Comparing Engagement Markers in Economics Research Articles and Opinion Pieces: A Corpus-based Study

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ABSTRACT

Engagement markers which are reader-oriented rhetorical features are used by writers to signal the presence of readers in their writing. As a key rhetorical feature, the use of engagement markers in academic writing has been explored in recent years. Despite this, few studies have compared their use in research articles and opinion pieces. In addition, studies on engagement markers have not drawn extensively on corpus methodology. Given this, the current study explores the use of engagement markers in economics research articles (henceforth RAs) and opinion pieces (henceforth OPs) based on corpus methods from two self-compiled corpora of RAs and OPs. The corpus analysis tool *AntConc* was used to generate data need for the analysis of engagement markers in the two genres based on Hyland's (2005b) framework of five types of engagement markers. The results of this study show that there is a higher occurrence of engagement markers in RAs than OPs. Among the different types of engagement markers, directives were predominantly employed by the writers in both genres. The use of engagement markers in RAs and OPs is discussed in relation to the target audiences and different communicative purposes of the two genres. These findings have important implications for English for Specific Purposes (ESP) writing.

Keywords: engagement markers; research articles; opinion pieces; economics; ESP writing

INTRODUCTION

Written discourse involves an important connection between writers and readers as it is designed to persuade the latter of the knowledge that is claimed in a piece of writing (Hyland, 2011). A growing literature in the area shows that writers employ various discourse features, such as hedges and boosters (Hu & Cao, 2011), self-mentions (Zareva, 2013), and stance markers (Crosthwaite, Cheung & Jiang, 2017), to negotiate and interact with readers in written discourse. Many of these studies are writer-oriented, which means that they focus on writer-oriented features used by writers to construct positions and structure texts to the readers' expectations. Research into reader-oriented features on the other hand is limited (Hyland, 2001; Hyland & Jiang, 2016; Jiang & Ma, 2018) despite the importance of readers' expectations. The reader-oriented features bring readers into the texts and take their presence into consideration. These features are important because research shows that reader inclusion is a strategy for producing effective argumentative texts (Hyland, 2005a).

       The current study explores the ways writers address readers in written discourse, focusing particularly on the use of engagement markers in two different genres, namely research articles and opinion pieces. Engagement markers are explicit linguistic forms which

allow writers to connect readers and include them as discourse participants (Lafuente-Millán, 2014). According to Hyland (2005b), engagement markers allow writers to acknowledge, connect to the readers, and guide the readers to interpretations with the aim to get readers' attention and acknowledgement. By engaging with readers, writers do not simply produce texts, but also write with readers' assumed knowledge, expectations and interests in mind. Engagement markers are therefore considered effective in engaging readers and serve to increase potential readership.

The current study is interested in examining the use of engagement markers in research articles and opinion pieces in the discipline of economics. While there have been many studies on the rhetorical aspects of research articles in general and in the field of economics in particular, not many have compared research articles and opinion pieces, and to date, there are few studies on the use of engagement markers in the two genres. Genre variation has been the focus of research in English for Specific Purposes (ESP) in recent decades (e.g., Hyland, 2010; Fu & Hyland, 2014; Crosthwaite, Cheung & Jiang, 2017; Jiang & Ma, 2018). Research articles and opinion pieces are both persuasive, however, they target different sets of readers. As target audience influences the rhetorical choices used by writers, an analysis of engagement markers can reveal the differences between the two genres. Engagement markers are a form of "reader-oriented aspect of interaction" (Hyland & Jiang, 2016, p. 29), so a study of their use in research articles and opinion pieces will shed new light on writers' understanding of the target audiences in the two genres.

LITERATURE REVIEW

Research articles as an important academic genre in scholarly life has received much attention from language researchers who have studied various linguistic aspects of the genre, such as the grammatical and stylistic features (e.g., Rozycki & Johnson, 2013), structural and linguistic aspects (e.g., Ang & Tan, 2018; Loi & Lim, 2019). Essentially, research articles are written for other researchers and professional audiences with specialised expertise. Opinion pieces, in contrast, are considered a journalistic genre (Fu & Hyland, 2014) and "opinionated genre intended to persuade the reader" (Biber, 1988, p.148). This journalistic genre represents the position of a newspaper and address viewpoints on a topic to the general public. Opinion pieces are essentially produced for a wider consumption and broader spectrum of readers. The display of opinions presented in opinion discourse exerts a very important influence on public attention to the particular issues, events or problems in the society.

With different purposes and audiences, research articles and opinion pieces present knowledge in very different ways. Biesenbach-Lucas (1994) finds that writers of research articles use specialised terms heavily. This yields some indication of the writing style preferred by writers of research articles. Hyland's (2010) study on "proximity" (referring to a writer's control of rhetorical features) finds that research articles are structured with preciseness by using technical jargon, precise measurements, cautious inferences, and so on. Opinion pieces on the other hand emphasise interpretations in short persuasive discourse. Fu and Hyland (2014) find that opinion pieces contain many reader pronouns and questions in order to construct proximity with readers. Their findings also suggest that writers of opinion pieces show authorities and demonstrate their positions through the "interactive choices" (p.140) of proximity. Apart from rhetorical features, there have also been studies on the linguistic features of opinion pieces, for instance by Rodríguez (2007) on language variations in two newspapers of *The Guardian* and *The Sun*, which found that same meanings are expressed by different languages in different newspapers. Another study by Marin-Arrese (2007) on evidentials and modal markers in the journalistic genres of opinion pieces and leading articles, suggests that opinion pieces show a greater degree of subjectivity and

intersubjectivity than leading articles. Despite these studies, there has been very limited comparative research in the linguistic aspects of research articles and opinion pieces. Motivated by this gap in knowledge, the current study examines engagement markers in both research articles and opinion pieces.

Engagement markers are regarded as a vital rhetorical tool to connect readers and to draw their attention to support the writer's positions (Hyland, 2001; Hyland & Jiang, 2016; Jiang & Ma, 2018). Hyland (2005b) defines it as a connexion through which writers acknowledge the presence of the readers, guide the readers to explanation, and involve them as participants in the argument. Hyland (2001) argues that a successful text relies on an appropriate dialogue with the readers. Being essentially dialogic, engagement markers therefore helps connect writers and readers in a wide textual conversation and assists writers predict readers' reactions. Engagement features in writing therefore mark the presence of readers.

Hyland (2005b) proposes five main ways writers intrude the text and engage with readers explicitly, namely directives, reader mentions, knowledge appeals, questions and personal asides. The five main ways are presented in this study as five types. Table 1 below provides a summary of Hyland's framework.

TABLE 1. Hyland's (2005b) framework on engagement markers

Types	Explanations	Examples
directives	initiate reader participation; realised through imperatives and obligation modals, which direct readers a) to another part of the text or to another text, b) how to carry out some action in the real-world, or c) how to interpret an argument.	*Assume that*; *remember*; *let us*
reader mentions	the most explicit acknowledgement of the readers; take readers into a discourse, realised through second person pronouns, particularly inclusive *we* which identifies the reader as someone who shares similar ways of seeing to the writer.	*you*; *your*; *reader*; *one*
knowledge appeals	construct readerships by presuming readers hold such knowledge; less imposing than reader mentions; explicit signals asking readers to recognise something as familiar or accepted.	*it is true that*; *it is well-known that*
questions	capture readers' attention and invite readers to take part in the argument; writers use questions by assuming that readers are interested in the issue and are likely to follow the writer's response to it.	*?*
personal asides	writers' interruptions of the ongoing discourse by offering comments on the discussion; the comments are writer-reader interaction rather than the interpretation of the propositional content.	*parentheses*; *dashes*

When writers utilise engagement markers, they take into account their readership and project an identity. Given that research articles and opinion pieces are targeted towards different audiences, a study of the use of engagement markers will yield knowledge on reader-oriented features and further understanding on reader inclusion in the two genres. The findings of the study will also contribute towards understanding the discourse conventions of the two genres.

MATERIALS AND METHODS

CORPUS OF STUDY

The current study employed a corpus-based approach to identify and compare the types of engagement markers found in research articles and opinion pieces. For this purpose, two corpora comprising research articles and opinion pieces in the field of economics were

developed. In order to compile research articles and opinion pieces corpora of similar sizes, the researcher needed to compile more opinion pieces as opinion pieces are generally much shorter than research articles. Research articles (henceforth RAs) in economics from *Scopus-indexed* and *ISI-indexed* journals were collected to develop the corpus on RAs. These articles were taken from three journals *American Economic Journal Applied Economics*, *American Economic Review* and *Journal of the European Economic Association* and published between 2007 and 2017. All the journals publish one volume each year, but vary in the number of issues for each volume: the *American Economic Journal Applied Economics* publishes four issues every year, the *American Economic Review* has five to twelve issues over the past ten years and the *Journal of the European Economic Association* publishes six issues every year. As the number of issues is the limited, the study used articles from all three journals to develop the corpus on RAs. And to be consistent, only empirical research articles were used. Theoretical articles were excluded and in total 72 articles were used to develop the RAs corpus.

Opinion pieces (henceforth OPs) were taken from the newspaper *The Economist* published between 2007 and 2017. Opinion pieces (henceforth OPs) were taken from *The Economist* published between 2007 and 2017. *The Economist* is a weekly newspaper and it was used as the source for OPs in the study because its articles fulfill Fu and Hyland's (2004) description of OPs, i.e., persuasive and representative of institutional perspectives. The newspaper has columns on financial markets (Buttonwood), business (Schumpeter), Asian politics (Banyan) and Latin America (Bello). OPs on the topics of economics were selected as the corpus data for this study. As opinion pieces are generally much shorter than full research articles, a total of 633 texts were taken from the *The Economist* to achieve the OPs corpus that is comparable in size to the RAs corpus.

Once the data collection and compilation were completed, data cleaning was carried out. This involved removing article title, abstract, tables, charts, figures, formulas, footnotes and references. The RAs and OPs corpora used in the study consisted of 603,520 and 602,353 running words (72 and 633 texts), respectively. Although the two corpora were comparable in terms of the number of word tokens each contains, frequency normalisation was carried to ensure comparability between the two corpora. To this end the common base was set at per 1000 words.

DATA GENERATION AND ANALYSIS

The data analysis involved both quantitative and qualitative data. First, the engagement markers that appear in the two corpora were generated using the corpus analysis tool, *Antconc*. The identification of engagement markers was based on Hyland and Jiang's (2016) suggestions. Engagement markers are metadiscourse that are multifunctional and context-dependent (He & Abdul Rahim, 2017). The typology of metadiscourse examined in academic discourse can be adopted in both research articles and opinion pieces (Le, 2014). Engagement markers therefore were coded with reference to Hyland and Jiang's (2016) study. In their study, Hyland and Jiang (2016) propose approximately 100 engagement markers in research articles. The present study not only used their list of potential engagement markers, but also manually checked the texts to add the coding scheme of engagement markers that were not found in Hyland and Jiang's (2016) research. Thus, the identification of the markers was done based on the use in context. For this purpose, the concordance tool in *Antconc* software was used to generate concordance sets of potential engagement markers in context.

Once the concordance lists were generated, the next level of analysis was carried out and this involved manually scrutinising each instance of engagement markers in each concordance line. Some items of engagement features are difficult to specify. For instance,

parentheses are potential features of personal asides, which belong to engagement markers. However, this is not always the case. For instance, in the sentence "In this paper, I go even further by locating a "smoking gun" **(more accurately, a smoking scanner)** in IT investment and linking it directly to store-level productivity growth. (RA13)", the contents in the parentheses are code gloss rather than personal asides. Therefore, at this stage, engagement markers were examined manually to exclude those that do not meet the criteria that are based on Hyland (2005b). The manual checking was conducted twice to ensure the accuracy of the identification and specification of engagement markers.

Once engagement markers in both corpora were identified, the quantitative analyses were carried out using log-likelihood (LL) (Rayson, 2016) statistical test. The current study adopted the LL statistic to determine the level of significance of frequency differences. The LL ratio serves to compare the frequency of items across corpora and decide if there is statistically significant difference in the frequency of these items among the corpora (Lancaster, 2016). LL test is effective in identifying the differences in the use of metadiscourse between different texts/corpora (ibid.). Following the quantitative results, the prominent engagement features were qualitatively analysed. The qualitative analyses examined how engagement markers were used for different purposes to discuss possible reasons for the variations between RAs and OPs.

RESULTS

The results of the analysis suggest that the five types of engagement markers, i.e. directives, reader mentions, knowledge appeals, questions and personal aides, are used in both corpora but they differ in terms of frequency. The raw and normalised frequencies of engagement markers in the two corpora are shown in Table 2.

TABLE 2. Frequency of engagement markers in RAs and OPs

Engagement markers	RAs corpus		OPs corpus	
	Raw F.	F. ‰	Raw F.	F. ‰
directives	1422	2.36	395	0.66
reader mentions	471	0.78	46	0.08
knowledge appeals	416	0.69	347	0.58
questions	47	0.08	74	0.12
personal asides	34	0.06	20	0.03
Total	2390	3.96	882	1.46

Note: Raw F= Raw frequency; F ‰=Frequency per 1000 words

The data shows that RAs writers favour the use of engagement markers over OPs writers (2390 vs. 882 cases in RAs and OPs, respectively). It is also immediately clear from the data above that directives are the most common engagement markers in the two corpora. The results on each of the five main types of engagement markers are discussed in more detail in the following sections.

DIRECTIVES

Directives are rhetorical mechanisms which instruct readers to carry out an action or view things in a way determined by the writer (Hyland, 2002a). Imperatives (e.g., see; note), obligation modals (e.g., need to; should) and predicative adjective structure (e.g., it is important to find) are recognised as the typical linguistic markers to achieve directives. As shown in Table 1 above, RAs include far more directives than that are present in OPs. The LL analysis yields a significant difference in the use of directives between RAs and OPs

(LL=614.20, p < 0.0001). Table 3 shows the most frequently used directives in the two genres.

TABLE 3. Most frequently used directives in RAs and OPs

RAs			OPs		
Markers	Raw F.	F. ‰	Markers	Raw F.	F. ‰
see	252	0.42	see	288	0.48
consider	182	0.30	consider	53	0.09
assume that	175	0.29	it is (also) worth noting	8	0.01
allow	128	0.21	recall	7	0.01
define	78	0.13	assume that	5	0.01
do not	74	0.12	allow	5	0.01
note that	63	0.10	it is time to/for	3	0.00
(re)calculate	44	0.07	note that	3	0.00
recall	39	0.06	tellingly	3	0.00
compare	35	0.06	look at	3	0.00

Note: Raw F= Raw frequency; F ‰=Frequency per 1000 words

As shown in Table 3, the markers "see" and "consider" top both lists. However, the statistical analysis reveals that no significant difference is found in the use of "see" between RAs and OPs writers (LL=2.47, p < 0.0001). This suggests that the use of "see" as directive marker is favoured by both RAs and OPs writers. However, there seems to be significant differences in the use of other shared markers, i.e., "consider" (LL=74.63, p < 0.0001), "assume that" (LL=203.51, p < 0.0001), "allow" (LL=141.52, p < 0.0001), "note that" (LL=66.97, p < 0.0001) and "recall" (LL=24.47, p < 0.0001). The following examples illustrate how writers in the two corpora direct readers.

(1) Overall **we see** that, even with more controls, the main result remains valid: Different-sized communities reacted differently to the introduction of postal voting. (RA65)
(2) Often the first activity may prove a prelude to the second; **it is easy to see** Uber as a forerunner to an eventual system that has no drivers at all. (OP6)

In Example 1, "we see" serves to direct reader to emphasise the truth of proposition with regard to the idea on the validity of result. In Example 2, "it is easy to see" reaffirms the writer's intention to explicitly inform the readers that the proposition about Uber as a forerunner is true. To provide an accurate explanation of the use of directives, this study takes into account the functions of directives. Hyland (2002a) proposes that directives can be used to direct readers to engage in three main kinds of activities namely, textual acts, physical acts and cognitive acts. Textual acts navigate readers towards another text or another part of the text (see Example 3). Physical acts guide readers to conduct certain actions in research processes or in the real world (see Example 4). Cognitive acts instruct readers to take part in the author's arguments through mental activities (see Example 5).

(3) There is also evidence that an increase in women's incomes improve girls' well-being in the family; **see** Thomas (1990) and Duflo (2003).   (RA23)
(4) To see why, **look at** aircraft finance, perhaps the city's most successful industry. (OP476)
(5) **Consider** a campaign that starts in year zero and takes effect instantaneously.   (RA36)

Table 4 presents the frequency of subtypes of directives between RAs and OPs. The frequency of each subtype stands out in comparison. The subtype of textual acts is employed most frequently by writers of RAs and OPs.

TABLE 4. Subtypes of Directives in RAs and OPs

Directives	RAs		OPs	
	Raw F.	F. ‰	Raw F.	F. ‰
textual acts	684	1.13	291	0.48
physical acts	318	0.53	25	0.04
cognitive acts	420	0.70	79	0.13
Total	1422	2.36	395	0.66

The data shows that there is significant difference in the use of each subtype between the two corpora (LL for textual acts=162.24, $p < 0.0001$; LL for physical acts=295.86, $p < 0.0001$; LL for cognitive acts=255.11, $p < 0.0001$). In addition, the markers which realise directives express different functions in RAs and OPs. For example, with regard to textual acts, the difference in function arises. The imperative "see" occurs the most frequently and predominates the use of textual acts in the two corpora. This imperative "see" is used to direct readers to another part of the text, such as tables, figures, etc. In the corpus of RAs, the major function of "see" is to refer to table, section, appendix, examples, and relevant literature. In contrast, the prominent function of "see" in OPs is to point to chart and page. This difference can be seen in examples 6, 7 and 8.

(6) Other models have explained why legislators direct funds to their own constituencies and why individual legislators may have preferences toward the type of policies applied in their constituencies. **See**, for example, Alesina (1988); Persson, Roland, and Tabellini (2000); and Grossman and Helpman (2005). (RA23)

(7) These results are unchanged when we change the coding of inconsistent responses (**see** Appendix Table A4). (RA28)

(8) Trade unions have lost power in the private sector, particularly in America and Britain, where legislation has reduced their ability to take action (**see** chart 3 on next page). (OP6)

As can be seen in Examples 6 and 7, writers of RAs use "see" to direct readers to cited sources and appendix. The cited sources show background information of different models (see Example 6), and the appendix provides supplementary data for the research results (see Example 7). Presenting readers such information in RAs gains academic credibility as this information serves as evidence that supports writers' claims. Compared to RAs writers, OPs writers mostly use "see" to demonstrate the factual information. In example 8, "see" guides readers to the information of trade unions in America and Britain.

READER MENTIONS

Reader mentions are the clearest signal of the writers' awareness of the readers. The inclusive pronouns and possessives are the strategies to realise reader mentions. These devices place readers to the texts directly. The statistical analysis reveals that there is significant difference in the use of reader mentions (LL=405.53, $p < 0.0001$). This implies that while reader mentions do not occur frequently in OPs, these devices are nevertheless a ubiquitous aspect of RAs. Table 5 shows the frequency of reader mentions in RAs and OPs. The inclusive first person pronoun "we" is the most frequently used reader mentions in RAs (see Example 9), while second person pronoun "you" accounts more significantly in OPs (see Example 10).

TABLE 5. Reader mentions in RAs and OPs

	RAs			OPs	
Markers	**Raw F.**	**F. ‰**	**Markers**	**Raw F.**	**F. ‰**
we	228	0.38	you	23	0.04
one	127	0.21	your	13	0.02
our	81	0.13	one	10	0.02
let us	17	0.03			
you	11	0.02			
your	4	0.01			
reader	3	0.00			

Note: Raw F= Raw frequency; F ‰=Frequency per 1000 words

(9) Moreover, **we** can see that the coefficient on the number of teachers per 100,000 inhabitants from 1910–1928 remains exactly the same, so this story does not explain why more teachers were posted in districts that already had many of them. (RA46)

(10) **You** might expect the citizens of the country from which their parents emigrated to take an interest in their political fortunes, and they do. (OP281)

The inclusive "we" is usually followed by modal verbs in RAs, such as "can" in example 9. Among the shared readers mentions between the two genres, a significant difference is found in the use of "one" between RAs and OPs (LL=118.10, p < 0.0001). The use of "one" as the reader mentions marker is prevalent in RAs. This phenomenon could be due to the nature of RAs that requires the writers to explicitly address the readers impersonally. However, no statistical difference is found in the use of "you" (LL=4.35, p < 0.0001) and "your" (LL=5.03, p < 0.0001) between RAs and OPs. The use of "you" and "your" is limited compared with "we" and "one" in RAs. This can be explained by Hyland (2001) that "you" and "your" sound detached in RAs, which indicates that readers are not closely related to the writers. Although there are "you" and "your" in OPs, the overall reader mentions in OPs occur far less frequently than other engagement markers in OPs, such as directives and knowledge appeals.

KNOWLEDGE APPEALS

Knowledge appeals are used by the writer to appeal to the reader in order to recognise shared knowledge. Writers use knowledge appeals to support their claims by stressing the take-for-granted facts that everyone in the field is familiar with (Koutsantoni, 2004). Table 2 above demonstrates that the overall normalised occurrence of knowledge appeals in RAs is higher than in OPs (0.69 versus 0.58 per 1000 words). However, the log-likelihood test reveals that there is no significant difference in the use of knowledge appeals between the two genres (LL=6.12, p < 0.0001). Table 6 shows the most frequently used knowledge appeals in RAs and OPs.

TABLE 6. Most frequently used knowledge appeals in RAs and OPs

	RAs			OPs	
Markers	**Raw F.**	**F. ‰**	**Markers**	**Raw F.**	**F. ‰**
common	129	0.21	common	63	0.10
typically	73	0.12	typically	50	0.08
of course	46	0.08	conventional	42	0.07
commonly	24	0.04	obvious	38	0.06
obviously	21	0.03	of course	21	0.03
traditional	15	0.02	apparently	19	0.03
typical	15	0.02	(well-)established	17	0.03

(as) usual	15	0.02	traditionally	17	0.03
conventional	13	0.02	normally	16	0.03
prevalent	10	0.02	typical	11	0.02

Note: Raw F= Raw frequency; F ‰=Frequency per 1000 words

The data in Table 6 shows that the markers "common" and "typically" are more commonly used by RAs writers to appeal to the readers to recognise the relevant shared knowledge. Interestingly, the data also shows that there is no significant difference in the use of these markers between RAs and OPs. This phenomenon is justifiable, although there is observable difference in the use of knowledge appeals in both corpora. RAs writers rely on some markers that are not used at all by OPs writers, such as "prevalent" and "well-known". Therefore, there is no comparison that could allow for the statistical analysis of the relevant wordings.

Knowledge appeals are classified into logical reasoning, tradition and typicality, routine and condition following Hyland and Jiang's (2016) study. Logical reasoning characterises the coherence of the argument (e.g., apparent, obviously) (see Example 11). Tradition and typicality is concerned with the common community practices and beliefs (e.g., typically, common) (see Example 12). Routine and condition deals with usual behaviour or situation in the real world (e.g., it is true that, regularly) (see Example 13). Table 7 shows the frequency of knowledge appeals in three subtypes.

(11) Antibiotics are **obviously** important in a country where infections are a major cause of disease. (RA69)
(12) Domestic fuel cells, for instance, are **common** in energy-hungry Japan. (OP41)
(13) **It is true that** young men with present fathers are much more likely to work in their fathers' two-digit industry than other young adults. (RA39)

TABLE 7. Subtypes of knowledge appeals in RAs and OPs

Knowledge appeals	RAs		OPs	
	Raw F.	F. ‰	Raw F.	F. ‰
logical reasoning	84	0.14	89	0.15
tradition and typicality	321	0.53	220	0.37
routine and condition	11	0.02	38	0.06
Total	416	0.69	347	0.58

Note: Raw F= Raw frequency; F ‰=Frequency per 1000 words

It is interesting to note in Table 7 that there is no significant difference in the use of logical reasoning (LL=0.15, $p < 0.0001$), and slight difference in the use of tradition and typicality (LL=18.77, $p < 0.0001$), as well as routine and condition (LL=15.79, $p < 0.0001$) between RAs and OPs. However, knowledge appeals are used for different functions in the two genres. The following examples show the use of knowledge appeals in RAs and OPs.

(14) The European Central Bank (ECB) **typically** conducts weekly repo auctions (main refinancing operations), and the U.S. Federal Reserve holds auctions on a daily basis. ...With regard to the auctions of toxic assets, the question is how to avoid overpayment by the government while efficiently extracting those assets from the banks in trouble. In this paper we present a model of a uniform price auction... (RA71)
(15) **Normally**, ECB loans are subject to risk-sharing among the euro zone's national central banks. …Although national central banks can instigate its use, the ECB must be informed, and can restrict it if two-thirds of the governing council decide that is warranted. Greek banks are therefore suffering a double blow. (OP92)

In example 14, "typically" which expresses a traditional community practice is used to foreground a logical frame for the writer's research. The writer of RAs can conduct the study on price auction by showing the relevance to ECB's financial operations. In example 15, "normally" which establishes a routine behaviour of ECB is used for OPs writers to express their unsatisfactoriness about the crisis in Greek banks.

QUESTIONS

Questions are essentially a strategy used by writers to invite readers to participate in the arguments. Previous studies have proposed that rhetorical questions are valuable for arising readers' interests and recognising the writers' points (e.g., Chang & Schleppegrell, 2011). The results of the current study indicate that there are more questions (0.08 per 1000 words) in RAs than those in OPs (0.07 per thousand words). The statistical test shows that no significant difference is found in the use of questions between the two genres (LL=6.13, $p <$ 0.0001). According to Hyland (2002b), questions serve three functions in RAs: framing the discourse, organising the text, and prompting reflection. Framing the discourse refers to the use of questions to organise the content and manage the structure of the argument (see Example 16). The function of organising the text is to use questions in sub-headings to organise the discourse (see Example 17). Prompting reflection is the function of raising readers' interests by posing questions with or without providing answers (see Example 18).

(16) First, **what is the importance of colonial history relative to pre-colonial history and geography?** Second, **what are the long-term returns of public investments?** (RA46)
(17) V.   **How Does the Market Treat Jointly Authored Work?** (RA5)
(18) Most observers acknowledge that internal mill elections are keenly contested, and chairmen who pay low cane prices are likely to be punished. **Why then might sugarcane farmers' votes be inelastic with respect to low prices in election years?** One possible explanation is that politicians channel funds back to mills once they get elected. (RA15)

In the OPs corpus, questions are used to serve three functions, i.e., gaining attention, setting up attitudes or claims, and prompting reflection. Questions in title are always used for gaining attention purpose (see Example 19). Besides, there are questions that serve to set up attitudes or claims (see Example 20). Also, prompting reflection refers to the use of questions in order to involve readers (see Example 21).

(19) **WHAT are America's consumers up to?**
     When the plunging oil price made petrol (gasoline) cheap, economists expected them to head to the shops and spend more. But growth failed to pick up, causing a rethink. (OP262)
(20) **How do these companies turn you into a user?** The biggest challenge is to get their hook into you in the first place: that is, persuade you to install their app or click on their link rather than choose one of the many alternatives. (OP24)
(21) **Why should American taxpayers pay for Exxon to find hydrocarbons?** All these subsidies should be binned. (OP31)

PERSONAL ASIDES

Personal asides refer to the writers' meta-comment on the argument (Hyland & Jiang, 2016). The use of personal asides in the study is realised by parentheses or dashes. The results show that there are more personal asides in RAs than those in OPs. However, the statistical analysis does not show a significant difference in the use of the marker between RAs and OPs

(LL=3.64, p < 0.0001). The function of personal asides is to provide additional information for interpretation (see Examples 22 and 23).

(22) These traders are mostly intermediaries and eventually sell the produce to millers, processors, and plant owners **(involved in crushing or refining of the produce)**. (RA32)
(23) In 2014 TJX's sales overtook those of Macy's, a famous department-store chain **(which this week announced big job cuts and store closures)**. (OP101)

Personal asides are an explanatory information and writers acknowledge the existence of readers by offering a remark to connect the relationship between writers and readers. Examples 22 and 23 suggest that the writers (RAs and OPs) engage readers by referring to their own knowledge and establishing a personal liability of the argument.

DISCUSSION

The results of the analysis suggest that overall, there is a higher occurrence of engagement markers in RAs than OPs. The statistical analysis reveals a significant difference in the use of engagement markers between the two genres (LL=719.06, p < 0.0001). The overall results also indicate that directives, which are the most common type of engagement marker in the two corpora, are found more often in RAs than in OPs. Imperatives such as "see" and "consider" which seem to be most frequently used directives occur more frequently in RAs. This finding is in line with the results reported in Jiang and Ma's (2018) study that identifies a higher imperative density in specialised academic writing. Jiang and Ma (2018), report a frequency of 2.03 directives per 1000 words for education research articles in comparison to the frequency of 1.11 for PhD confirmation reports. This discrepancy between the findings of this study (2.36 per 1000 words in RAs) and Jiang and Ma's (2018) study appears to have stemmed from the discipline, namely, economics in this study and education in Jiang and Ma's (2018) study.

The statistical analysis also reveals that there is a more significant use of reader mentions in RAs than in OPs. As the corpus analysis reveals, the use of inclusive "we" and pronominal "one" appears to be particularly significant in RAs, while OPs writers are more likely to engage with readers by using second person pronouns, such as "you" and "your". The finding that "we" occurs more frequently than "one" (0.38 versus 0.21 per 1000 words) in RAs is consistent with Lafuente-Millán's (2014) research, which indicates higher frequency of "we" than "one" in English corpus of research articles. Compared with OPs, there are more reader mentions in RAs. This may be attributed to the target audiences of RAs. RAs writers address to the audiences who share the similar degree of specialised expertise as themselves. As a result, the writers of RAs tend to use heavily reader mentions to "emphasise collective thinking over individual thinking" (Vassileva, 1998 as cited in Lafuente-Millán, 2014, p.207). In contrast, OPs writers interpret for a wider general public. Thus, the writers of OPs are likely to highlight individual thinking when they establish the newspaper's position.

Knowledge appeals are less directly personal than reader mentions (Jiang & Ma, 2018). A higher portion of this device in RAs indicates that RAs writers are more willing to foreground a framework based on shared knowledge. This is explainable as RAs emphasise theories and methods (Parkinson & Adendorff, 2004), while OPs focus on presenting "the official position of a newspaper on a topic" (Le, 2004, p.688). Hence, the preference for knowledge appeals increases the academic credential of RAs. OPs writers are far less likely to presuppose the reader's theoretical knowledge but rather to express opinion through the argumentation.

As reported earlier, there seems to be no significant differences in the use of questions and personal asides between RAs and OPs. Questions or interrogatives as interpersonal resources, are not used regularly in both genres, with frequency counts lower than the previous research reported by Hyland (2002b) and Jiang and Ma (2018). A greater use of questions in the past two studies may be influenced by the different disciplines in their studies (cell biology, electrical engineering, mechanical engineering, applied linguistics, marketing, philosophy, sociology, physics; education). Along with questions, personal asides rarely occur in RAs and OPs. This suggests that writers of the two genres downplay the role of personal asides in engagement. These results concur with Hyland's (2005b) study, which identifies personal asides contain the lowest proportion of engagement markers.

The current research findings suggest that there are similarities and differences in the use of engagement markers between RAs and OPs. While they are similar in the use of knowledge appeals, questions and personal asides, RAs writers significantly use more directives and reader mentions than OPs writers. The similar frequent use of knowledge appeals, questions and personal asides in RAs and OPs indicates writers' awareness of the two genres when constructing interactions with readers. The presence of these engagement markers can be seen as an explicit recognition of readership in RAs and OPs. This is possibly due to the approach to propositional discourse. Essentially, writers take into account both their intention and attitudes towards their tasks and readers in achieving their purpose of approaching the propositional discourse (Duszak, 1997; Hyland, 2011). Writers modulate the discourse differently across different genres. The higher frequency of directives and reader mentions in RAs imply that RAs writers tend to express a notably higher degree of reader-inclusion through particular engagement markers. In line with other past research (e.g., Hyland, 2010), this study argues that the imbalanced use of engagement strategies in RAs and OPs is attributable partly to generic factors, such as target audiences and communicative purposes.

The main purpose of RAs writers is to "'situate' the actual research in terms of that significance" (Swales, 1990, p.142) and advance knowledge claims in the research field whereas the goal of OPs writers is to inform non-expert educated laypersons of knowledge. The communicative purposes and the target audiences set the scene of how writers engage and interact with readers. For example, the significantly greater number of reader mentions in RAs reflects the writers' higher level of readiness to share knowledge in the field with their potential academic readers. The preference for reader mentions in RAs is therefore expected given the needs of the target audiences.

CONCLUSION

The analysis reveals that RAs writers use engagement markers noticeably more frequently than OPs writers, and of the five forms of engagement markers, RAs seem to favour directives and reader mentions. The analysis also suggests that questions and personal asides have the lowest counts in terms of frequency in both RAs and OPs. Several pedagogical implications follow from these findings. First, ESP teachers, as suggested by Jiang and Ma (2018), are encouraged to include readers' need in their teaching of academic writing. Metadiscourse such as engagement markers, therefore should be introduced in ESP courses. In this respect, the teaching of engagement markers could focus on the use of various types of engagement markers. Second, it is pedagogically reasonable to raise novice writers' awareness of reader expectations in different genres. To this end, expanding the analysis of engagement markers to cover research articles and opinion pieces in other disciplines would benefit the aim of understanding reader-oriented features in written discourse further. Additionally, research into engagement markers that seek to understand the process of writers'

engagement strategy using ethnographic methods would provide a more holistic understanding of reader-oriented strategies in written discourse.

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