

An Investigation of Metadiscourse Features in Applied Linguistics Academic Research Articles and Master's Dissertations

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ABSTRACT

The current study comparatively investigated the employment of metadiscourse items in 40 post-method sections/chapters of research articles (RAs) and master's dissertations (MAs) in the field of applied linguistics. Utilizing Hyland's (2005a) model of metadiscourse in analysing metadiscourse elements detected in both sets of texts, the findings indicated that interactive metadiscourse features were more frequent in both sets of texts than interactional metadiscourse items, and that the master's dissertation subcorpus included significantly higher occurrences of most metadiscourse devices. Results indicated that transitions are the most used category of metadiscourse in research articles and master's dissertations, while hedges are the most frequent interactional metadiscourse category used in both subcorpora. Results also showed that the master's dissertation subcorpus consists of significantly higher occurrences of some metadiscourse devices, which might be due to the nature of both genres. The findings have important implications, particularly for L2 student writers, by facilitating their understanding of metadiscourse use in this field. The study concludes with the limitations, as well as recommendations for future research.

INTRODUCTION

Metadiscourse, defined as the devices or resources that writers employ to "explicitly organize their texts, engage readers, and signal their attitudes to both their material and their audience" (Hyland & Tse, 2004, p. 156), has been established as a key element of academic writing (e.g., Ädel, 2006; Hyland, 2004b, 2005a; Hyland & Tse, 2004). Research has demonstrated that the deployment of metadiscourse devices in different academic genres is influenced by a number of factors, including: Discipline (e.g., Cao & Hu, 2014); research paradigm (e.g., Hu & Cao, 2015); and the writer's linguistic/cultural background (e.g., Kim & Lim, 2013), as well as the publishing context (e.g., Lafuente-Millán, 2014). According to Ädel (2006), most of the growing body of research has focused on differences in the employment of metadiscourse between disciplines rather than genres, and

therefore, more research is required to examine the genre variation of metadiscourse in English. Research on metadiscourse in academic writing has largely focused on expert writing, i.e., RAs (e.g., Hyland, 2004a) though researchers have recently turned their attention to this use in student writing, mainly, the doctoral thesis and the master's dissertation (Lee & Casal, 2014). The paucity of research on metadiscourse in master's dissertations and doctoral theses can be ascribed to their length, which is always a key concern in dissertation and thesis studies (Bunton, 2002). Therefore, the current study aims to investigate the use of metadiscourse features in expert writing (i.e., academic research articles), as well as in novice student writing (master's dissertations).

When crafting their master's dissertation and to seek advice on the appropriate use of metadiscoursal items in their writing, student writers may resort to the existing research-informed teaching materials that are intended mainly to be used

by research article writers. Although master's dissertations are similar in some ways to research articles, they are also quite different in many ways. For instance, students and expert writers have different purposes, audiences, and requirements they need to meet (Paltridge & Starfield, 2007, p. 67). Research has also provided evidence of the difficulties master's student writers encountered when writing the discussion of results section (Bitchener & Basturkmen, 2006). Those students may also consult the available research-informed instructional materials, particularly on the introduction and literature review chapters (Swales & Feak, 2004); however, there is limited writing guidance provided specifically on the results and discussion chapters (Lee & Casal, 2014). The current study is an attempt to fill the research gap by aiming to identify the metadiscourse items used by master's dissertation writers and comparing these items with those employed by expert writers in the same area of study. In particular, this study attempts to answer the following research question: What are the similarities and differences in the use of interactive and interactional metadiscourse devices between expert writers of academic research articles and novice student writers of master's dissertations in the field of applied linguistics? The obtained findings from this study aimed at devising teaching materials specifically relevant for master's dissertation writers in the field of applied linguistics.

The remainder of this article is divided into the following sections. Section (2) provides detailed information on the corpus, metadiscourse model, and analytical procedure adopted for the current study. Section (3) presents the main findings of the current study and sheds light on the discussion of the findings. Section (4) is concluding remarks stating the limitations of the study, the implications of the findings, and some suggestions for future research.

METHODS AND PROCEDURES

The current study investigated metadiscourse devices in the post-method sections of applied linguistics research articles and master's dissertations. The focus on the field of applied linguistics in this study was that I have a fair background in this discipline that would allow me to read and interpret some of its academic texts. Such substantial background knowledge would be helpful in analysing the corpus of the current study. The selection of master's dissertation genre for the current analysis was motivated by several reasons. First, there is a generally relative paucity of research on this student-produced genre (Thompson, 2013), despite the fact that the master's dissertation is a central part of most master's programmes (Samraj, 2008). The analysis in this study focused on the post-method sections of research articles and master's dissertations because these rhetorical sections, particularly the results and discussion sections, would contain more instances of metadiscourse devices compared to other parts (Lee & Casal, 2014).

The Corpus

The corpus included in the current study comprised two comparable subcorpora in applied linguistics, consisting of

40 post-method sections/chapters of research articles and master's dissertations in the field of applied linguistics. The first set of texts consists of 20 master's dissertations in the field of applied linguistics written in English by English as a second language (L2) student writers. The dissertations analysed were marked by more than one examiner ensuring higher reliability of dissertation grades (cf. Petric, 2012; Samraj, 2013). Therefore, the dissertations included in this study can be all regarded as successful exemplars of the dissertation genre in the field of applied linguistics. The second set of texts comprised 20 research articles and was selected from reputable international journals included in the Social Sciences of Citation Index (SSCI). These journals were also nominated in other similar investigations on metadiscourse use (e.g., Cao & Hu, 2014; Hu & Cao, 2015; Khedri et al., 2013; Liu & Buckingham, 2018; Mu et al., 2015). The journals from which the research articles were selected are *Studies in Second Language Acquisition*, *TESOL Quarterly*, *English for Specific Purposes*, and *Language Learning*. From each journal, five articles were selected to build the research article subcorpus.

Metadiscourse Model

Although there are several frameworks of metadiscourse (Bunton, 1999; Crismore et al., 1993; Hyland, 1999, 2005a; Hyland & Tse, 2004; Vande Kopple, 1985), the current study drew upon Hyland's (2005a) model (see Table 1) in analysing metadiscourse elements in both sets of texts for a number of considerations. First, the current study is genre-based in that its objective was to examine the similarities and differences in the employment of metadiscourse devices in research articles and master's dissertations in the field of applied linguistics. Since Hyland's (2005a) framework is genre-based and was the product of an empirical classification of a larger, multi-disciplinary corpus, that model was considered appropriate for this study. Hyland's (2005a) model has been also employed by recent studies in analysing metadiscourse devices in similar genres, i.e., research articles and master's dissertations (e.g., Kawase, 2015; Lee & Casal, 2014). The adoption of Hyland's (2005a) model in this study would therefore allow my findings to be compared with those obtained in other relevant studies.

Analytical Procedures

Because all the research articles and master's dissertations included in the corpus consist of introduction, methods, results and discussion, and conclusion sections/chapters (IMRD pattern) (Paltridge, 2002; Yang & Allison, 2003), identification of the post-method sections of the research articles and master's dissertations was therefore straightforward. The post-method sections of the selected research articles and master's dissertations were converted into the plain text format for corpus analysis after tables, figures, graphics, section and sub-section titles, footnotes, headers/footers, excerpts of data, and block quotations were removed. Table 2 summarizes the descriptive statistics for the corpus in the current study. Using Wordsmith Tools 8.0 (Scott, 2020), all

Table 1. Hyland's model of metadiscourse (Hyland, 2005a, p. 49)

Category	Function	Examples
Interactive	Help to guide the reader through the text	Resources
Transition	Express relations between main clause	In addition; but; thus; and
Frame makers	Refer to discourse acts, sequences or stages	Finally; to conclude; my purpose is
Endophoric markers	Refer to information in other parts of the texts	Noted about; see fig; n section 2
Evidentials	Refer to information from other texts	According to x; z states
Code glosses	Elaborate propositional meanings	Namely; e.g., ; such as; in other words
Interactional	Involve the reader in the text	Resources
Hedge	Withhold commitment and open dialogue	Might; perhaps; possible; but
Booster	Emphasize certainty or close dialogue	In fact; definitely; it is clear that
Attitude markers	Express writer's attitude to proposition	Unfortunately; i agree; surprisingly
Self-mentions	Explicit reference to author (s)	I; we; my; our
Engagement markers	Explicitly build relationship with reader	Consider; note; you can see that

Table 2. Descriptive statistics for the corpus in the current study

Subcorpus	No. of texts	Range of Word length	Ave. Word Count	Tokens
Research articles	20	2784-12,362	5434	108,696
Master's dissertations	20	5,089-10,520	7483	149,657

metadiscoursal items found were collected for analysis by drawing on Hyland's (2005a) taxonomy of metadiscourse. Since metadiscourse markers may serve a metadiscoursal function other than propositional, or may achieve different functions (Hu & Cao, 2015; Hyland, 2005a), all the found metadiscoursal items were also checked in their co-text in order to ascertain that they serve a metadiscoursal function other than propositional. For instance, the verb **appear** was used in Example (1) to mean "display," not performing a metadiscoursal function; and in Example (2), as a hedge to show tentativeness in interpreting results.

Example (1): As it **appears** in Graph 20, practice through the use of dialogues is common in the English language classroom. (MA-20)

Example (2): As the graph illustrates, compared to students, teachers **appear** slightly overconfident as to how often their students use English, all responding with 'very often'. (MA-20)

After identifying all occurrences of interactive and interactional metadiscourse elements in both sets of texts under analysis, the collected metadiscourse items were normalized to per 10,000 words. Using a chi-square test, a non-parametric test commonly used in corpus research (Brezina, 2018), metadiscoursal categories in the two subcorpora were compared to determine whether the differences in the occurrences were significant; as such, the significance level was established at $p < 0.05$.

FINDINGS AND DISCUSSION

The current study comparatively examined the usage of metadiscourse markers in the discussion of results sections/chapters of research articles and master's dissertations in the field of applied linguistics by drawing on Hyland's (2005a)

framework of metadiscourse. Table 3 provides comparative analysis of the two subcorpora with respect to the use of interactive and interactional metadiscourse items. As Table 3 below displays, the overall number of interactive metadiscourse items in research articles and master's dissertations were 3,150 and 10,575, respectively. On the other hand, the total of interactional items in research articles and master's dissertations were 2,153 and 5,605, respectively. This result is consistent with those of other studies on metadiscourse in research articles and master's dissertations (Hyland, 2004b, 2005a) showing that interactive metadiscourse devices are more commonly employed than interactional metadiscourse items in similar academic genres. Moreover, writers of the master's dissertations analysed used more metadiscourse devices, which may be due to differences in length of the research articles and master's dissertation.

Interactive Metadiscourse

Transitions

As can be seen in Table 3, the use of transitions (i.e., addition, comparison, and consequences) are the most commonly used category of metadiscourse in research articles and master's dissertations. Similar findings are also obtained by other studies on similar academic genres (Hyland, 2005a; Lee & Casal, 2014). This finding suggests that academic writers in both subcorpora of the present study are inclined to produce the writer-responsible texts (Hinds, 1987) by using words that show the textual additions; comparisons; and consequential or contrasting information, such as, for instance, shown in the following extracts [Example (3) - Example (4)] from the two subcorpora.

Example (3): **Again**, this finding demonstrates how the argumentative discussion across the three

Table 3. Metadiscourse markers in research articles and master's dissertations

Category	Research articles		Master's dissertation		p-Value
	Items	Per 10,000 Words	Items	Per 10,000 Words	
Interactive					
Transitions	1,351	13.51	7,059	70.59	0.00
Frame markers	867	8.67	1,904	19.04	3.20
Endophoric markers	537	5.37	852	8.52	0.01
Code glosses	395	3.95	674	6.74	0.00
Evidentials	42	0.42	86	0.86	0.04
Total	3,150	31.5	10,575	105.75	0.00
Interactional					
Hedges	738	7.38	2,764	27.64	0.00
Boosters	190	1.9	916	9.16	0.00
Attitude markers	76	0.76	170	1.7	0.00
Self-mentions	504	5.04	944	9.44	2.71
Engagement markers	645	6.45	811	8.11	0.09
Total	2153	21.53	5605	56.05	0.00
Overall total	5,303	53.03	16,180	161.8	0.00

subdisciplines is similarly presented, revealing the larger engineering perspective shared by these three sub-disciplines. (RA-ESP-3)

Example (4): **Similarly**, the participants of the current study showed that they can work out the properties of L2 grammar despite the explicit misleading presentation and can construct a grammar which is not context-dependent. (MA-3)

However, as shown in Table 3, the master's dissertation subcorpus consists of significantly higher occurrences of transition devices, which might be due to the varying lengths of both genres analysed, i.e., the research articles and the master's dissertations. Since metadiscourse items such as transitions are effective in developing coherence and interconnectivity between sentences (Duke, 1983), this might be another possible reason for greater employment of transitions by student academic writers (Agustinos & Arsyad, 2018). This finding is congruent with those of Can and Yuvayapan (2018) and Djahimo (2018), according to whom the use of transitions was high in the academic writing pieces of student writers.

Frame markers

The use of frame markers and its subcategories (i.e., sequencing, label stages, announcing goals, topic shift) is the second most frequent interactive metadiscourse in both subcorpora, as can be seen in Table 3. However, no significant differences were found for metadiscourse frame markers in the texts examined, giving support to past relevant studies on frame markers in master's dissertations and doctoral theses (Hyland, 2004b; Lee & Casal, 2014), as well as research articles (Hyland, 2005a). Moreover, while metadiscourse devices that are employed for sequencing and topic shifts were most common in master's dissertations [Example (5) - Example (6)], words that are used to

announce study goals were commonly deployed by research article writers [Example (7)].

Example (5): Here the results obtained from spontaneous and elicited production will be compared with predictions concerning different morphosyntactic properties of NumPs, which are based on input frequency and rule complexity, formulated in **Chapter IV** on NumPs in child-directed speech. (MA-7)

Example (6): **With regard** to the grammatical tenses associated with reporting verbs in the students' assignments, there are varying reasons for such selections of these tenses as the students expressed. (MA-11)

Example (7): The primary **purpose** of these analyses was to see how similarly or differently the native group and the ESL group behaved in processing the missing plural inflections. ANOVA statistics for the critical and post-critical regions are presented in Table 4. (RA-LL-3)

Endophoric markers

Endophoric markers are writing skills that increase understanding and validate critical aspects through alluding to primary material or through generating prior ideas for the content that is about to be described (Hyland, 2005a). They are used in various academic genres, such as books and research articles, as well as master's dissertations and doctoral theses, as they provide direction for the readers for facts, theoretical concepts, methodology, and findings of the research that are described in the body of text (Hyland, 2004b). Table 3 shows that significant differences in the employment of endophorics were found between both subcorpora. This finding is expected because previous research has shown that endophorics are infrequent in research

articles (Hyland, 2005a; Mur-Dueñas, 2011). However, results indicated that non-linear markers, such as *Figure x*, *Table x*, and *Appendix x*, are the most common subcategory of endophorics used in both sets of texts under analysis, as in the following extracts [Example (8) - Example (9)].

Example (8): **Table 4-1** displays these different sections in a unit and each teacher's use of each section. (MA-6)

Example (9): As can be observed in **Figure 2**, in the canonical indirect object position, the results are not as robust. (RA-SSLA-4)

Evidentials

Past research has shown that evidentials are common in different academic genres, including research articles (Hyland, 2005a), master's dissertations, and doctoral theses (Hyland, 2004b). However, findings of the current study (see Table 3) indicated that evidentials are among the least employed metadiscourse features in both subcorpora. The following extracts [Example (10) - Example (11)] are examples of the few instances of evidentials included in the two sets of texts in the study.

Example (10): This is because, **according to Kormos (1999: 172-173)**, who measured ratification in exactly the same way as this research, while the candidates accepted 99% of the examiners' topics, the examiners merely ratified 52% of the total number of topics introduced by the examinees. (MA-13)

Example (11): Moreover, contrary to the findings of **Hamid et al. (2009)** that "not a single interviewee was critical of [EPT]" (p. 302), almost all the interviewees in the current study expressed some criticisms of EPT for its excessive focus on examination skills, which they felt were not useful for everyday communication. (RA-TESOL-5)

This surprising paucity of evidentials in both sets of texts analysed is likely due to the corpus in this study only including the discussion of results sections/chapters, which unlike introductions and literature reviews, would involve fewer references to past research (Hyland, 2005a). Similar findings were also observed by Guo (2019), who examined the occurrence of evidentials in the abstracts of master's dissertations in two languages (i.e., English and Chinese), and found that evidentials were less commonly used in the rhetorical section, i.e., abstracts, in both languages. This finding lends support to that of Lee and Casal (2014), in that evidentials occurred infrequently in the results and discussions of English and Spanish master's dissertations in the field of engineering.

Code glosses

Code glosses with its two subcategories (i.e., reformulation and exemplification) are helpful to determine connectivity and coherence between items during the process of reading (Hyland, 1999, 2010), as can be seen in the following extracts [Example (12) - Example (13)] from the two subcorpora.

Example (12): Most of the EngL1 (80%) and the EngL2 writers (60%) use at least three strategies to occupy the niche in research, **namely**, Strategies A (work done, research aims, focuses, research questions or hypotheses, justification), B (theoretical/methodological frameworks) and C (announcing one's research design/processes). (RA-ESP-5)

Example (13): **For example**, Ku et al. (1996) investigated a Chinese (L1) and English (L2) bilingual patient with a lesion (herpes simplex encephalitis) in the left temporal lobe and found that the patient had lost the ability to both understand and speak English. (MA-1)

Hyland (1999) found that the most commonly used metadiscourse were transitions, followed by endophoric markers and code glosses, which is similar to findings observed in the present study, as Table 3 displays. The master's dissertations in the present study contained approximately double the number of code glosses in the research articles, i.e., 674 items and 395 items, respectively; and this difference in the usage of these interactive metadiscourse markers was found statistically significant, as can be seen in Table 3. This finding does not match those of Hyland (2004b) and Lee and Casal (2014), who found that glosses are rather uncommon in the texts investigated. One possible explanation for the dissimilar findings, for example, between the findings of the current study and that of Lee and Casal (2014) may be due to the factor of discipline. That is, while in this study the discipline of interest is applied linguistics, in Lee and Casal's study (2014), the discipline is engineering. This suggests that although the two studies examined code glosses in the same academic genre, i.e., the master's dissertations, disciplinary preferences seem to be dominant. Also, Nausa Triana (2019) found that high achievers deployed more instances of code glosses than low achievers, who are more ignorant towards the usage of code glosses in their writings; this could explain the increased use of code glosses by the master's dissertation writers in this study, since only successful master's dissertations were included for analysis (see Section 2.1).

Interactional Metadiscourse

Hedges

In academic writing, the use of hedges indicates that "the statement is based on the plausible reasoning rather than certain knowledge and allows the reader to dispute it" (Hyland, 1998, p. 4). As shown in Table 3, the use of hedges is common in both sets of texts. This finding is expected because previous studies showed that hedges were found to be the most commonly used interactional metadiscourse across disciplines (e.g., Hyland, 2005a, 2005b), as well as in research articles (e.g., Mur-Dueñas, 2011; Pérez-Llantada, 2010) and master's dissertations (e.g., Lee & Casal, 2014). The following examples of hedges [Example (14) - Example (15)] are from the two subcorpora:

Example (14): Particularly, the present study **suggests** that female students had a stronger preference

for all learning styles than the male students, except for the individual learning style category. (MA-2)

Example (15): Therefore, they were likely to recall and pinpoint transient factors such as emotion and perceived opportunities to communicate, instead of the **relatively** remote ID factors such as motivation and international posture. (RA-TESOL-2)

Although the use of hedges is common in both sets of texts, the master's dissertation subcorpus has been found to include significantly more hedges than the research article subcorpus. This finding is not surprising because the deployment of hedges in postgraduate writing, i.e., doctoral theses and master's dissertations, is vital for student writers, who should carefully "evaluate their assertions in ways that are likely to be accepted and persuasive to their examiners and supervisors" (Hyland, 2004b, p. 140).

Boosters

In contrast to the hedges, boosters generally imply the certainty of the propositions provided by the writer, providing no room for the reader to dispute the author's judgements (Hyland, 2005a). As can be seen in Table 3, boosters were significantly more common in the master's dissertation subcorpus. This result suggests that master's dissertation writers make their claims in a more assertive tone (Lee & Casal, 2014), which is evident from their deployment of greater numbers of boosters in their texts compared to the use of these interactional metadiscourse items by the research article writers (i.e., 916 vs. 190 boosters in master's dissertations and research articles, respectively). Moreover, the finding lends support to that of other relevant studies on research articles and master's dissertations (Lee & Casal, 2014), showing that emphatic markers were more common than amplifying adverbs as boosters in both subcorpora. Further, *find* and *show* were the most common emphatics in both subcorpora, as shown in these extracts [Example (16) - Example (17)] below:

Example (16): This property can explain the phenomena **found** in the present study that Spanish learners overpassivized unaccusatives with transitive counterparts but not those without, namely, Spanish learners overgeneralise the morphosyntactic reflexives of the movement of theme objects to unaccusative verbs with transitive counterparts. (MA-12)

Example (17): Moreover, this study **shows** that the outcome of *Kusho* was more than on a par with writing: *Kusho* significantly outperformed the standard practice of iterative copying of target kanji on paper as a technique for memorizing the shapes of kanji, an effect that apparently emerges when the overall difficulty in the task of memorization approaches a threshold. (RA-LL-4)

Attitude markers

Attitude markers are among the least frequent interactional metadiscourse categories used in both subcorpora, as shown in Table 3. This finding is inconsistent with some previous studies exploring metadiscourse in master's dissertations indicating that attitude markers were common in these academic genres (Lee & Casal, 2014). These differing findings might be attributed to the nature of disciplinary areas involved. The present study is concerned with the usage of metadiscourse features in the field of applied linguistics, while the cited study was interested in examining these items in texts from engineering. This means that disciplinary practices and conventions might influence writers' choices concerning their use of such markers.

Although attitude markers are uncommon in either subcorpora, there were statistically significant differences between the two groups of writers in this study with regard of their usage of these interactional metadiscourse elements. That is, the master's dissertation writers employed nearly double the number of attitude markers, as can be seen in these examples [Example (18) - Example (19)] from the master's dissertations included in the current study.

Example (18): Another **interesting** finding concerns the high omission rates of determiners in the speech of Nikos. (MA-19)

Example (19): What is really **important** to notice is the difference between the representation of morphologically complex words in the lexicon and their access. (MA-16)

Self-mentions

Self-mentions are generally termed as the markers where the writer mentions himself/herself to develop a sort of engagement between the reader and the asserted viewpoint of the author (Hyland, 2005a; Hyland & Tse, 2004). Markers – such as I, me, my, we, the researcher, the author... etc. – are some of the common self-mention markers used in academic writings. According to the findings displayed in Table 3, self-mentions were the second most commonly used category of interactional metadiscourse in the master's dissertation subcorpus and the third in the research articles subcorpus. The following are examples [Example (20) - Example (21)] from the two sets of texts.

Example (20): It was **my** belief that reflective and abstract learning styles should have a positive influence on metalinguistic performance, as the latter invokes conscious processing of rules and involves profound analysis of language structures. (MA-5)

Example (21): **I** suggest caution when interpreting this result because the length-of-residence factor group overlaps with native language; that is, six out of seven learners with a 3-to-4-year stay are English and Russian speakers, whereas three out of four learners with a 2-year stay are Japanese speakers. (RA-SSLA-1)

Also, no statistically significant differences were found in the use of self-mentions between the writers of research articles and the master's dissertations included in the current study (Table 3). Several potential explanations may be provided for the differences in the occurrences of self-mentions in the two subcorpora. First, the higher occurrence frequency of self-mentions in the master's dissertations subcorpus could be ascribed to the fact that student writers of dissertations might be recommended by their supervisors to avoid expressions explicitly referring to them as the authors of their texts, such as the use of first-person pronouns. Furthermore, research in academic writing has shown the impact of culture on the use of interpersonal phenomena, including self-mentions (Lafuente-Millán, 2014). That is, since the writers of the master's dissertations under analysis are novice L2 writers, coming from different cultural backgrounds, it seems that their cultural preferences might override disciplinary practices with regard to such interactional metadiscourse markers.

Engagement markers

Engagement markers are the heterogeneous groups of devices that are employed to attract the reader in a direct manner (Hyland, 2005a). In academic writing, writers can draw on resources such as reader pronouns (e.g., *let us, we*); imperatives (e.g., *take a look*); obligation modals (e.g., *must*); interjections (e.g., *by the way*), or questions (e.g., *?*) to develop a strong engagement between a writer and the reader. The following are examples [Example (22) - Example (23)] from the two subcorpora.

Example (22): If **we** now turn to the perspective of materials adaptation, we can see that there is a clear trend of adding activities. (MA-10)

Example (23): First, **let us** investigate whether any statistically significant difference existed between the equal and expanding schedules in the participants' performance on the retrieval practice during the treatment. (RA-SSLA-5)

As displayed in Table 3, engagement markers in both subcorpora are relatively uncommon, although this interactional metadiscourse category occupied the second position in the research articles subcorpus. Further, the study found no statistically significant differences in the usage of engagement markers between the writers of research articles and the master's dissertations included in this study. This finding is consistent with those from previous studies that found engagement markers are fairly infrequent compared to other metadiscourse categories (Hyland, 2004b, 2005b; Lee & Casal, 2014) in master's dissertations and research articles.

CONCLUDING REMARKS

The current study investigated the differences in the usage of metadiscourse features in the post-method sections/chapters of research articles and master's dissertations in the field of applied linguistics. Drawing on Hyland's (2005a) framework of metadiscourse in analysing the

collected metadiscourse elements found in the two sets of texts, the study aimed to explore the similarities and differences in the use of interactive and interactional metadiscourse devices between the expert writers of academic research articles and novice student writers of master's dissertations. Overall, the study found that interactive metadiscourse devices are more commonly employed in both sets of texts than interactional metadiscourse items and that the master's dissertation subcorpus included significantly higher occurrences of most metadiscourse devices. The analysis in this study was made on a small sample size of corpora that was exclusively based on 40 post-method sections/chapters of research articles and master's dissertations in the field of applied linguistics. Therefore, the corpora gathered for analysis were still insufficient to establish the generalizability of the findings. Also, the findings cannot be generalized for the rest of the sections/chapters of research articles and dissertations in this field because different rhetorical sections/chapters perform different communicative functions. Future research could be thus directed to investigate metadiscourse elements in other rhetorical sections of master's dissertations and research articles in this field (e.g., abstract, introduction). Another avenue of research is to investigate the influence of the discipline and genre, as well as culture on the deployment of metadiscourse in various academic genres written by expert and novice writers. From a pedagogical viewpoint, the findings of the study may be availed by novice L2 student writers to grasp and meet the criteria of their discourse community with regard to the appropriate use of metadiscourse, because the selected dissertations in this study are considered to be successful exemplars of the dissertation genre in the field of applied linguistics. It is hoped that the findings obtained from this study may be used for creating teaching materials for how L2 student writers could effectively employ metadiscourse features in their academic writing.

END NOTES

1. This is an example.
2. This is an example for note

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