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Tracing Metadiscursive Stance over Time and Across Disciplines: A Comparative Study of English Research Articles

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Abstract

Research in academic writing has revealed a strong tendency on the part of writers to interactively communicate their scientific findings with their readers. In doing so, the writers should take a position while arguing their propositions. This interaction as proposed by Hyland (2005b) takes places having two sides of stance and engagement. This study targeted the stance component of writer-reader interaction by integrating Hyland s (2005b) and Hyland and Tse s (2005a) frameworks to survey lexical and grammatical stance markers in the major subsections of English research articles in anthropology, education, horticulture, and zoology. The corpus included 240 English research articles published during two periods, namely, 1990 and 2010; 60 from each field, 30 articles from 1990 and 30 from 2010 yielding a total number of 1,270,021words. The findings suggested that stancetaking is a common feature of academic writing in the sampled disciplines regardless of the nature of the discipline. Also, hedges ranked first on the list of frequency count. Furthermore, there was a decreasing pattern in the use of stance markers highlighting a convergence among the scholars of the fields with respect to the totality of the facts established day by day. Then, some implications are drawn with plausible applicability in academic writing and EAP syllabus design.

Keywords: academic writing, discipline, metadiscourse, research articles, stance

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INTRODUCTION

Discourse analysis has witnessed a gradual shift from a limited and limiting view on texts as ideational units of thought to a more interpersonal function (Hyland, 2004) giving birth to various models of language analysis including metadiscourse. As the foundation stone of the present research, metadiscourse has witnessed the waxes and wanes like other areas of science. As claimed by Hyland (2005a), the term *metadiscourse* was coined by Zellig Harris in 1959 to represent a writer s or speaker sattempt to guide a receiver s perception of a text. The concept was later developed by Williams (1981) as writing about writing and used to refer to whatever other than the subject matter being addressed. It has also been defined as discourse which goes beyond and above the actual content of the basic propositional information being presented, indicating to readers how they may organize, classify, interpret, evaluate and react to (Vande Kopple, 1985, p. 83) information presented in the text. Crismore (1989) has regarded metadiscourse as a social, rhetorical instrument which can be used pragmatically to get things done (p. 4).

Later in its development, Hyland (2005a) defines metadiscourse as 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 (p. 37). In other words, metadiscourse deals with a range of rhetorical resources employed (and sometimes exploited!) to link the tripartite of the writer, the evolving text and the intended reader (Hyland, 2009). Accordingly, due to this significant connecting role, researchers working on writing, especially academic and scholarly writing, have paid growing attention to such resources in the past decade (e.g., Abdi, Rizi, & Tavakoli, 2010; Hyland, 2005a; Hyland and Tse, 2004; Peterlin, 2005).

This growing focus of interest has led to an increasing recognition that, as opposed to common belief, academic writing cannot be considered as exclusively objective and factual (Jalilifar, 2014). There are features within the text that encode the writer s point of view and take the role of mediators between the information presented in the text and the writer s factual information (Hyland, 2010). In other words, academic writers actively draw from a range of rhetorical strategies rooted in their own disciplines and socio-cultural milieus to organize arguments, provide evidence, and evaluate claims to convince their

readers (Hu & Cao, 2011, p. 2795). As Hyland (2005b) himself asserts, much of his and his colleagues work (e.g., Hyland, 2005a; Hyland & Tse, 2004, Hyland & Tse, 2005a, 2005b) over the past decade or so has been devoted to shed more light on the shift academic writing has experienced with regard to its potential objectives and missions in the eyes of both its writers and target readers. Over the past decades academic writing has gradually lost its traditional tag as an objective, faceless and impersonal form of discourse and come to be seen as a persuasive endeavour involving interaction between writers and readers (Hyland, 2005a, p. 173). As such, scholarly writing has been viewed as evaluative and interpersonal rather than simply informational and objective (Hyland & Tse, 2005a, p. 39).

LITERATURE REVIEW

When it comes to a discussion of broad approaches to writing, one can easily discern a transition from text, to writer, and ultimately to the reader (Hyland, 2009). Put simply, text-oriented writing takes writing as product; writer-oriented writing is concerned with writing as process; and reader-oriented writing takes the social dimension into account. It can be claimed that metadiscourse has been founded upon the reader-oriented stage of writing development. Therefore, in terms of social and interpersonal engagements, metadiscourse resources play a significant role. This is obviously noticeable in the distinction made between interactive and interactional metadiscourse (Hyland & Tse, 2004). In a nutshell, the former organizes the texts and directs the reader through them, while the latter engages and orients the reader through the propositional content postulated by the writer (Hyland, 2005a).

Hyland (2005b) has moved even a step further and proposed a model to account for the interaction in academic writing which is basically *positioning* or alignment from two perspectives: one is picking a point of view on the issues discussed and the other is having an eye on the involvement of the members of the discourse community in the issues raised; the former dubbed as stance while the latter as engagement. Figure 1 shows his model schematically.

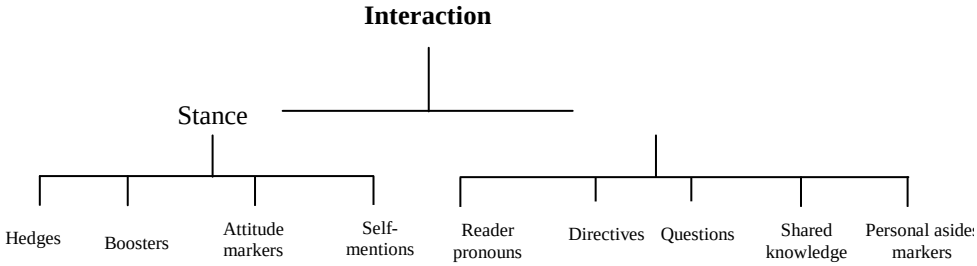

Figure 1. Key components of academic interaction

Hyland (2004, 2005b) uses the term *stance* or *author stance* in a broader way. According to Hyland (2005b), stance:

> can be seen as an attitudinal dimension and includes features which refer to the ways writers present themselves and convey their judgments, opinions, and commitments. It is the ways that writers intrude to stamp their personal authority onto their arguments or step back and disguise their involvement (p. 176).

As it can be observed in Figure 1, in Hyland s (2005b) conceptualization, writers try to put their voice into their writing by applying the subcomponents of stance. Categorically speaking, its subcomponents can be defined and exemplified as follows (summarized from Hyland, 2007, pp. 94-95):

1. Hedges (devices which withhold complete commitment to a proposition), for example, *possible, may, could, tendency.*
2. Boosters (devices which allow writers to express their certainty in what they say and to mark involvement with the topic and solidarity with their audience), for example, *should, definitely, of course.*
3. Attitude markers (devices which indicate the writer s affective, rather than epistemic, attitude to propositions, conveying surprise, agreement, importance, frustration, and so on, rather than commitment), for example, *believe, remarkable, extraordinary, interesting.*
4. Self-mentions (the use of first person pronouns and possessive adjectives to present information), for example, *I, we, our.*

Various attempts have been made, first, to explore stance features used and strategies employed by writers to build solidarity with their readers and, second, to devise a framework to analyze these features and strategies. To do so, Hyland and Tse (2004), for example, analyzed 240 L2 postgraduate dissertations totaling 4 million words including 20 master s and 20 doctoral dissertations from six academic disciplines: electronic engineering, computer science, business studies, biology, applied linguistics, and public administration. In addition to some detailed findings regarding the meaningful and significantly different metadiscourse use by certain disciplines, the general finding was that metadiscourse offers a way of understanding the interpersonal resources writers use to present propositional material and therefore a means of uncovering something of the rhetorical and social distinctiveness of disciplinary communities (Hyland & Tse, 2004, p. 156). Gillaerts and Van de Velde (2010) conducted a qualitative study to investigate how writers deploy stance markers, namely hedges, boosters and attitude markers. The study was diachronic in nature because it examined three decades of abstract writing in the field of applied linguistics. In fact, they aimed to investigate to what extent research article abstracts differ with regard to the use of the above mentioned stance markers and whether any changes have occurred in the past 3 decades. The corpus included 72 research article abstracts from articles in *Journal of Pragmatics* taken from different volumes starting in 2007 and going back to 1982. Based on the results, it was claimed that research article and research article abstracts show differential use of subcategories of stance markers in focus. That is, whereas research articles exhibit a rather high number of hedges in comparison to boosters and attitude markers, abstracts show more affinity with boosting, rather than with hedging (Gillaerts & Van de Velde, 2010, p. 135).

Regarding the second aim of the study i.e., diachronic changes in the use of stance markers in research article abstracts, their study revealed that the use of interactional metadiscourse has dropped in three consecutive decades, mainly as a result of a reduction in the number of boosters and attitude markers (p. 136). It was argued that the possible reason for such decline in the use of stance markers might be due to a converging move of applied linguistics towards the hard sciences in which, as Hyland (2005b) asserts, the use of interactional metadiscourse is markedly lower.

Hu and Cao (2011) examined if there were cross-cultural and cross-linguistic differences in the use of hedges and boosters in academic article abstracts. They also aimed to report any possible differences between authors of empirical and non-empirical academic articles. More precisely, they aimed to find any differences and/or similarities in the use of hedges and boosters between abstracts published in major Chinese- and English-medium academic journals in the discipline of applied linguistics. Exploring any differences and/or similarities in the use of hedges and boosters between abstracts accompanying empirical and non-empirical articles was the second aim of the study. To do so, a corpus of 649 abstracts was collected from 8 English- and Chinese-medium journals of applied linguistics. Considering the fact that Chinese journals carried abstracts written in both Chinese and English for each article, three subcorpora were detected for the study: (a) the CA-CJ subcorpus (i.e., Chinese abstracts published in the Chinese journals), (b) the EA-CJ subcorpus (i.e., English abstracts published in the Chinese journals), and (c) the EA-EJ subcorpus (i.e., English abstracts published in the English journals). Generally speaking, cross-cultural/linguistic contrast was reported across the subcorpora. Markedly lesser hedges and somewhat greater boosters were used in CA-CJ subcorpus compared with EA-EJ subcorpus. Consequently, it was claimed that the abstracts in the CA-CJ subcorpus tended to express a notably higher degree of certainty, confidence and/or commitment than the abstracts in the EA-EJ subcorpus (Hu & Cao, 2011, p. 2804). It was also reported that the English abstracts in the Chinese-medium journals used significantly fewer boosters than their matching Chinese abstracts, but did not differ statistically from the abstracts in the English-medium journals (pp. 2805-2806). Regarding the empirical and non-empirical distinction, the study revealed that the abstracts of the empirical RAs employed significantly more boosters than those of the non-empirical academic articles.

In an attempt to investigate cultural variations in the use of metadiscourse in academic writing including stance markers, Onder Ozdemira and Longo (2014) compared the amounts and types of metadiscourse markers employed by Turkish and US postgraduate students abstracts in MA thesis written in English. Drawing on Hyland s (2005a) metadiscourse taxonomy, the researchers took both interactive and interactional resources into account. Employing quantitative and

qualitative analyses, they reported some cultural similarities and differences in the MA abstracts of Turkish and American students. Generally speaking, the frequency of interactive and particularly interactional metadiscourse was higher in the American students abstracts than Turkish students, 925.8 and 855.8, respectively (Onder Ozdemira & Longo, 2014, p. 61). Considering interactive resources, they reported that the frequency of evidential, code glosses and endophorics was very low in Turkish postgraduate students abstracts compared with American postgraduate students abstracts. Among interactive metadiscourse markers, transitions and frame markers were the most frequently used ones by both Turkish and American students. Regarding interactional metadiscourse, no significant difference was reported in the frequency of hedges used by Turkish and American students. American students significantly employed more boosters than Turkish students i.e., American students used boosters 26 times more than Turkish students. Likewise, the frequency of attitude markers was higher for American students. Self-mentions were not used by Turkish students; whereas, very few were used by American students. All in all, considering the frequencies in the interactive and interactional metadiscourse, the study of Onder Ozdemira and Longo (2014) revealed that US students used interactional metadiscourse twice more (112.1 vs. 271), while the use of interactive metadiscourse was similar (743.7 vs. 654.8) (p. 62). This difference and similarity can be attributed to non-native students (Turkish students) inability in controling the degree of personality in argumentation including statement of affinity and attitude.

Based on an analysis of 240 published research papers, Hyland (2014) has argued that stance features like hedges, self-mentions, and boosters are not simply dry textualisations but elements of persuasive craftsmanship which help construct a disciplinary view of the world while simultaneously negotiating a credible persona for writers (p. 1). Put differently, academic writers make use of stance features to wave their discourse community flag primarily to make their own voice audible and secondarily make their judgments and claims more persuasive and convincing.

In addition to the above mentioned stance markers which are lexical in nature, writers may also deploy grammatical stance markers. One realization of such grammatical stancetaking is evaluative *that* construction by which the writers can express their stance explicitly or

implicitly. This construction is described as *evaluative that* referring to a structure which allows a writer to thematize attitudinal meanings and present an explicit statement of evaluation by presenting a complement clause within a super-ordinate clause (Hyland & Tse, 2005a, p. 39). Writers can use different types of *that* construction with verbs (. . . *it is hypothesized that*.), adjectives (*I am certain that*….), and nouns (*One important finding of this study is that*….) as controling words (Hyland & Tse, 2005a). To the best knowledge of the researchers, the single relevant study has been conducted by Hyland and Tse (2005b). They have investigated evaluative *that* structure in 240 research article abstracts from six disciplines. The disciplines under focus were applied linguistics (AL), biology (Bio), business studies (BS), computer science (CS), electrical engineering (EE), and public administration (PA). With regard to frequency, all in all, evaluative *that* occurred almost seven times per thousand words. Taking disciplinary variations into account, the biology sample contained the highest examples of evaluative *that* construction (as raw frequency) and computer science abstracts had the highest number when texts were normalized to 1,000 words. Social sciences, applied linguistics and public administration, were either around or just below the overall average per paper. Electronic engineers made the least use of *that* constructions with only ten occurrences overall.

In view of the above, among academia more focus is placed on stance side of the coin as there is a general consensus that any writing particularly academic writing is about argumentation and persuasion (e.g., Jalilifar, 2014). Therefore, the first side of the dichotomy looms large for research purposes which is reflected in the logic behind the present study focusing on the stance side of the coin. Consequently, the present study enjoys some unique features.

PURPOSE OF THE STUDY

The present study aimed at exploring lexical and grammatical stance markers in the main subsections of RAs employing a comparative lens to take account of disciplinarity and date of publication. As RAs are the primary means of knowledge sharing and dissemination and subject to change over time like other instances of genres (Bazerman, 1988), it was hypothesized that time passage could be a defining factor when it comes to RA writing.

Despite the studies looking differently at the concept of stancetaking and stance markers as reviewed above, further research is required to carefully appraise the use of stance markers in subsections of RAs over time and across disciplines. Therefore, unlike previous studies investigating individual sections of RAs such as *Abstract*, *Introduction*, *Discussion*, and *Conclusion* (e.g., Abdi, 2002; Abdollahzadeh, 2011; Del Saz Rubio, 2011; Khedri, Heng, & Ebrahimi, 2013), or on the post-method sections (Cao & Hu, 2014), the current study, integrating Hyland (2005b) and Hyland and Tse (2005a) frameworks to examine lexical and grammatical stance markers, has focused on the all sections of RAs. Regarding the disciplines in focus, a systematic random sampling was employed in which five dimensions, namely hard, soft, life, pure and applied have been taken into account. To give the study a diachronically comparative taste, the RAs published in the six leading journals in 1990 and 2010 were included. Accordingly, the following research questions are put forward:

1. What is the distribution of lexical and grammatical stance markers in subsections of 1990 RAs?
2. What is the distribution of lexical and grammatical stance markers in subsections of 2010 RAs?
3. Is there any difference in the use of stance markers over time and across disciplines?

METHOD

The Rationale for Discipline Selection

An inevitable dilemma in any discursive evaluation of RAs is the criteria based on which researchers would pick out the sample of their studies. In other words, which disciplines to include in RA studies has been a bone of contention for which there was no consensus for a long time. To resolve the issue, different procedures have been proposed to pave the ground for researchers to achieve a representative set of disciplines as their sample. One of the most well-established schemes for classifying disciplines is Biglan s (1973) three-dimensional taxonomy of academic disciplines through which he has classified academic disciplines into three dichotomies, namely hard or soft, pure or applied, and life or nonlife. According to Alise and Teddlie (2010), hard disciplines (e.g., chemistry) are those in which there is a high degree of paradigmatic consensus on the appropriate methods for investigating phenomena of

interest (p. 106). On the other hand, soft disciplines (e.g., education) are those where there is little paradigm consensus. In pure fields (e.g., geology) there is little concern for practical application. They are distinguished from applied ones (e.g., computer science) which are precisely about practical application of scientific concepts. The last distinction, life vs. nonlife, deals with whether or not the discipline is concerned with living organisms (Alise & Teddlie, 2010, p. 105). That is, the subject matter of life disciplines (e.g., microbiology), as the term itself implies, deals with any type of living thing, whereas the subject matter of nonlife disciplines (e.g., philosophy) revolves around nonorganic issues.

Taking into account these three dichotomies, the researchers have selected four disciplines of zoology, anthropology, horticulture, and education as the sample of study. Through selecting these disciplines, the authors have taken five dimensions, namely hard, soft, life, pure and applied into account and excluded non nonlife life dimension. In fact, in Biglan s (1973) taxonomy, zoology is a hard/pure/life discipline as opposed to its soft counterpart i.e., anthropology which is a soft/pure/life discipline. Horticulture is a hard/applied/life discipline as opposed to education that is a soft/applied/life discipline. The rationale behind this selection draws on the researchers attempt to make the sample as representative as possible.

Corpus

For the purpose of the present study, 240 RAs were selected; 120 RAs from each of the time intervals mentioned. The selected RAs came from six leading and prestigious journals based on their impact factors cited on the SJR website (see www.scimagojr.com). Therefore, 60 RAs were selected from each discipline; 30 belonging to 1990 and 30 coming from 2010, yielding a total number of 1,270,021 words. As a result, the corpus was a representative sample of RAs belonging to four disciplines of anthropology, education, horticulture, and zoology in order to account for the totality of human knowledge spheres with respect to the *life* dimension leaving the *nonlife* dimension for studies to come.

Another fact regarding the sample of the present study is that, compared with other similar studies, it is unique in that it includes RAs published during two periods of time, namely 1990 and 2010.

Meanwhile, in order to come up with a detailed analysis, the RAs in the corpus were divided into their canonical subsections of *Abstract*,

Introduction, *Methodology*, *Results*, and *Discussion* (Swales, 1990, 2004). These subsections have specific functions in reporting the scientific findings. The first section i.e., *Abstract*, serves as the point of departure of most research articles and has progressively become a pivotal part in the writing of the research article (Khedri, Heng, & Ebrahimi, 2013, p. 319). Regarding the *Introduction* section, Swales (1990) further explains that the authors try to situate their research in connection with other attempts in the literature, display the originality of the research, and finally demonstrate the main features of their study. The *Methodology* section of RAs is marked by references to procedures of inquiry leading to the ultimate results of the study based on the given data (Swales, 1990). Moreover, according to Swales (1990), the *Results* and the *Discussion* sections of RAs mirror-image the *Introduction* section by moving from specific findings to wider implications (p. 133). In other words, it is in these sections that the authors try to appeal to the members of their discourse community (Swales, 1990) and link their findings to those of others in the literature. Furthermore, as Abdi and Ahmadi (2015) state, the *Discussion* section is the very part of the RA in which the researchers try to persuade their readers (p. 11).

As mentioned above, one of the strong points of the present study is to take a diachronic perspective toward the genre of RA since genres are born, change, evolve, and decay (Bazerman, 1988). Therefore, a comparison is also made between the subsections of RAs over time to detect any possible changes in terms of the use of stance markers. This is done in order to come up with a general underlying pattern of the distribution of lexical and grammatical stance markers for the authors in the relevant disciplines especially for those who are new to their fields. As admittedly, being able to project oneself in the writing to stance behind the suggested propositions is a challenging part of the job (Hyland, 2009).

Data Collection Procedure

Having compiled the corpus, the four lexical subcategories of hedges, boosters, attitude markers, and self-mentions (Hyland, 2005a) as well as the grammatical evaluative *that* construction (Hyland & Tse, 2005a) were considered as representing the authorial stance in RAs. For the former, a list was borrowed from Hyland (2005a) and for the latter the study by Hyland and Tse (2005a) came to be the yardstick. As there is a

growing consensus among scholars on the fuzzy nature of metadiscourse markers including stance markers (Ädel, 2006), the current research took a functional perspective while searching for targeted markers. Keeping that in mind, in order to yield reliable data, the number of relevant stance markers was counted by the researchers and two other colleagues and the ultimate number came from averaging out of the three independent frequency counts, and then, the relative frequency was calculated per 1000 words for each subcategory.

Data Analysis

In this study, in order to analyze the data so as to be able to address the research questions, the following statistical procedures were employed. As went above, a frequency count was carried out for the stance markers in different subsections of RAs. Then, in order to come up with a logical comparison, the frequency counts were changed into relative frequency per 1000 words. Finally, three rounds of chi-square were run to detect any differences in term of stance markers against disciplines, publication date, and RA subsections.

RESULTS

Results Related to the First Research Question

Regarding the first research question intended to investigate the distributional pattern of lexical and stance markers across the five subsections of RAs published in 1990, our study revealed the following results summarized in Table 1.

Table 1: The distribution of stance markers across subsections of RAs in 1990 (per 1000 words)

		Abstract	Introduction	Methodology	Results	Discussion	Total
anthropology	Boosters	8.4	18.7	17.8	13.5	16.0	14.9
	Hedges	29.3	42.2	39.2	37.1	40.9	37.7
	Attitude mrks.	6.8	7.2	7.6	8.3	9.6	7.9
	Self-mentions	13.6	16.8	12.8	24.6	17.5	17.1
	That cons	9.1	12.0	10.7	9.2	8.8	10.0
	Total	67.2	97.0	88.1	92.6	92.9	
education	Boosters	8.8	8.3	10.0	12.6	10.5	10.0
	Hedges	26.1	43.0	44.3	44.5	46.4	40.9
	Attitude mrks.	5.2	7.5	6.7	6.6	7.9	6.8
	Self-mentions	10.4	8.3	7.3	20.2	5.6	10.4

	That con	7.8	8.3	7.1	7.6	10.0	8.2
	Total	58.2	75.4	75.5	91.5	80.4	
horticulture	Boosters	11.2	7.1	6.1	10.5	10.3	9.0
	Hedges	26.4	34.0	21.8	31.8	31.4	29.1
	Attitude mrks.	6.8	6.1	7.8	6.4	8.4	7.1
	Self-mentions	6.8	8.6	9.2	8.7	9.4	8.5
	That cons	6.9	7.0	6.2	9.2	9.0	7.6
	Total	58.1	62.7	51.1	66.6	68.5	
zoology	Boosters	7.1	10.6	10.1	9.2	11.2	9.6
	Hedges	27.3	34.3	26.9	39.4	34.8	32.6
	Attitude mrks.	7.0	7.7	5.5	5.5	6.0	6.3
	Self-mentions	7.6	9.5	11.8	6.9	6.2	8.4
	That cons	4.6	6.1	7.0	6.6	9.3	6.7
	Total	53.6	68.2	61.3	67.6	67.5	

As Table 1 shows, in each academic discipline, a sizable number of words are employed to signpost the stance taken by the RA authors. On the whole, in 1990 RAs, hedges come first with regard to their relative frequency i.e., the relative frequency per 1000 words is 37.7, 40.9, 29.1, and 32.6 for anthropology, education, horticulture, and zoology respectively. This interestingly indicates that hedges are commonly used by the authors from different fields in order to avoid total commitment to their claims and arguments (Hyland, 2005a).

The second frequently applied stancetaking category is self-mentions for anthropology and education, and boosters for horticulture and zoology. In fact, this finding is understandably sensible as the first two disciplines belong to the soft extreme of the academic disciplines classification and the second two come from the hard extreme (Becher, 1989).

The third frequent category is boosters in anthropology and education, and self-mentions in horticulture and zoology. As mentioned earlier, boosters are used to express certainty and power of propositions. Therefore, due to the nature of soft disciplines, the authors have to put forward their claims in a way that persuasion is rhetorically guaranteed (Fu & Hyland, 2014).

The fourth stancetaking category based on frequency in Table 1 is evaluative *that* constructions (Hyland & Tse, 2005b). According to Hyland and Tse (2005b), this grammatical structure is widely used in

academic writing by the authors to provide statements, comments, judgments, and evaluations.

The last stancetaking category in our analysis of 1990 RAs is attitude markers which are terms expressing writer s appraisal of what is put forward in the discourse. The relative frequency for this stance marker is 7.9 and 6.8 for anthropology and education respectively, while it is 7.1 and 6.3 for horticulture and zoology.

Results Related to the Second Research Question

Having reviewed the RAs of 1990, the next step is to examine the RAs sampled from articles published in 2010 in order to care for the time factor as time interval is one of the variables of interest in the current study. Table 2 is about the distribution of stance markers and evaluative *that* in 2010 RAs.

Table 2: The distribution of stance markers across subsections of RAs in 2010 (per 1000 words)

		Abstract	Introduction	Methodology	Results	Discussion	Total
anthropology	Boosters	9.7	30.7	6.9	9.5	7.5	12.8
	Hedges	24.3	68.8	34.0	39.4	38.0	40.9
	Attitude mrks.	6.1	6.6	7.7	7.3	6.9	6.9
	Self-mentions	6.9	8.2	8.6	4.4	7.6	7.1
	That const.	10.4	8.3	8.9	9.8	10.0	9.5
	Total	57.4	122.6	66.2	70.5	70.0	
education	Boosters	4.7	10.6	7.2	9.9	10.9	8.6
	Hedges	29.4	45.7	34.5	35.7	40.5	37.2
	Attitude mrks.	6.9	7.6	7.4	6.3	8.7	7.4
	Self-mentions	6.3	6.2	9.9	5.5	10.3	7.7
	That const.	7.8	9.8	6.9	9.6	11.1	9.0
	Total	55.1	79.9	65.9	67.1	81.4	
horticulture	Boosters	14.9	5.4	7.9	11.2	13.8	10.6
	Hedges	25.4	25.9	16.4	25.7	25.0	23.7
	Attitude mrks.	6.9	5.6	5.7	8.4	7.2	6.8
	Self-mentions	6.7	7.6	6.6	8.9	5.2	7.0
	That const.	6.5	5.0	6.5	5.9	6.6	6.1
	Total	60.4	49.6	43.1	60.0	57.8	
zoology	Boosters	12.1	7.2	6.4	9.2	10.4	9.1
	Hedges	32.5	33.8	6.4	28.9	35.9	27.5
	Attitude mrks.	6.3	6.3	5.6	5.5	7.0	6.1

	Self-mentions	11.2	8.7	15.8	7.5	9.5	10.6
	That const.	6.3	6.1	5.3	4.6	8.8	6.2
	Total	68.5	62.1	39.5	55.7	71.5	

Similar to 1990 RAs, in 2010 RAs, hedges rank first in their relative frequency compared to other markers of authorial stance in different subsections of RAs. However, those in the soft disciplines of anthropology and education outnumber the ones in the hard disciplines of horticulture and zoology. This can be justified with respect to the open argumentation and interpretation of soft disciplines as opposed to closed explanation of hard disciplines.

In terms of other makers, the picture gets complicated. For anthropology, boosters come second which shows that authors writing in this discipline try to strike a balance between uncertainty and certainty. For education, *that* construction ranks second in the list of stance markers as the discipline in which the grammatical marker has been frequently used. Boosters come second in horticulture and in zoology self-mentions hold the second rank among the stance markers. The third commonly applied stance marker is *that* construction, boosters, self-mentions, and boosters in anthropology, education, horticulture, and zoology respectively. The fourth frequently used stancetaking feature is self-mentions in anthropology and education, attitude markers in horticulture, and *that* construction in zoology. And finally, attitude markers rank last in anthropology, education, and zoology with *that* construction coming last in horticulture.

Results Related to the Third Research Question

In order to account for the messy picture which came about in 2010 RAs, Table 3 presents the total relative frequency of lexical and grammatical stance markers for the four disciplines surveyed in the present study.

Table 3: Stance features by discipline (per 1,000 words)

Year	Features	Anthropology	Education	Horticulture	Zoology	Total
1990	Lexical	97	85.0	67.4	71.1	80.1
	Grammatical	49.9	40.8	38.2	33.5	40.6
	Total	146.9	125.8	105.6	104.6	
2010	Lexical	84.8	76.0	60.0	66.5	71.8
	Grammatical	47.4	45.1	30.5	31.1	38.5
	Total	132.2	121.1	90.5	97.6	

As Table 3 shows, there is a discernible pattern in the use of stance markers within the disciplines themselves and across the sampling time intervals. The numbers clearly indicate that the use of such markers has decreased over time in general with one exception. In education, the frequency of *that* construction is anomalous compared to other markers with a rise from 40.8 to 45.1 moving from RAs in 1990 to those in 2010.

These are what we have on the surface of these number distributions. It would be logical to look at the statistical analysis of the results in order to detect any possible statistically significant difference. Table 4 shows the chi-square test results for the filed and recency variables.

Table 4: The results of chi-square tests

	Asymp. Sig. (2-sided)
Field*Stance Markers	.897
Recency*Stance Markers	.659
Subsections*Stance Markers	.000

As can be observed in Table 4, despite the marked differences between the frequencies of the stance markers with respect to the sampled fields or disciplines, recency of the publication (1990 vs. 2010), and subsections under study (*Abstract, Introduction, Methodology, Results*, and *Discussion*), just the difference between stance markers across subsections is statistically significant. In terms of the other two variables, no such significant difference was observed.

DISCUSSION

The results presented in the previous section came up with a clear picture of the distribution of lexical and grammatical stance markers across the five subsections of RAs in anthropology, education, horticulture, and zoology over time.

Regarding the distribution of stance markers across the canonical subsections of RAs in 1990, there was an uneven pattern. In anthropology and education, more stance markers came in the *Results* and *Discussion* sections of RAs, as in soft disciplines these sections are writer-oriented and sites for rhetorical argumentation and persuasion (Swales, 1990). *Introduction* comes next in which, using stance markers, writers try to establish themselves, their research, and the research of others. Therefore, after abstract, this section is the more reasonable place

to make use of stancetaking by the authors by which they attempt to foreground their *positionality* (Jaffe, 2009) with regard to their research and that of others. Regarding the abstract, the results of the present study are in line with Gillaerts and Van de Velde (2010) in which they found a substantial number of words devoted to hedging in the abstract section of RAs, although, as they argue, abstracts must be a place for boosting rather than hedging.

As Abdi (2011), along with others, argues academic writers in soft disciplines are more tenable to include softening terms due to the fluid nature of such fields. However, in hard sciences, the authors can t be flexible enough in terms of the propositions they provide due to the rigid nature of such fields (Becher & Trowler, 2001).

With respect to horticulture and zoology, no matter how hard the discipline is, the authors have to present themselves in their texts through first person pronouns and the relevant possessive pronouns and adjectives. In other words, the writers make their presence visible by standing behind their statements or decide to withhold such commitments (Fu & Hyland, 2014).

Another visible pattern is the notable employment of lexical stance markers in soft disciplines of anthropology and education. This can be attributed to the open nature of such disciplines in which the argumentation and reasoning tend to be more interpretive (Becher & Trowler, 2001). With respect to these two disciplines, anthropology writers have used more stance markers than those of the education. This difference can further be ascribed to another layer of science classification in which anthropology is a pure field and education is an applied discipline. Pure fields tend to align themselves with evolutionary sciences compared to applied disciplines which tend to come closer to normal sciences (Kuhn, 1970).

The same justification holds true for the hard counterpart. As horticulture is an applied discipline, stance markers outnumber those of zoology. Of course, care must be exercised in order not to mix metaphors here. In other words, one should be careful not to confuse the life with the nonlife. The latter has been taken as a control variable in the sampling process.

One possible justification would be the nature of hard sciences which is in line with Hyland (2010) in which he states that markers used to indicate stance in soft sciences far exceed those in the hard sciences as

there is a general consensus that discursive argumentation, persuasion, and interpretation would come about in soft sciences. In line with this reasoning, more stancetaking is rendered in the soft disciplines sampled in this study as the numbers verify this fact.

Interestingly, as we move to 2010 RAs, the same pattern holds true with a little decline in the number of words employed to signpost the writer-oriented stancetaking. This change in such cognitive-generic subsections of RAs (Abdi, 2011), especially in the number of stance markers, is attributable to the converging nature of human knowledge. In other words, academic people tend to move in the direction as they are little springs which connect together to make up the river of human knowledge (Toulman, 2003). Therefore, little by little, the conventions and assumptions of a discourse community are settled down and the members of those communities get at home with the resolved facts. This is also evident according to the number of attitude markers in a way that as we move further toward the hard extreme of the disciplines, the use of such markers declines.

From a diachronic point of view, in line with Gillaerts and Van de Velde (2010), and having in mind the findings of others (e.g, Abdi, 2011; Abdollahzadeh, 2011), it can be inarguably claimed that stancetaking is a variable of time both longitudinally and cross-sectionally. This goes back to the nature of specific disciplines and general orientations that the relevant authors might have (Becher & Trowler, 2001). Another important point is that stancetaking is realized based on the specific function of the particular article subsection (Gross & Chesley, 2012). Therefore, it should be borne in mind that time and article aspect can play a pivotal role in how stancetaking in done in academic writing.

Regarding the frequency of grammatical *evaluative that* construction and the lexical stance markers of hedges, boosters, self-mentions, and attitude-markers, as observed in Table 3, lexical markers enjoyed high amount of usage than the grammatical counterpart by which the authors thematize their assertions with the noun, verb, and adjective as the controling terms. Therefore, the results of the current study in a way confirms the findings by Hyland and Tse (2005a).

CONCLUSION AND IMPLICATIONS

This study aimed to investigate stancetaking in English RAs realized through lexical markers borrowed from Hyland (2005b) and grammatical

that construction taken from Hyland and Tse (2005a) in 240 RAs belonging to anthropology, education, horticulture, and zoology. For each field, there were 60 RAs, half of which was sampled from 1990 and the other half belonged to 2010. The main intention was first to examine the distribution of stance markers across the canonical subsections of RAs i.e., *Abstract*, *Introduction*, *Methodology*, *Results*, and *Discussion* over time and across disciplines, second, to investigate any possible differences regarding markers of stance in the fields under investigation.

Generally speaking, the distributions reported in this study all help us to explain a common thread running through the fields under study in this research: writers, consciously or unconsciously, make use of stance markers to first reflect their voice and second take account of their own text and their readers.

On closer inspection, hedges ranked first among the stancetaking markers particularly in the *Discussion* section. From a metadiscourse marking perspective, this is in contrast to Abdollahzadeh (2011) study in which he reported that in the *Discussion* section of the RAs, attitude markers were frequently applied by the American writers compared to the Persian writers.

It goes without saying that the findings of such studies as the present one must be cautiously interpreted according to the filed(s) under investigation. As reported by McGrath and Kuteeva (2012), their sample of mathematics RAs showed lower number of hedges and attitude markers in comparison with disciplines in soft sciences and other fields belonging to hard sciences. This not only waves the caution flag of interdisciplinary variations but also the nuances that might exist among the disciplines belonging to the same knowledge area.

The present research does have some applicable messages for the readers. First and foremost, stancetaking is an indispensable part of RAs realized through lexical metadiscourse markers and grammatical *that* constructions (Hyland, 2005b; Hyland & Tse, 2005a) being widely applied to signal the *positionality* of the authors (Jaffe, 2009). Therefore, this area must capture the attention of syllabus designers in English for academic purposes (EAP) and academic writing instructors as such, since admittedly the most difficult fraction of academic writing is the proper use of stance markers by the students in order to put forward their own ideas and evaluate those of others (Neff, Dafouz, Herrere, Martines, & Rica, 2003). Second, the predominance of some stance markers such as

hedges over other devices must send out the signal of paying more attention to those makers being rampant from a frequency point of view. In other words, those markers frequently applied compared to other categories must be the first candidate for explicit instruction. This finding is in agreement with Abdollahzadeh and Zolfaghari-Erdechi (2012) who concluded that hedges were used with more frequency in narrative than the argumentative samples of written texts.

Moreover, it should be borne in mind that grammatical stancetaking can complement that of lexical items. The implication is that different forms must be applied in order to accomplish similar functions. So, academic writing instruction can focus on providing students with guidelines on different aspects of such writing and particularly making use of different markers to deploy stancetaking in a research article (Hyland & Tse, 2005b).

Any research endeavor confronts certain limitations demonstrating the necessary evil for gradual progression of human knowledge. First, due to practicality issues, just four disciplines were selected which by no means guarantees their representativeness for other disciplines. Therefore, other similar fields must be investigated as well as more disciplines belonging to the same science division keeping in mind that more is not necessarily better. Second, less observed fields having escaped the attention of the researchers can be selected for investigation. Third, the corpus of this study included 240 papers. Other studies might be conducted with more RAs in order to yield more generalizable findings and come up with more reliable and valid results. Fourth, in order to have a big picture of the academic writing with respect to RAs, other similar studies might replicate the present study with qualitative inquiry. For instance, interested researchers can complement such studies as this one by applying interviews in order to generate a more comprehensive image of how and why authors make use of stance markers in their writing enterprise. This can illuminate the underexplored corners of writing practice. Moreover, from a cross-cultural point of view, it goes without saying that different cultures have different ways of pointing out their positions regarding any viewpoint (Jaffe, 2009). Hence, similar studies can be launched to examine the cultural nuances realized in the way that writers apply stancetaking markers in their academic writing venture. Furthermore, the disciplines in this study were

limited to *life* disciplines. Other similar studies can be carried out to focus on nonlife disciplines.

Finally, the engagement aspect of interaction which was left untouched in this study can be thoroughly scrutinized in similar studies. This will make the subsequent relevant research more fine-grained. Interested researchers can choose this interactional aspect of writing in genres other than RAs such as academic textbooks in terms of *disciplinary specificity* (Jalilifar, Alipour, & Parsa, 2014) to shed more light on the way(s) writers try to make connections with their readers in their written products.

Bio-data

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References

Abdi, R. (2002). Interpersonal metadiscourse: An indicator of interaction and identity. *Discourse Studies*, *4*(2), 139-145.

Abdi, R. (2011). Metadiscourse strategies in research articles: A study of the differences across subsections. *Journal of Teaching Language Skills*, *3*(1), 1-16.

Abdi, R., & Ahmadi, M. (2015). Signposting propositions: A study of interactive metadiscourse marking in the composition of research articles across sciences. *Journal of Research in Applied Linguistics, 5* (Special issue), 5-17.

Abdi, R., Rizi, M., & Tavakoli, M. (2010). The cooperative principle in discourse communities and genres: A framework for the use of metadiscourse. *Journal of Pragmatics, 42*, 1669-1679.

Abdollahzadeh, E. (2011). Poring over the findings: Interpersonal authorial engagement in applied linguistics papers. *Journal of Pragmatics*, *43*, 288-297.

Abdollahzadeh, E., & Zolfaghari-Erdechi, F. (2012). Exploring the relationship between modality and readability across different text types. *Journal of Research in Applied Linguistics*, *3*(1), 44-61.

Ädel, A. (2006). *Metadiscourse in L1 and L2 English*. Amsterdam: John Benjamins.

Alise, M., & Teddlie, C. (2010). A continuation of the paradigm wars? Prevalence rates of methodological approaches across the social/behavioral sciences. *Journal of Mixed Methods Research*, *4*(2), 103-126.

Bazerman, C. (1988). *Shaping written knowledge: The genre and activity of the experimental article in science*. Madison, Wis.: University of Wisconsin Press.

Becher, T. (1989). *Academic tribes and territories: Intellectual enquiry and the cultures of disciplines*. Buckingham: Open University Press/SRHE.

Becher, T., & Trowler, P. (2001). *Academic tribes and territories: Intellectual enquiry and the cultures of disciplines* (2nd ed.). Buckingham: Open University Press/SRHE.

Biglan, A. (1973). The characteristics of subject matter in different academic areas. *Journal of Applied Psychology, 57*(3), 195-203.

Cao, F., & Hu, G. (2014). Interactive metadiscourse in research articles: A comparative study of paradigmatic and disciplinary influences. *Journal of Pragmatics*, *66*, 15-31.

Crismore, A. (1989). *Talking with readers: Metadiscourse as rhetorical act*. New York: Peter Lang Publishers.

Del Saz Rubio, M. 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, 3*, 258-271.

Fu, X., & Hyland, K. (2014). Interaction in two journalistic genres: A study of interactional metadiscourse. *English Text Construction, 1*(1), 122-144.

Gillaerts, P., & Van de Velde, F. (2010) Interactional metadiscourse in research article abstracts. *Journal of English for Academic Purposes, 9*, 128-139.

Gross, A. G., & Chesley, P. (2012). Hedging, stance and voice in medical research articles. In K. Hyland & C. Sancho Guinda (Eds.), *Stance and voice in academic writing* (pp. 85-100). London: Palgrave.

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

Hyland, K. (2004). Patterns of engagement: Dialogic features and L2 student s writing. In L. Ravelli & R. Ellis (Eds.), *Analyzing academic writing: Contextualized frameworks* (pp. 5-23). London: Continuum.

Hyland, K. (2005a). *Metadiscourse: Exploring interaction in writing*. Continuum: London.

Hyland, K. (2005b). Stance and engagement: A model of interaction in academic discourse. *Discourse Studies, 7*(2), 173-192.

Hyland, K. (2007). Different strokes for different folks: Disciplinary variation in academic writing. In K. Fløttum (Ed.), Lan*guage and discipline perspectives on academic discourse* (pp. 89-108). Newcastle, UK: Cambridge Scholars Publishing.

Hyland, K. (2009). *Teaching and researching writing* (2nd ed.). London: Pearson.

Hyland, K. (2010). Constructing proximity: Relating to readers in popular and professional science. *English for Academic Purposes, 9*, 116-127.

Hyland, K. (2014). Dialogue, community and persuasion in research writing. In L. Gil-Salom & C. Soler-Monreal (Eds.), *Dialogicity in written specialized genres* (pp. 1-20). Amsterdam: John Benjamins.

Hyland, K., Tse, P. (2004). Metadiscourse in academic writing: A reappraisal. *Applied Linguistics, 25*, 156-177.

Hyland, K., Tse, P. (2005a). Evaluative *that* constructions: Signaling stance in research abstracts. *Functions of Language, 12*, 39-63.

Hyland, K., Tse, P. (2005b). Hooking the reader: A corpus study of evaluative that in abstracts. *English for Specific Purposes, 24*, 123-139.

Jaffe, A. (2009). *Stance: Sociolinguistic perspectives*. Oxford: Oxford University Press.

Jalilifar, A. (2014). *Directions in discourse analysis: Theory and method*. Ahvaz: Shahid Chamran University Press.

Jalilifar, A., Alipour, M., & Parsa, S. (2014). Comparative study of nominalization in applied linguistics and biology books. *Journal of Research in Applied Linguistics*, *5*(1), 24-43.

Khedri, M., Heng, C., & Ebrahimi, S. (2013). An exploration of interactive metadiscourse markers in academic research article abstracts in two disciplines. *Discourse Studies, 1*5(3), 319-331.

McGrath, L., & Kuteeva, M. (2012). Stance and engagement in pure mathematics research articles: Linking discourse features to disciplinary practices. *English for Specific Purposes, 31*, 161-173.

Neff, J., Dafouz, E., Herrere, H., Martines, F., & Rica, J. P. (2003). Contrasting learner corpora: The use of modal and reporting verbs in the expression of writer stance. In S. Granger, J. Lerot, & S. Petch-Tyson (Eds.), *Extending the scope of corpus-based research*: *New applications, new challenges* (pp. 211-230). Belgium: Rodopi.

Ozdemir, N. O., & Longo, B. (2014). Metadiscourse use in thesis abstracts: A cross-cultural study. *Procedia - Social and Behavioral Sciences, 141*, 59-63.

Peterlin, A. P. (2005). Text-organizing metatext in research articles: An English-Slovene contrastive analysis. *Journal of English for Specific Purposes, 24*, 307-319.

SCImago. (2007). SJR ˇ SCImago Journal & Country Rank. Retrieved September 09, 2015, from http://www.scimagojr.com

Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.

Swales, J. M. (2004). *Research genres: Explorations and applications*. Cambridge: Cambridge University Press.

Toulmin, S. (2003). *The uses of argument* (Updated ed.). Cambridge: Cambridge University Press.

Vande Kopple, W. J. (1985). Some explanatory discourse on metadiscourse. *College Composition and Communication, 36*, 82-93.

Williams, J. M. (1981). *Style: Ten lessons in clarity and grace*. Glenview, Il.: Scott, Foresman.

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