frequency of interactional MD whereas the methods sections received the lowest. Based on these findings, some pedagogical implications for developing interactional competence of Arab L2 writers are discussed.

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## INTRODUCTION

The study of interactional features in academic writing has generated an increasingly growing interest as they are conceived as essential for building writer-reader relations. A wide range of studies have so far been conducted on the role of these features in academic writing (Abdollahzadeh, 2011; Hyland, 1996, 2017; Koutsantoni, 2006; Lee & Deakin, 2016; Thompson, 2001). As opposed to the so called 'propositional features', interactional features of discourse are often deployed to guide readers as discourse participants and express the writer's attitude towards the content and the audience. In this way, discourse does not merely consist of content but also involves the writer's purpose and attitude towards the content and readers (Crismore et al., 1993; Hyland, 2005; Kopple, 1985). In today's research, such features are referred to as metadiscourse strategies. Metadiscourse (MD henceforth) is referred to as rhetorical and pragmatic strategies that do not contribute to the content material of discourse but guide the reader to understand the subject matter and help writer to express one's views and attitude. MD is subdivided into two major features, labelled by some theorists as textual and interpersonal (Crismore et al., 1993; Kopple, 1985) and interactive and interactional MD by some others (Hyland, 2005). The former (interactive) concerns the organization of discourse such as *moreover, therefore, however, to sum up, in other words, see section x*. whereas the latter (interactional) helps writers to express one's

views and attitude towards the content and the audience; examples of such expressions include *might, would, probably, definitely, unfortunately, let us consider, note*.

Since the emergence of the term metadiscourse in 1980s, there has been an abundance of research devoted to such pragmatic phenomenon across various languages, genres, argumentative writing and so forth. Many studies conducted on metadiscourse have stressed its importance in various fields of study including persuasive writing (Crismore et al., 1993), RAs (Dahl, 2004; Hyland, 1998; Koutsantoni, 2006), journalistic discourse (Dafouz-Milne, 2008; Le, 2004), post-graduate dissertations (Hyland, 2004) and so forth. In addition, a proliferation of research compared MD across languages including MD in English and Finnish (Crismore et al., 1993), MD in English and Spanish (Milne, 2003), MD in English and Persian (Kuhi & Mojoood, 2014); MD in English and Chinese (Kim & Lim, 2013), and MD in English and Arabic (Alotaibi, 2015; Sultan, 2011).

Research on interactional MD in L1 English and non-native writing indicates that there exist some rhetorical variations among writers of different cultural background (Crismore et al., 1993; del Saz Rubio, 2011; Kim & Lim, 2013; Yagiz & Demir, 2014). Given the pragmatic and rhetorical nature of MD, writers of different cultural background tend to employ different rhetorical strategies in writing (Abdollahzadeh, 2011; Crismore et al., 1993). According to Hinkel (2003), interactional MD features in academic writing are essential for accomplishing

persuasion in an Anglo-American context. Unfortunately, L2 writers tend to focus on the content and pay little attention to the purpose of writing (Cheng & Steffensen, 1996). Specifically, the literature on interactional MD in Arab L2 writing has established that Arab L2 writers seem to encounter some problems deploying MD strategies in writing appropriately (Alkaff, 2000; Alward, 2014). Investigating MD strategies in professional journalistic writing by Arab L2 writers, Alkaff (2000) reported that Yemeni journalists did not seem use MD markers in a way that met the expectations of native speakers of English. Investigating the use of hedges and boosters as interactional MD strategies in Arab undergraduate L2 writing, Alward (2014) showed that Arab L2 writers tended to encounter problems utilizing hedges and boosters appropriately. While Alkaff's (2000) focused on the use of MD in Arab journalistic writing, Alward (2014) investigated the use of hedges and boosters in undergraduate students' essays. Nevertheless, according to our knowledge, it seems that no research has so far been conducted to address the way in which interactional MD strategies are deployed by advanced Arab L2 writers. Due to scarcity of research on interactional features by Arab L2 writers, Yagız and Demir (2014) suggested furthering research to explore the use of these features by Arab graduate writers. Therefore, it seems clear that there is a pressing need to highlight such an issue so that it might have a fruitful contribution to the development of interactional competence of Arab L2 writers.

This study derives its significance from the importance of interactional MD strategies which are the most prominent conventions in academic writing (Hyland, 1998, 2005; Lee & Deakin, 2016). It is suggested that interactional MD strategies are highly significant particularly in English academic prose as they help writers explicitly signal their intentions and communicate effectively with members of the academic community (Hyland, 2005). Therefore, the use of such important resources in RAs is essential for establishing persuasive appeals. Thus, it is anticipated that the findings of the present study would be useful for the teaching of academic writing to future Arab L2 writers.

As stated above, MD consists of interactive and interactional features. We focus only on interactional MD features due to the fact that these features have received quite insufficient attention in research and non-native writing courses compared to connectives and modals (Dafouz-Milne, 2008; Hyland, 2005). The purpose of this paper is to identify the use of interactional MD resources by Arab writers in RAs. Secondly, given the fact that each section within RAs serves particular rhetorical functions and hence requires certain linguistic realizations (Swales, 1990), we also aim to explore the pattern of interactional MD resources across the different sections of RAs: introduction, methods, results and discussion (IMRD). In this respect, two questions are posed: 1) To what extent do Arab L2 academic writers employ interactional MD strategies in research articles? 2) What is the distribution

pattern of interactional MD across RAs sections written by Arab L2 writers?

### **THEORETICAL UNDERPINNINGS**

Discourse is characterized as a social action which is produced within a particular context for a particular purpose. In this way, it does not only consist of information but also includes other features that guide the audience and help writer express one's purpose and attitude. While the former may be linguistically referred to as propositional discourse the latter is often labelled as metadiscourse. Despite the abundance of studies on MD (Crismore & Fransworth, 1989; Crismore et al., 1993; Hyland, 2017; Kopple, 1985, 2012; Milne, 2003) its definition has remained relatively fuzzy due to the wide range of resources that may count as metadiscourse. Swales (1990) stated that "although the concept of metadiscourse is easy enough to accept in principle, it is much more difficult to establish its boundaries."

The fuzziness of the term MD may also be manifested by its initial definitions as talk about talk, writing about writing or discourse about discourse. For example, Williams (1981) refers to MD as "Writing about writing, whatever does not refer to the subject matter being addressed." Similarly, Kopple's (1985) views MD as discourse about discourse. Such characterization implies a lack of explicitness as to which linguistic features should be considered MD and which should not. Moreover, the concept remains fuzzy due to the relatively imprecise line between propositional and non-propositional material. According to Kopple

(1985), discourse consists of two levels: propositional discourse and metadiscourse. The former expresses certain states of affairs whereas the latter (i.e. metadiscourse) comments on the propositions presented. On their part, Crismore et al. (1993) define MD as linguistic material that do not add anything to the content but guide the reader to understand the text and expressed the writer's attitude. According to these views, MD is considered as an additional material to the propositional content and thereby may not be central to the communication process. However, Hyland (2005) sees that both metadiscourse and propositional discourse as two components of the same communicative act. Thus, Hyland (2005) defines MD as "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."

As far as the classification of MD is concerned, most MD theorists classify it based on Halliday's tripartite taxonomy of language functions: ideational (propositional discourse), textual and interpersonal functions (non-propositional discourse i.e. metadiscourse). Kopple's (1985) taxonomy was built based on Halliday's macro functions of language as well as Lautamatti's (1978) initial notions of topical and non-topical discourse. He classified MD into two major categories: textual and interpersonal MD. He subcategorized these macro functions into seven categories: text connectives, code glosses, illocution markers, validity

markers, narrators, attitude markers and commentary. Kopple's model was utilized to analyze MD features in various studies of MD. Crismore et al. (1993) based their taxonomy on Kopple's though they refined it by sub-categorizing textual MD into two categories and collapsed 'narrators'. Milne (2003), in turn, based her model on Crismore et al. (1993) but she modified the model to suit the journalistic genre she analyzed. The most recent classification of MD is the one proposed by Hyland (2005). Hyland contended that all types of MD were interpersonal in nature since metadiscourse was used to convey the intended meaning of the writer. Despite the critique it has received in the inclusion of evidentials in the textual rather than the interpersonal category (Thompson, 2008), Hyland's model seems to have avoided theoretical problems associated with previous models by setting some explicitness principles for delimiting the boundaries of MD so that MD features can be distinguished from the 'propositional content'. Moreover, Hyland's model is genre-based since it has been designed based on a large corpus of RAs (Ho & Li, 2018), and has proven useful in many studies of MD such as (del Saz Rubio, 2011; Ho & Li, 2018; Lee & Deakin, 2016). Following Thompson (2001), Hyland categorized MD into interactive and interactional features; the former "presents out text interactively" whereas the latter "involve the reader collaboratively in the development of the text." (Hyland, 2005). According to Hyland's model, interactional MD consists of five sub-categories, namely hedges,

boosters, attitude markers, self-mention and engagement markers. Below, we elaborate on each of these sub-categories in turn.

Hedges are expressions such as *may*, *probably*, *seem*. which are mostly used to present content less categorically, express uncertainty and show the writer's lack of commitment to show deference to audience. However, there seems no unanimous agreement about a unified list of the linguistic manifestations of hedges (Varttala, 1999). Varttala suggested that the most common hedging expressions included modal auxiliaries (e.g. *may*, *could*), epistemic verbs (e.g. *appear*, *seem*), adjectives (e.g. *probable*, *possible*) and adverbs (e.g. *probably*, *presumably*). As the use of hedges is essential to express deference to audience, the use of boosters is perceived as equally important to mark the writer's authority. Boosters are manifested through different expressions such as emphatic verbs (e.g. *believe*, *demonstrate*) amplifying adverbs (e.g. *clearly*, *definitely*) emphatic adjectives (e.g. *clear*, *obvious*.). Attitude markers, the third sub-category of interactional MD are also characteristic of academic metadiscourse. Unlike hedges and boosters which indicate epistemic attitude towards the propositions, attitude markers are used to signal affective attitude. They are often used to signal surprise, agreement, importance, frustration, obligation (Hyland, 2005). Thus, attitude markers are realized by markers showing attitude including attitude adjectives (e.g. *appropriate*, *considerable*) adjectival clauses (e.g. *it is important*, *it is unfortunate/surprising*) attitude adverbs

(e.g. *unfortunately, surprisingly*) attitude verbs (e.g. *agree, prefer*). Engagement markers are used to explicitly address readers in order to engage them in the unfolding dialogue. This category is mostly realized by markers addressing the readers including directives such as *note that, consider*, pronouns e.g. *you/we many* and obligation modals such as *should*. In the next sections, we present the corpus and the methodology employed to identify and analyze these interactional MD in the selected research articles.

**CORPUS AND METHODOLOGY**

The corpus used in this paper is based on RAs written in English by Arab L2 writers. The selection of RAs was confined to the field of applied linguistics as one of the established academic disciplines. Table 1 overviews the corpus of RAs analyzed in the study. It consists of 20 RAs (totaling 77600 words) in English written by Arab L2 writers in the field of applied linguistics published during the period from 2016-2017. They were culled from four international peer-reviewed journals in the field of applied linguistics, namely *Arab World English Journal, English Language Teaching, International Journal of English Language*

*Education, International Journal of applied linguistics and English literature.*

The researchers first ensured that all articles have been written by Arab writers. Obviously, it was not possible to contact each author individually to confirm one’s nativity. However, we identified the Arab nativity of the authors by their last names. Although many non-Arabs may also have Arab first names such as Iranians, Pakistanis, Indians, Malaysians and so forth, Arabs have special last names that often start with the two letters “AL” such as Al-Qahtani, Al-Mudhaffari etc. Despite the fact that the majority of Arab names may have their last names starting with ‘AL’, some others may not. Thus, we excluded all the articles written by authors whose last names do not start with ‘AL’ even though we know that they are Arabs. We also checked the nativity by locating the institutions to which these writers belong.

Having established the nativity of writers, we selected the corpus of RAs for analysis. We set a set of selection criteria to control a number of variables including the topic, the length, the diachronic variation and the type of RAs. In so doing, we aimed to maintain homogeneity of RAs to be selected. This required a relatively rigorous task to accomplish since it was

Table 1  
*Description of the corpus*

RAs				
Introduction	Methods	Results	Discussion	Total
37700	10400	15500	14000	77600

very difficult to control various variables simultaneously as we had to modify the data several times to fit the set criteria. As the topic of the articles may influence the type and number of MD resources used (Crismore et al., 1993; Hyland, 2005; Milne, 2003), all the articles were selected based on a single focus. As most of the articles were conducted on English Language Education, we confined the selection to this topic. Thus, all the articles touching on other topics were discarded. As far as the length is concerned, the articles collected were divergent i.e. they range from 3000 to 9000 and so an average of 6000 words is set as a limit to control the length of articles and hence all articles exceeding 6000 words were excluded. The third criterion to control concerns the diachronic variation. The articles selected were recently published in the last two years from 2016-2017. Finally, the type of the articles was also controlled by limiting the scope to one sub-genre within RAs. According to Swales (2004), there are four sub-genres within research articles, namely theory pieces, review articles, data-based articles and shorter communications. Since one of the set objectives of this paper is to analyze the distribution of interactional MD resources across the different rhetorical sections of research articles, we opted for data-based RAs whose structure normally comprises four sections: introduction, methods, results and discussion and so the other types were ruled out. Ultimately, five RAs were selected from each journal and thus the overall number of the corpus is 20 research articles.

As the study is set to find out the extent to which Arab writers deploy interactional MD strategies in research articles, a quantitative design is employed. The quantitative analysis identifies the frequencies of interactional MD in order to find the extent to which the participants deploy interactional MD markers to project themselves in discourse. As we will see in the next section, the quantitative analysis shows the number and types of MD resources used in RAs as well as the distribution pattern of these features across the different sections of RAs.

To identify the interactional MD resources used in the text of research articles, we followed (Hyland, 2005). Despite the usefulness of other MD taxonomies (Crismore et al., 1993; Kopple, 1985), Hyland's model is by far the most popular, recent and most applied across MD research. Moreover, Hyland (2005) model is considered as well-grounded (Thompson, 2008) and genre-based (Ho & Li, 2018). This model has been utilized in various recent studies on MD as a framework to analyze MD expressions (Alotaibi, 2015; Del Saz Rubio, 2011; Kim & Lim, 2013; Kuhl & Mojood, 2014). Table 2 shows Hyland's model, which is adopted to identify interactional MD markers in the corpus. Having identified interactional MD resources, we conducted a corpus analysis to achieve two purposes, namely identifying the overall frequency of interactional MD features as well as their distribution across the different sections of RAs.

Table 2

*Hyland's (2005) model of interactional MD*

Interactional Metadiscourse	Function	Recourses
Hedges	withhold commitment and open dialogue	might; perhaps; possible; about; it is clear that
Boosters	emphasize certainty or close dialogue	in fact; definitely
Attitude Markers	express writer's attitude to proposition	unfortunately; I agree; surprisingly
Self-mentions	explicit reference to author(s)	I; we; my; me; our
Engagement Markers	explicitly build relationship with readers	note; you can see that

The corpus analysis was conducted using an analytical software tool named ANTCONC, a software used for text analysis. This tool is very useful for conducting analyses of texts of varying lengths ranging for millions or even billions of words. Using a list of interactional MD expressions provided by Hyland (2005), we conducted a search of this list in the software to generate the frequencies of each MD item in the text. However, we had to analyze each item in its co-text and context to ensure its metafunction. The task was not as straightforward as it might appear; it required such a rigorous work due to the multi-functionality of MD expressions. For example, the word 'would' which is potentially a hedge in 1 is considered part of the propositional content i.e. it does not perform a metadiscoursal function and so it was not coded as MD whereas the same expression in 2 is considered metadiscoursal and thus it was coded as MD:

1. She thought blogs would complement what was already studied in the class.
2. This approach contends that learners'

acquisition of grammar and lexis would enable them to read fluently.

## RESULTS AND DISCUSSION

The findings indicate that Arab L2 writers tend to pay little attention to interaction in academic writing. The overall frequency of interactional MD features in the analyzed RAs was only 10.95 per thousand words (PTW henceforth). This could be considered as a relatively low frequency taking into account the findings of previous research on interactional MD features. Hyland (1998), for example, reported that the overall frequency of interactional MD in a corpus of RAs accounted for 29.1 PTW. Additionally, Lee and Deakin (2016) found that the frequency of interactional MD by L1 writers was 26.10 as opposed to Chinese ESL's 23.97 PTW.

Table 3 provides an overview of the frequencies of interactional MD features as well as their distribution across the different rhetorical sections of RAs. The findings revealed that only 851 instances of interactional MD were employed in the

overall corpus. It can be observed that the most frequent interactional category in the corpus is ‘hedges’. Interestingly, the frequency of hedges was 6.26 PTW, a frequency which outnumbers all the other interactional categories altogether. The second highly frequent category was ‘attitude markers’ followed by ‘boosters’ and ‘engagement markers’. Self-mentions; however, were the least frequent in the corpus. A possible explanation could be that EFL writers have often been instructed to avoid the use of these markers in academic writing (Hyland, 2005).

It is worth noting that there is a remarkable variation between the frequencies of the two major stance categories, namely hedges and boosters. Hedges were the most highly frequent category whereas boosters were highly infrequent. Such findings seem to agree with Hyland and Milton (1997) in one aspect but do not in another. The findings of the current study agree with Hyland and Milton’s in that L2 writers tend to deploy limited proportions of interactional MD to

express stance. However, the findings quite disagrees with Hyland and Milton (1997), who found that L2 writers tend to use authoritative tone using greater number of certainty markers than hedges in comparison to L2 writers. This could plausibly be due to the variations across genres and that academic genre is generally argumentative. While Hyland’s and Milton’s study was conducted on argumentative essays, the present study was devoted to RAs genre.

As regards the distribution of interactional MD across RAs sections, and as we see in Table 3, the discussion section received the highest frequency of interactional MD, followed by the results and the introduction whereas the least instances of interactional MD occurred in the methods section. The high frequency of hedges in the discussion section compared to the method section is expected because writers tend to use more interactional MD as they provide their interpretation of findings. Khedri (2014) reported that the results and discussion sections consist of the highest

Table 3  
*Interactional MD strategies in the corpus*

Interactional MD	Introduction		Methods		Results		Discussion		Overall	
	Freq.	PTW	Freq.	PTW	Freq.	PTW	Freq.	PTW	Freq.	PTW
Hedges	254	6.73	27	2.58	133	8.58	144	10.28	558	7.18
boosters	30	0.80	5	0.48	15	0.97	18	1.29	68	0.88
attitude markers	61	1.62	10	0.95	38	2.45	28	2.00	137	1.76
engagement markers	35	0.93	1	0.10	5	0.32	8	0.57	49	0.63
Self-mentions	10	0.27	11	1.05	9	0.58	9	0.64	39	0.50
Grand total	390	10.34	54	5.15	200	12.90	207	14.78	851	10.95

instances of metadiscoursal devices. In what follows, we will overview each category of interactional MD and its realization across the different rhetorical sections of RAs.

**a. Hedges**

As stated above, hedges received the highest frequency in the corpus. This seems to agree with previous research findings on the use of interactional MD by L1 and L2 writers (Hyland, 1998, 2004; Lee & Deakin, 2016). Hyland (1998), for instance, shows that the use of hedges in his corpus of RAs accounted for more than half of all the interactional resources. A possible interpretation to this may be that academic writers tend to avoid presenting claims categorically and attempt to present content with caution to avoid criticism from their peers.

As far as hedges sub-categories are concerned, it was found that Arab L2 writers tend to employ modal auxiliaries more

predominantly than all the other hedging expressions. It was shown that modal auxiliaries are the most frequent hedging elements followed by epistemic verbs, modal adverbs and modal attributes, and the least subcategory used is ‘circumstances’. L2 writers generally hedge to pay deference to audience, mostly using modal auxiliaries:

- 3. EFL learners *may* find it really difficult to recognize idioms structures.
- 4. This *could* be due to the lack of knowledge of the appropriate strategies that help them learn idiomatic expressions in the target language.

Surprisingly, ‘modal auxiliaries’ is more frequent than all the other sub-categories altogether. This might indicate that writers could lack familiarity with the other hedging features (Lee & Deakin, 2016) which could be employed to achieve more or less similar persuasive functions.

Table 4  
*Hedges sub-types and their distribution across RAs*

Hedges	Introduction		Methods		Results		Discussion		Total
	Freq.	PTW	Freq.	PTW	Freq.	PTW	Freq.	PTW	
Modal Auxiliaries.	142	3.76	21	2.00	83	5.35	86	6.14	332
Modal Adverbs	30	0.80	4	0.38	20	1.29	12	0.86	66
Modal attributes	23	0.61	0	0.00	7	0.45	12	0.86	42
Epistemic verbs	36	0.95	0	0.00	19	1.23	27	1.93	82
Circumstances	23	0.61	2	0.19	4	0.26	7	0.50	36
Total	254	6.73	27	2.58	133	8.58	144	10.28	558

As regards the distribution of hedges, Table 4 shows that the discussion section consisted of the highest frequency of hedges i.e. 10.28 PTW, followed by the results (with 8.58 PTW), introduction (6.73 PTW) whereas the methods section received the least quantity of hedges (i.e. 2.58 PTW). This indicates that L2 writers tend to be more cautious as they discuss the results of findings. This is corroborative of Yagız and Demir (2014) who found that American and Turkish writers used more hedges in the discussion and conclusion than RAs introduction.

#### **b. Boosters**

The findings indicate that writers tend to avoid marking conviction. As seen in Table 5, boosters only accounted for 0.88 PTW and thus boosters seem to be highly underrepresented in the corpus of this study. These findings do not seem to concur with previous research findings on interactional MD strategies in research articles. While this study shows a very low frequency of boosters, Lee and Deakin (2016) found that Chinese ESL undergraduate students' used of interactional MD strategies accounted for 4.86 PTW. Hyland (1998) study of metadiscourse in RAs shows that boosters are as frequent as 3.9 PTW. Likewise, Similarly, Hyland (2004) revealed that the use of boosters by L2 writers accounted for 3.95 PTW. The low frequency of boosters in the present study could probably be attributed to lack of familiarity with the importance of balancing caution with certainty in academic writing. Compared to hedges, the representation of boosters is

scarce. Although the use of hedges may be essential to show the writer's caution, the use of boosters is also important to mark the writer's conviction. Balancing the use of these features may contribute to ethos (Hyland, 2005) i.e. the credibility writers gain from their peers. Successful L2 writers tend to balance caution and certainty more effectively using both hedges and boosters (Lee & Deakin 2016).

As for the distribution of boosters, it was revealed that the discussion section received the highest instances followed by the results (0.97 PTW), the introduction (0.80 PTW) and the least frequent boosters occurred in the methods section (0.48 PTW). The high frequency of boosters in RAs discussion suggests that Arab L2 writers mark their certainty as they discuss findings because they might contend that their findings are supported by data (see examples 5-6). Table 5 overviews the use of boosters across RAs.

5. The current results also *showed* evidence that blogging would trigger an increase in supporting skills for learning to manifest such as motivation, commitment and planning and organizational abilities.

6. The findings *showed* that experimental participants outperformed the control participants with 18.9 mean score variance.

As regards boosters' sub-categories, three categories were detected namely emphatics, attributors and amplifying adverbs respectively (0.67, 0.47, 0.24 PTW). Table 5 shows that the most frequently used

sub-category of boosters is ‘amplifying adverbs’ whereas the least frequent is ‘emphatic adjectives’. Although ‘amplifying adverbs’ were the most frequent in the corpus, they were generally infrequent as they only accounted for 0.71 PTW. Like Lee and Deakin (2016), this study shows that there is a low proportion of amplifying adverbs such as clearly, definitely evidently. This could be attributed to the fact that L2 writers tend to have limited linguistic repertoire of expressions which mark conviction (Hyland & Milton, 1997).

**c. Attitude Markers**

The findings indicate that Arab L2 writers tend to use more attitude expressions compared to other interactional MD strategies. It was found that ‘attitude markers’ is the second highly frequent category of the interactional MD used in the corpus (i.e. 1.76 PTW). Although ‘attitude markers’ appeared to be highly frequent category following hedges, its occurrence in comparison to the overall

instances of interactional MD in the corpus was relatively underrepresented. In addition, only two sub-categories detected to express writers’ attitude, namely attitude adverbs and attitude adjectives and only one single instance of attitude verbs was detected. Curiously, the majority of attitude markers were realized by attitude adjectives (see Table 6).

Compared to similar research, there seems to be slight differences regarding the scarcity of attitude markers. Lee and Deakin (2016) report that the use of attitude marker by Chinese ESL learners account for 3.19 PTW. However, Hyland (2005) finds that attitude markers are used extensively in applied linguistic research articles; their frequency comes the second highly frequent in the corpus he analyzed (i.e. 5.3 PTW). The limited use of attitude markers by Arab L2 applied linguistics writers suggests that they either tend to avoid expressing their attitude in academic writing or perhaps they lack the awareness of developing attitude that contribute to persuasion in discourse.

Table 5  
*Boosters sub-types and their distribution across RAs*

Boosters	Introduction		Methods		Results		Discussion		Total
	Freq.	PTW	Freq.	PTW	Freq.	PTW	Freq.	PTW	
Amp Adv.	4	0.11	3	0.29	7	0.45	10	0.71	24
Emphatic Adj.	5	0.13	0	0.00	1	0.06	1	0.07	7
Emphatic v	6	0.16	0	0.00	6	0.39	1	0.07	13
Emphatics	5	0.13	0	0.00	0	0.00	3	0.21	8
Emphatic modals	10	0.27	2	0.19	1	0.06	3	0.21	16
Total	30	0.80	5	0.48	15	0.97	18	1.29	68

Table 6  
*Attitude markers sub-types and their distribution across RAs*

Attitude markers	Introduction		Methods		Results		Discussion		Total
	Freq.	PTW	Freq.	PTW	Freq.	PTW	Freq.	PTW	
Attitude. Adv.	11	0.29	3	0.29	17	1.10	8	0.57	39
Attitude. Adj.	50	1.33	7	0.67	21	1.35	19	1.36	97
Attitude. V.	0	0.00	0	0.00	0	0.00	1	0.07	1
Total	61	1.62	10	0.95	38	2.45	28	2.00	137

Like the other interactional MD strategies above, the distribution of attitude markers seems to vary across the different rhetorical sections (see Table 6). The results section received the highest occurrence of attitude markers (2.45 PTW) followed by the discussion (with 2.00 PTW), the introduction (1.62 PTW) whereas the least frequency of attitude markers occurred in the methods section (i.e. 0.95 PTW).

**d. Engagement Markers**

The findings indicate that Arab L2 academic writing is generally informational and less interactive. Given the lack of engagement markers, the writers tend to focus more on the content paying little attention to the presence of audience. As stated above, ‘engagement markers’ is the second least frequently used category in the corpus (i.e. only 0.63 PTW). This frequency may be considered extremely low compared to previous research. Lee and Deakin (2016), for instance, reported that engagement markers in Chinese ESL writing accounted for 5.05 PTW compared to 5.38 PTW in American L1 writing.

As regards the sub-categories of engagement features, we can observe that the only engagement markers used in the data were inclusive pronouns whereas other engagement markers such as obligation modals, directives and reader address were considerably scarce (see Table 7).

The scarcity of engagement markers might indicate a lack of familiarity with the persuasive role of these features on the part of Arab L2 writers. This most probably suggests that little attention is given to the role of engagement markers in academic writing courses in the Arabic context. These findings quite agree with Swales (1990), who found that the use of engagement markers in dissertations by non-native writers is quite less frequent than those produced by native writers. Thus, it is essential to raise the awareness of non-native writers in general and Arab L2 writers in particular about the role of engagement markers in accomplishing persuasive appeals in academic writing.

As far as the distribution of engagement features is concerned, it can be interestingly

Table 7  
*Engagement markers sub-types and their distribution across RAs*

Engagement markers	Introduction		Methods		Results		Discussion		Total
	Freq.	PTW	Freq.	PTW	Freq.	PTW	Freq.	PTW	
Obligation Modals	0	0.00	0	0.00	0	0.00	0	0.00	0
Directives	6	0.16	1	0.10	1	0.06	1	0.07	9
Reader pronouns	29	0.77	0	0.00	4	0.26	7	0.50	40
Total	35	0.93	1	0.10	5	0.32	8	0.57	49

noticed that the highest frequency of engagement markers appears in the introduction section followed by discussion and the results sections whereas the lowest is exhibited in the methods section. This suggests that Arab L2 writers attempt to engage readers as they commence writing. The most prominent use of engagement features is exhibited by the use of the inclusive pronoun ‘we’ which is frequent to some extent in the introduction but infrequent in the other sections.

7. As EFL educators, *we* are not always aware of the significance of communication strategies that involve modalities of gesture and non-verbal body movements.

8. Reading is an everyday activity that *we* often do either consciously or unconsciously through the decoding of messages that surround us in different forms.

**e. Self-mentions**

Self-mentions are found to be the

least frequent category in the corpus. This is mostly expected since L2 writers, generally, tend to avoid marking self-reference (Hyland, 2005). The normalized frequency of self-mentions only accounted for 0.50 PTW. Although the use of self-mentions should not be overly employed, it seems highly rare in our corpus. Table 8 shows the sub-categories of self-mentions in the corpus. It can be seen that the most frequent self-mention is ‘the researcher’ whereas the first person singular is the least frequent. This indicates that writers tend to avoid using person markers as much as possible.

The limited deployment of person markers is possibly attributed to the misconception that academic writing is impersonal and faceless (Hyland, 2005). While such an assumption has been abandoned, many non-native speakers still avoid using self-mentions as they might believe that the use of personalization is not recommended in academic genre. By the same token, the use of these markers,

Table 8

*Self-mentions sub-types and their distribution across RAs*

Self-mentions	Introduction		Methods		Results		Discussion		Total
	Freq.	PTW	Freq.	PTW	Freq.	PTW	Freq.	PTW	
First person Sing	0	0.00	0	0.00	0	0.00	4	0.29	4
First person plural	5	0.13	2	0.19	8	0.52	4	0.29	19
The researcher	5	0.13	9	0.86	1	0.06	1	0.07	16
Total	10	0.27	11	1.05	9	0.58	9	0.64	39

particularly the first person, is the strongest means of self-representation (Ivanic, 1998 cited in Hyland, 2005).

As regards the distribution of self-mentions, we can, interestingly, note that the methods section represents the highest frequency of self-mentions (1.05 PTW) though this section received the lowest occurrence of the other interactional MD resources. This indicates that Arab L2 writers tend to make self-reference only as they describe procedures of analysis; however, they generally avoid marking self-representation in other sections. They mostly avoid the use of person pronouns; however, they at times refer to themselves using the self-mention ‘the researcher’ (see examples 9-10). The second highest occurrence of self-mentions are represented in the discussion section (0.64 PTW) followed by the results section (0.58 PTW) whereas the lowest frequency of person markers is found in the introduction (only 0.27 PTW).

9. Comparing data was essential in that it helped *the researcher* to determine which group of students performed well in the test.

10. *The researcher* also provided a short explanation about the questionnaires, the purpose of the study and instructions on how to respond to the questionnaires.

**CONCLUSION**

This study is set to find out the extent to which Arab L2 writers deploy interactional MD strategies in RAs to express their stance and engage readers in order to gain credibility from their peers. The findings of the study highlight some important issues about the use of interactional MD by Arab L2 writers. First, the findings indicate that Arab L2 writers tend to introduce argument like facts i.e. they express assertion and avoid expressing their stance in L2 academic writing. They tend to focus more on the content and pay little attention to marking

their stance explicitly. Second, they generally avoid the use of self-mentions and engagement markers to a great extent.

Before concluding, it is important to point out that the study has some limitations in terms of the corpus analyzed, the types of MD investigated and so forth. The findings might be taken with caution since the study was only carried out on 20 research articles. Therefore, future research may be conducted on a larger corpus to support or challenge the findings of this study. Another limitation is that the study was only conducted on a group of Arab L2 writers. Therefore, it would be much useful if another study is conducted to compare the use of interactional MD strategies by Arab and native English writers.

To conclude, the study has useful implications for contrastive rhetoric as well as L2 writing instruction. As far as contrastive rhetoric is concerned, the study contributes to our understanding the way in which Arab L2 writers express their stance and voice in RAs genre. It also contributes to writing pedagogy as it might raise Arab L2 writers' awareness the persuasive role of interactional MD strategies in academic writing. Overall, the findings could be utilized for the teaching of academic writing for future Arab L2 writers. Thus, university writing instructors need to reconsider the teaching approaches to English writing, and incorporate interactional MD strategies in L2 writing syllabus to enable L2 writers to develop appropriate stance and voice in academic writing (Ho & Li, 2018; Hyland & Milton, 1997).

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## REFERENCES

- Abdollahzadeh, E. (2011). Poring over the findings: Interpersonal authorial engagement in applied linguistics papers. *Journal of Pragmatics*, 43(1), 288-297.
- Alkaff, A. (2000). *Metadiscourse in texts produced in English by Yemeni/Arab writers: A writer/reader oriented cross-cultural analysis of letters to the editor* (Doctoral thesis, University of Exeter). Available from ETHOS: e-theses online service: <https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.324129>
- Alotaibi, H. (2015). Metadiscourse in Arabic and English research article abstracts. *World Journal of English Language*, 5(2), 1-8. <https://doi.org/10.5430/wjel.v5n2p1>
- Alward, A. S. A. (2014). *Hedges and boosters in the English as a foreign language undergraduate persuasive essays and job application letters* (Doctoral thesis), Universiti Utara Malaysia, Malaysia.
- Cheng, X., & Steffensen, M. S. (1996). Metadiscourse: A technique for improving student writing. *Research in the Teaching of English*, 30(2), 149-181.
- Crismore, A., & Fransworth, R. (1989). Mr. Darwin and his readers : Exploring interpersonal metadiscourse as a dimension of ethos. *Rhetoric Review*, 8(1), 91-112.
- Crismore, A., Markannen, R., & Steffensen, M. S. (1993). Metadiscourse in persuasive writing: A study of texts written by American and Finnish university students. *Written Communication*, 10(1), 39-71.

- Dafouz-Milne, E. (2008). The pragmatic role of textual and interpersonal metadiscourse markers in the construction and attainment of persuasion: A cross-linguistic study of newspaper discourse. *Journal of Pragmatics*, 40(1), 95-113. <https://doi.org/10.1016/j.pragma.2007.10.003>
- Dahl, T. (2004). Textual metadiscourse in research articles: A marker of national culture or of academic discipline? *Journal of Pragmatics*, 36(10), 1807-1825. <https://doi.org/10.1016/j.pragma.2004.05.004>
- del Saz Rubio, M. (2011). A pragmatic approach to the macro-structure and metadiscoursal features of research article introductions in the field of agricultural sciences. *English for Specific Purposes*, 30(4), 258-271. <https://doi.org/10.1016/j.esp.2011.03.002>
- Hinkel, E. (2003). *Teaching academic ESL writing: Practical techniques in vocabulary and grammar*. New Jersey, USA: Routledge.
- Ho, V., & Li, C. (2018). The use of metadiscourse and persuasion: An analysis of first year university students' timed argumentative essays. *Journal of English for Academic Purposes*, 33, 53-68. <https://doi.org/10.1016/j.jeap.2018.02.001>
- Hyland, K. (1996). Writing without conviction: Hedging in scientific research articles. *Applied Linguistics*, 17(4), 433-454. <https://doi.org/10.1093/applin/17.4.433>
- Hyland, K. (1998). Persuasion and context: The pragmatics of academic metadiscourse. *Journal of Pragmatics*, 30, 437-455. [https://doi.org/10.1016/S0378-2166\(98\)00009-5](https://doi.org/10.1016/S0378-2166(98)00009-5)
- Hyland, K. (2004). Disciplinary interactions: Metadiscourse in L2 postgraduate writing. *Journal of Second Language Writing*, 13(2), 133-151. <https://doi.org/10.1016/j.jslw.2004.02.001>
- Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. New York, USA: Continuum.
- Hyland, K. (2017). Metadiscourse: What is it and where is it going? *Journal of Pragmatics*, 113, 16-29. <https://doi.org/10.1016/j.pragma.2017.03.007>
- Hyland, K., & Milton, J. (1997). Qualification and certainty in L1 and L2 students' writing. *Journal of Second Language Writing*, 6(2), 183-205. [https://doi.org/10.1016/S1060-3743\(97\)90033-3](https://doi.org/10.1016/S1060-3743(97)90033-3)
- Khedri, M. 2014. *A cross-disciplinary exploration of metadiscourse in experimental research articles* (Doctoral thesis), Universiti Putra Malaysia, Malaysia.
- Kim, L. C., & Lim, J. M. H. (2013). Metadiscourse in English and Chinese research article introductions. *Discourse Studies*, 15(2), 129-146. <https://doi.org/10.1177/1461445612471476>
- Kopple, W. J. V. (1985). Some exploratory discourse on metadiscourse. *College Composition and Communication*, 36(1), 82-93. <https://doi.org/10.2307/357609>
- Kopple, W. J. V. (2012). The importance of studying metadiscourse. *Applied Research in English*, 1(2), 37-44. <https://doi.org/10.1111/j.1530-2415.2011.01276.x>
- Koutsantoni, D. (2006). Rhetorical strategies in engineering research articles and research theses: Advanced academic literacy and relations of power. *Journal of English for Academic Purposes*, 5(1), 19-36. <https://doi.org/10.1016/j.jeap.2005.11.002>
- Kuhi, D., & Mojood, M. (2014). Metadiscourse in newspaper genre: A cross-linguistic study of English and Persian editorials. *Procedia - Social and Behavioral Sciences*, 98(2005), 1046-1055. <https://doi.org/10.1016/j.sbspro.2014.03.515>
- Lautamatti, L. (1978). Observations on the development of the topic in simplified discourse. In V. Kohonen & N. E. Enkvist (Eds.), *Text Linguistics, Cognitive Learning, and Language Teaching* (pp. 71-104). Turku, Finland: University of Turku Publications.

- Le, E. (2004). Active participation within written argumentation: Metadiscourse and editorialist's authority. *Journal of Pragmatics*, 36(4), 687-714. [https://doi.org/10.1016/S0378-2166\(03\)00032-8](https://doi.org/10.1016/S0378-2166(03)00032-8)
- Lee, J. J., & Deakin, L. (2016). Interactions in L1 and L2 undergraduate student writing: Interactional metadiscourse in successful and less-successful argumentative essays. *Journal of Second Language Writing*, 33(October), 21-34. <https://doi.org/10.1016/j.jslw.2016.06.004>
- Milne, E. D. (2003). Metadiscourse revisited: A contrastive study of persuasive writing in professional discourse. Regreso al metadiscorso: estudio contrastivo de la persuasión en el discurso profesional. *Estudios Ingleses de La Universidad Complutense*, 11, 29-52. [https://doi.org/10.5209/rev\\_EIUC.2003.v11.8792](https://doi.org/10.5209/rev_EIUC.2003.v11.8792)
- Sultan, A. H. J. (2011). A contrastive study of metadiscourse in English and Arabic linguistics research articles. *Acta Linguistica*, 5(1), 28-41.
- Swales. (1990). *Genre analysis: English in academic and research settings*. Cambridge, England: Cambridge University Press.
- Swales. (2004). *Research genres: Exploration and applications*. Cambridge, England: Cambridge University Press.
- Thompson, G. (2001). Interaction in academic writing: Learning to argue with the reader. *Applied Linguistics*, 22(1), 58-78. <https://doi.org/10.1093/applin/22.1.58>
- Thompson, G. (2008). Review of metadiscourse: Exploring interaction in writing. *Discourse & Society*, 19(6), 845-847. <https://doi.org/10.1017/S0047404508080111>
- Varttala, T. (1999). Remarks on the communicative functions of hedging in popular scientific and specialist research articles on medicine. *English for Specific Purposes*, 18(2), 177-200. [https://doi.org/10.1016/S0889-4906\(98\)00007-6](https://doi.org/10.1016/S0889-4906(98)00007-6)
- Williams. (1981). *Style: Ten lessons in clarity and grace*. Boston, USA: Scott Foresman.
- Yagız, O., & Demir, C. (2014). Hedging strategies in academic discourse: A comparative analysis of Turkish writers and native writers of English. *Procedia - Social and Behavioral Sciences*, 158, 260-268. <https://doi.org/10.1016/j.sbspro.2014.12.085>