Cross-Sectional Diachronic Corpus Analysis of Stance and Engagement Markers in Three Leading Journals of Applied Linguistics

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Abstract

Thanks to recent developments in metadiscourse studies, it is now increasingly accepted that metadiscourse practices are closely related to social activities, cognitive styles and epistemological beliefs of academic communities. Despite widespread interest and research among applied linguists to explore metadiscourse use, very little is known of how metadiscourse resources have evolved over time in response to the historically developing practices of academic communities. Motivated by such an ambition, the current research drew on a corpus of 4.3 million words taken from three leading journals of applied linguistics in order to trace the diachronic evolution of stance and engagement markers across four different sections of research articles (Introduction, Method, Result, Discussion/ Conclusion) from 1996 to 2016. Hyland's (2005b) model of metadiscourse was adopted for the analysis of the selected corpus. The data were explored using concordance software AntConc (Anthony, 2011). Moreover, a Chi-Square statistical measure was run to determine statistical significances. The analysis revealed a significant decline in the overall frequency of metadiscourse resources in all sections of RAs. Interestingly, this decrease was entirely due to the overall decline in the use of stance markers particularly in result and method sections. It might be argued that, diachronic perspective on metadiscourse contributes to teachers and novice writers' awareness of the malleability of academic writing and its sensitivity to context as well as providing access to current practices for the creation and delivery of teaching materials in EAP courses.

Keywords: Applied Linguistics, Diachronic, Engagement, Metadiscourse, Stance

1. Introduction

It has been pointed out by many researchers of higher education that the concept of a discipline is not a straightforward one (Becher & Trowler, 2001). In fact, it is possible to view disciplines in a range of different ways. They have been seen as institutional conveniences, networks of communication, domains of values, and modes of enquiry. More recently, Trowler, Saunders and Bamber (2012, p.9) by taking a social practice approach defined disciplines as "reservoirs of knowledge resources shaping regularized behavioral practices, sets of discourses, ways of thinking, procedures, emotional responses and motivations". This revised view that signaled a view which gave less power to disciplines in conditioning practices sees academic disciplines as malleable, as open, natural systems which are influenced in contextually-contingent ways by social and material characteristics.

Based on the above mentioned assumptions, it seems that during the recent year's disciplinary characteristics have undergone great changes: "disciplines are becoming highly complex and even more dynamic, they are shifting, boundaries are changing and there are more subdisciplines than ever" (Trowler, 2014, p.5). In this light, in an insightful study, Becher and Trowler (2001) looked at disciplines through a structural framework, noting how they are manifested in the basic organizational components of the higher education system and identified six structural changes which have great influence on «academic tribes» and their «territories». These changes are identified as globalization, massification, regulation, market-orientation, efficiency, and fragmentation. In fact, their argument refers to the ways in which current structural changes and epistemic shifts prepare the ground for new games and new rules to play by: Globalization and market-orientation challenge academic borders; mass orientation and fragmentation invite new types of agents and institutions; the traditional academic disciplines dissolve; and an epistemic diversity is now the norm.

In another similar study, Trowler, Saunders, and Bamber (2012) have also recognized other powerful structures such as technologies and managerialist ideology and practices as well as the significance of agency influential in shaping disciplinary practices. In Trowler's (2012) view, this constellation of factors has resulted in radical shift of academic practices from being very loosely coupled to relatively tightly coupled to outside extra-disciplinary determinants in which the external forces increasingly influence the way academics behave and think. Accordingly, according to Hyland (2004, p. 23) "over time, the conventions of disciplinary discursive practices become taken-for-granted along with the ideological assumptions they carry, constantly shifting in response to changes in the dominant socio-cultural

forces in society" (see, for example, Ayers, 2008; Banks, 2008; Biber & Gray, 2011; Gillaerts, 2013; Hyland & Jiang, 2018b; Jiang &Wang 2018; Li & Ge, 2009).

Amongst these academic conventions, metadiscourse resources have gone through the same diachronic evolution process to fulfill new social and epistemological demands of discourse communities (see, for instance, Gillaerts, 2014; Gillaerts & Van de Velde, 2010; Hyland & Jiang, 2016a, 2016b, 2018a Kuhi & Dust-Sedigh, 2012; Kuhi & Mousavi, 2015). These studies meaningfully expand our knowledge of metadiscourse variation across disciplines and languages over time. A specific strength of all the studies is that metadiscourse, as one of the significant rhetorical features of research articles, does not operate in vacuum and is sensitive to changes within disciplines and their academic practices.

The term metadiscourse was coined by the structural linguist Zelig Harris (1959) for the first time and later has been further developed by writers like Vande Kopple (1985) and Crismore (1989). Building on their work, Hyland (2005b, p.37) argues that "metadiscourse is the cover term for the self-reflective expressions used to negotiate interactional meanings in a text". Interaction is understood here as the writer's intervention to anticipate the reader's possible reactions, objections, and processing needs. It has two elements: (i) an interactive dimension which is used to organize propositional information in ways that a projected target audience is likely to find coherent and convincing. (ii) an interactional dimension which focuses on the participants of the interaction and seek to display the writer's persona and a tenor consistent with the norms of the disciplinary community (Hyland, 2005a). This study focuses on interactional metadiscourse because these resources, by affording research article writers various means of marking their presence, negotiating knowledge claims, and engaging their readers, lie at the very core of academic communication as socio-rhetorical activity.

2. Literature Review

It is increasingly accepted that the study of the social interactions expressed through academic writing is one of the ways that helps to reveal something of the sanctioned social behaviors, epistemic beliefs, and institutional structures of academic disciplines (Hyland, 2004). Interaction here can be understood as the writer's rhetorical awareness of expectations and views of a disciplinary audience. Creating a convincing reader environment thus involves deploying disciplinary and genre-specific conventions such that "the published paper is a multilayered hybrid *co-produced* by the authors *and* by members of the audience to which it is directed" (Knorr-Cetina, 1981, p. 106).

Improved awareness of such interactions is, then, the key to understanding how academic discourse works in English. Such an understanding, in turn, allows teachers, novices and expert writers to question both prevailing discursive practices, offering them greater alternatives in their choice of discourse forms and in their ability to negotiate and establish a plurality of cultural norms in disciplines (Hyland, 2004). According to Hyland (2005b), this interaction accomplished in academic writing by making choices from the interpersonal system of stance and engagement. In fact, stance and engagement are important elements that bring writers into a text as a player in an interactive game with their audiences. For Hyland (2005b), stance and engagement are two sides of the same coin due to the fact that they contribute to the interpersonal aspect of discourse.

However, as it is mentioned academic discourses as a powerful cultural form - influencing and being influenced by the societies of which they are part- do not function in isolation from a wider moral, political and economic context (Hyland, 2004). Thus, over time, taken-for-granted conventions of disciplinary discursive practices constantly shifting in response to changes in the dominant socio-cultural forces in society. This position probably necessitates developing an understanding (among the practitioners, learners, writers, etc.) of how communicative behavior should be adjusted to unpredictable sociocultural variables. In fact, these changes are taking place and both expert and novice members of academic/scientific discourse communities should be able to adapt their rhetorical practices to them.

Of course, approaching the issue from a pedagogical perspective, the discursive adjustment of academic/scientific discourses to the sociocultural demands of scientific/academic communication should be approached with some caution. This is due to the fact that the inevitable realization of discursive changes in the process of academic/scientific communication is not that much easily welcomed practice particularly in non-English dominant contexts. In fact, this dynamic and unpredictable discursive practice may result in a feeling of uneasiness among those accustomed to teaching and learning fixed conventions of communication in academic English. Thus, it might be argued that diachronic perspective on metadiscourse contributes to teachers and novice writers' "awareness of the malleability of academic writing and its sensitivity to context as well as providing access to current practices for the creation and delivery of teaching materials" (Hyland & Jiang, 2018, p.20) in EAP courses. Negligence of this awareness can result in their considerable trouble in adopting their rhetorical practices to such changes, particularly in EFL context.

Despite this importance surprisingly the number of studies over diachronic perspective on these interactional elements seems to be relatively small in the existent literature. For example, on the basis of a quantitative corpus analysis of 72 abstracts, Gillaerts and Van de Velde (2010) found that the use of interactional metadiscourse markers especially boosters and attitude markers has undergone remarkable changes in the course of the past 30 years. Authors argue that this fall may be related to a converging move of (applied) linguistics towards the hard sciences. For them, it is not totally clear whether this move "is a consequence of changing research practices, with a growing emphasis on empirical studies, or only a change in rhetorical practices" (p. 136).

In another study, Kuhi and Dust-Sedigh's (2012) findings showed considerable growth in the frequency of interactional metadiscourse features in the chemistry articles of native and Iranian journals during two decades. In the authors' view, the changes in the socio-historical context impose pressure on the structure of academic genres and epistemological norms of science. In the same vein, Gillaerts (2014) found an overall increase of interactive metadiscourse coupled with a decrease in interactional metadiscourse in 60 abstracts from applied linguistics journal published from 1987 to 2007. In the authors' view, these findings support the idea that there is an increasing tendency in applied linguistics towards more statistics and description.

Kuhi and Mousavi (2015) focused on the diachronic development of a number of metadiscourse features in the discussion section of research articles in applied linguistics published between 1980 and 2010. From the authors' point of view this increase in high prestigious journals may be related to an increasing desire of academic writers to produce more persuasive texts that reflect the competitive nature of academic discourse. Finally, through the diachronic study of a corpus of 2.2 million words from articles in the top journals in four disciplines, Hyland and Jiang (2016a, 2016b, 2018a) found an overall increase of interactive metadiscourse and a significant decrease in interactional metadiscourse between 1965 and 2015. Authors argued that the shift in academic conventions may indicate changes "in the nature of disciplines, the influence of external funders and commercial sponsors, and the ever-closer connection between professional recognition and career advancement in competitive publication marketplace" (Hyland & Jiang, 2018, p.29).

The studies reported above lend support to the view that there are connections between metadiscourse variation and the changes in social practices of discourse communities. It seems that "recent historical changes that have resulted in a gradual movement toward rhetorical convergence "as discourse communities adjust their use of metadiscourse to changing

circumstances have been largely unnoticed (Hyland & Jiang, 2016a, p.19). Following this tradition, drawing on a corpus of 4.3 million words taken from three leading journals of applied linguistics, we study whether, and to what extent, interactional metadiscourse has changed over the past 20 years inside a single discipline.

The present study is theoretically supported by, and is in line with Hyland 's (2005b) model of interaction, where by attending to both stance and engagement, he offers a comprehensive and integrated model for the interaction in academic argument. Distinguishing between these two dimensions from Hyland' s (2005b, p.178) point of view "is a useful starting point from which to explore how interaction and persuasion are achieved in academic discourse and what these can tell us of the assumptions and practices of different disciplines". Thus, sketching out some of the key resources of these two dimensions would tell us how the epistemological and social beliefs of disciplinary cultures evolved in response to changes in the dominant socio-cultural forces in society.

This study differs from past researches in that, the corpus of this study was restricted to RAs which followed the IMRD structure (introduction, methodology, result and discussion) in order to see in which sections the changes might be more pronounced. More specifically, our study seeks to answer the following research questions:

> 1. Has the frequency of occurrence of stance and engagement markers changed in RAs published in three leading journals of applied linguistics (Applied Linguistics (AL), English for Specific Purposes (ESP), Modern Language Journal (MLJ)) between 1996 and 2016?

> 2. How have stance and engagement markers evolved diachronically across four different sections of research articles (introduction, methodology, results, and discussion/conclusion) published in three leading journals of applied linguistics (AL, ESP, MLJ) between 1996 and 2016?

3. Method

3.1. The Corpus

The corpus of this study consists of approximately 4316854 words to track changes in interactional metadiscourse (stance and engagement markers) over time. Research articles taken from three leading journals in the applied linguistic discipline (AL, ESP, MLJ) created three corpora at three periods over the past 20 years: 1996-2002, 2003-2009 and 2010-2016 as shown in Table 1. The different time spans were chosen to see if changes

were more pronounced in the later or earlier period, although we were concerned with overall changes over the 20 years.

The disciplinary scope of the corpus was restricted to applied linguistics as defined by Wilkins (1999) and as mentioned in handbook chapters of applied linguistics (e.g., Davies & Elder, 2004; Kaplan, 2002; Schmitt, 2002). Having specified the discipline, in the next stage journals were selected on the basis of the three criteria set by Nwogu (1997): representativeness, reputation and accessibility. About 10 university lecturers in applied linguistics issues nominated eight journals based on the established tradition of selection and sampling in other metadiscourse studies—informant nomination— (e.g., Harwood, 2005a, 2005b; Hyland, 1999a, 2001a, 2002a, 2002b, 2002e). But in terms of accessibility, only these three journals could be retrieved online over a span of 20 years. In terms of representativity and reputation, the three journals selected were all leading journals in applied linguistics, indexed in the SCI with an average impact factor (IF) of above 1.5.

Table 1

Corpus Size and Composition

Journal	96-2002	2003-2009	2009-2016	Overall
AL	266567	131482	1145420	1543469
ESP	294265	319858	459916	1074039
MLJ	419977	255855	1023514	1699346
Overall	980809	707195	2628850	4316854

(AL= Applied Linguistic journal; ESP=English for Specific Purposes journal; MLJ= Modern Language Journal)

3.2. Model of Analysis

Hyland's (2005b) model of metadiscourse was adopted for the analysis of our corpora. Hyland's framework can be distinguished from other models of metadiscourse (e.g., Adel, 2006; Crismore, 1989; VandeKopple, 1985) by its suggestion that the categories in this model of stance and engagement can be placed under the umbrella term of metadiscourse (the taxonomy covers, for instance, textual directives that metadiscursively guide the reader through the text), no limitation is placed on the analysis of evaluative language (as in Ädel, 2006) and/or strings pertaining to propositional content (as in Hyland& Tse, 2004). In Hyland's (2005b) model, interaction accomplished in academic writing by making choices from the interpersonal system of stance and engagement. These interactions are managed by writers in two main ways (Hyland, 2005b):

Stance refers to the "writer-oriented features" of interaction and concerns the ways writers comment on the accuracy of a claim, the extent

they show their commitment to it, or the attitude they want to express to a proposition or the reader (Hyland, 2005b). It includes hedges, boosters, attitude markers and self-mentions.

- Hedges are used to indicate writers' decisions to withhold complete commitment to a proposition for example *might, perhaps, possible*. (Hyland, 2005b).
- Boosters are employed by the writers to express certainty and emphasize the force of propositions for example *in fact, definitely*. (Hyland, 2005b).
- Attitude markers indicate the writers' affective and emotional, rather than epistemic, attitude to suggested propositions, conveying surprise, obligation, agreement, importance, and so on for example *unfortunately, I agree, surprisingly* (Hyland, 2005b).
- Self-mentions signal authors' explicit presence in the text for example *I, we, our, my.* (Hyland, 2005b).

Engagement refers to the "reader-oriented features" of interaction and refers to a set of rhetorical strategies that writers use to bring the potential readers into the text, focus their attention, anticipate their objections, and guide them to a particular interpretation (Hyland, 2005b). It includes reader pronouns, directives, questions, shared knowledge and personal asides.

- Reader mentions are the most explicit way that readers are brought into a discourse, normally through second person pronouns *you* and *yours*. (Hyland, 2005b).
- Questions as a strategy of dialogic involvement invite engagement and brought the interlocutor into an arena where they could be led into the writer's viewpoint (Hyland, 2005b).
- Appeals to shared knowledge seek to position readers within apparently naturalized boundaries of disciplinary understandings for example *It is well known, obviously* (Hyland, 2005b).
- Directives help the writers instruct the readers to perform an action or see things in a way determined. They are signaled mainly by the presence of imperatives and obligation modals for example *see, let us, it is important* (Hyland, 2005b).
- Through personal asides writers address readers directly by briefly interrupting the argument to offer a comment on what has been said for example *Incidentally, by the way* (Hyland, 2005b).

3.3. Procedure

The compiled potentially productive search items (see appendix) were manually examined and counted with rigorous consideration of the functional

meaning, and converted to an electronic corpus using concordance software AntConc (Anthony, 2011). Some features were easily recognized (you, the reader, obviously) while others involved a regular expression search (imperatives, it is adj to + verb), or a careful reading of individual texts (inclusive and exclusive we, commas, dashes to mark asides, question markers). For example, the sentence (a) below is a textual signal of an interrogative sentence that can potentially be labeled metadiscoursally as question but it is not, while sentence (b) is functioning as metadiscoursal question because it acts as a strategy of dialogic involvement, inviting engagement; bringing the interlocutors into an arena where they could be led into the writers' viewpoints:

> a. The study was guided by the following research question: What can a transfer climate perspective reveal about challenges EAP students face in a mainstream academic setting?

> b. but why should this be the case? As suggested earlier, some languages are commodified in the globalized economy in the sense that….

Due to pragmatic, internal, and multifunctional nature of metadiscourse items, both authors, working independently, coded a 10% sample to ensure reliability with 95% agreement. Cases of disagreement were discussed until a common decision was made. After reading and coding all the papers, the frequencies of metadiscourse items in each category and year were calculated (per 10,000 words). Chi-square test was then used to determine statistical significances.

4. Results and Discussion

4.1. Results

The following subsections present the results of the functional analysis of the given corpus. First, the result of the overall frequency of interactional metadiscourse within each year block is presented as a whole. Second, categorical cross-sectional comparison of the block-discriminated evolution of interactional elements is provided accompanying their tables and figures.

4.1.1. The Overall Frequency of Interactional Metadiscourse in RAs (1996-2016)

As Figure 1 clearly indicates, our analysis shows an overall decline in the evolutionary pattern of interactional metadiscourse ($\chi2$= 31.7, p-value

=0.00). When we look more closely, we find that this decrease is entirely due to a significant decline in stance markers ($\chi2$= 12.55, p-value =0.001). In fact, the expression of authorial stance has changed significantly in comparing to the changes which have occurred in engagement practices in research writing over the past 20 years.
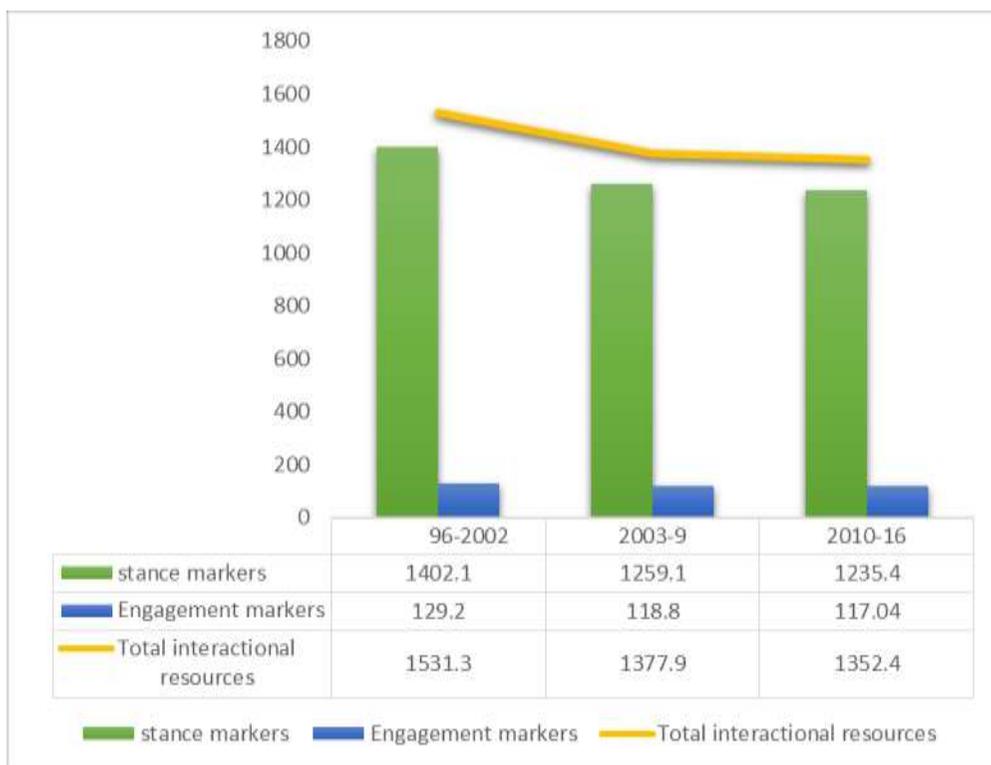

	96-2002	2003-9	2010-16
stance markers	1402.1	1259.1	1235.4
Engagement markers	129.2	118.8	117.04
Total interactional resources	1531.3	1377.9	1352.4

Figure1.The Overall Distribution of Stance and Engagement Markers (1996-2016)

Table 2 presents the categories of interactional metadiscourse and how their frequency has changed over the past 20 years. Hedges and directives are by far the most frequent devices in the corpus across all three time spans reported in Table 2.

As Figure2 indicates, stance markers have seen an 11% drop, with devices in all categories, except self-mentions (+34%) which increased dramatically over the past 20 years. Boosters (-18%) and attitude markers (-16%) have shown the steepest decline over this period. Hedges also registered a substantial fall (-12%).

Table2

Distribution of Interactional Metadiscourse (1996-2016) (per 10,000 words).

	1996-2002	2003-9	2010-16	Total
H	574.6	505.9	502.9	1583.4
B	384	332.1	315.7	1031.8
Sm	83.6	90	112.1	285.7
Am	359.9	331.1	304.76	995.7
Rp	16.12	12.94	13.61	42.67
D	59.7	57.09	58.64	175.43
Qm	23.94	16.08	18	58.02
Shk	28.78	31.81	26.2	86.79
Pa	.68	.50	.59	1.77

 (H= Hedges; Bo= Booster; Sm=Self-mention; Am=Attitude markers; Rp=Reader pronouns; D=Directives; Qm=Question markers; ShK=Shared knowledge; Pa=Personal asides)
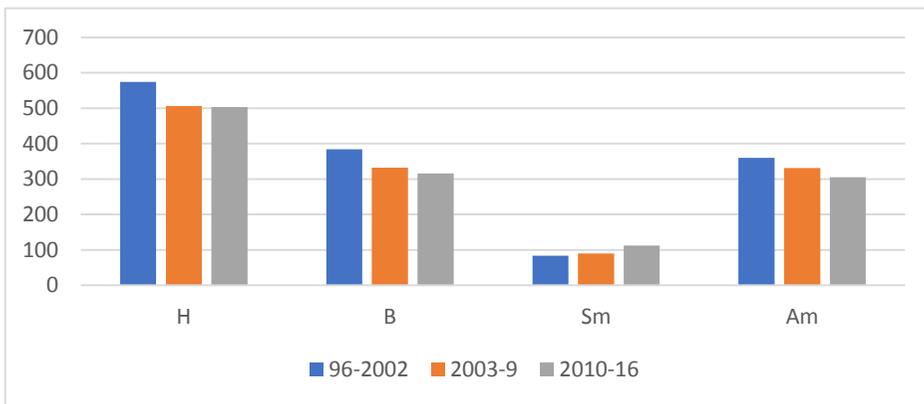

Figure 2. Distribution of Stance Markers (1996-2016)

According to Figure 3, although not statistically significant, engagement markers ($\chi 2= 0.7$, p-value= 0.6) also have declined with devices in all categories, except personal asides which remained stable across all three time spans in our corpus. Question markers (-24.81%) showed the biggest falls over the past 20 years. After question markers, reader pronouns (-15.57%) have shown the steepest decline in our study. Interestingly, directives and personal asides have remained stable across all three time spans in our corpus.
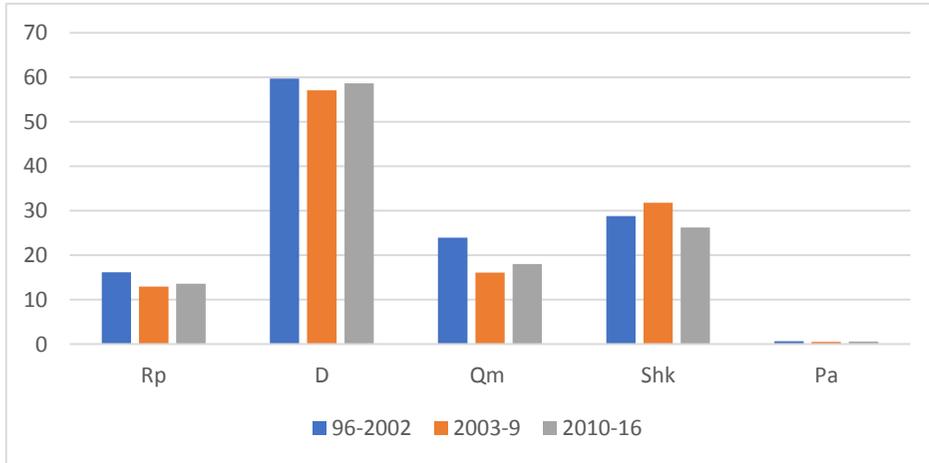
Figure 3. Distribution of Engagement Markers (1996-2016)

4.1.2. Cross -Sectional Frequency of Stance and Engagement Markers

After a global overview of the results of the total interactional elements, in this section categorical cross-sectional comparison of the block-discriminated evolution of interactional elements were presented. As you notice, Table 3 shows a significant decline in the overall frequency of metadiscourse resources in all sections of RAs.

Table3

Cross -Sectional Changes in Stance and Engagement Markers (per 10,000 words)

	Introduction			Method			Result			Discussion		
	96-2002	2003-9	2010-16	96-2002	2003-9	2010-16	96-2002	2003-9	2010-16	96-2002	2003-9	2010-16
H	112.1	126.9	107.3	105.4	88.8	83.8	146.3	101.5	120.5	210.8	188.7	192.1
B	99.2	75.4	72.8	63.1	59.8	53.9	117.5	96.4	88.4	104.2	100.4	100.6
Sm	16.6	20.3	23.7	61.5	35.3	22.2	22.3	12.8	22.7	27.3	21.6	43.5
Am	70.7	72.2	70.8	70.7	60.3	53.4	122.6	97.08	88.5	105.1	100.8	92.6
Total	298.6	294.8	274.6	247.4	244.2	212.5	408.7	307.7	320.1	447.4	411.6	428.8
Rp	5.4	4	4.3	1.5	1.1	1.7	4	2.9	2.6	5.16	4.8	4.9
D	12	12.4	18.5	12.4	14.1	12	17.2	13.9	11.2	18.06	16.6	16.8
Qm	7.9	7.3	5.7	2.1	3.8	6.1	6.7	1.44	1.1	12.14	3.4	4.9
Shk	7.4	7.5	6.7	7.4	9.3	6.1	6.7	7.1	6.1	7.25	7.8	7.2
Pa	0.3	0.2	0.36	0.1	0.6	.15	.15	.005	.08	.09	.21	.11
Total	33.1	31.7	35.6	23.6	28.3	26	34.7	25.3	21.3	42.7	32.9	33.9

(H= Hedges; Bo= Booster; Sm=Self-mention; Am=Attitude markers; Rp=Reader pronouns; D=Directives; Qm=Question markers; ShK=Shared knowledge; Pa=Personal asides)

Interestingly, there is a similarity in the distribution of stance markers across the four sections within each year-block. In fact, the discussion sections are the most heavily-stanced divisions of these two-year blocks and the method sections exhibit the lowest percentage not only in the whole corpus but also within each year block. In general, we have seen evidence for a two-way division between the heavily stanced the discussion and the result sections as compared to the extremely low-stanced method and introduction sections of RA within each block-year over the past 20 years.
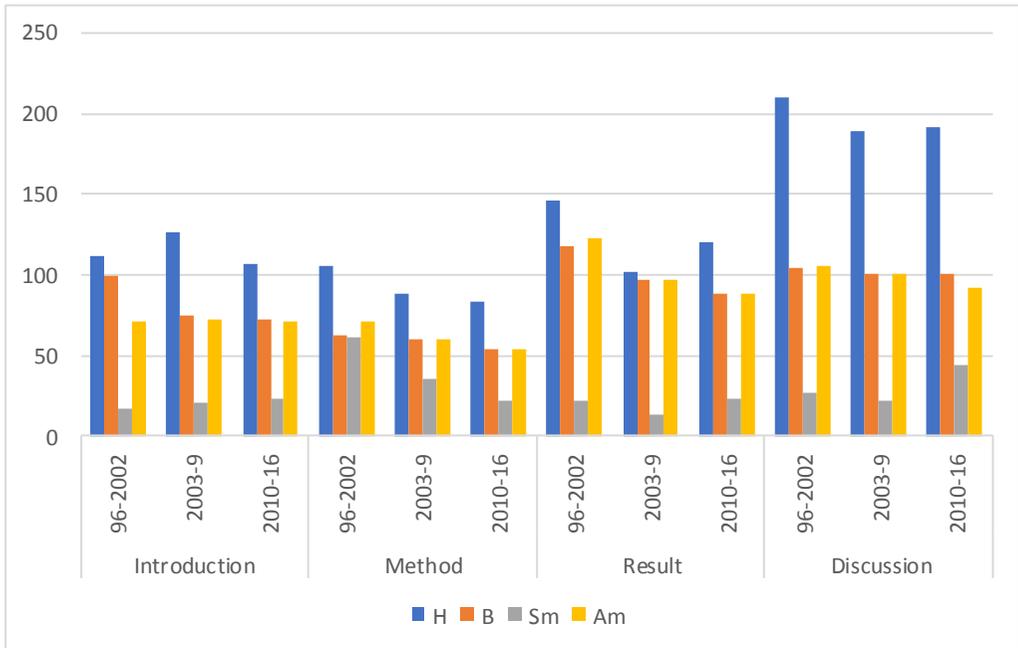

Figure 4. Cross -Sectional Changes in Stance Markers

Moreover, as Figure 4 indicates the overall decline in stance markers was mainly due to the significant fall in their use in result ($\chi 2= 17$, p-value= 0.0) by -21% and method sections ($\chi 2= 3.2$, p-value =0.2) by -14%. Interestingly, while attitude markers (-27%) and boosters (-25%) have shown the biggest falls in result sections, method sections have seen the steepest decline (-63%) in the use of self-mentions over the past 20 years. Surprisingly, self-mentions have seen a massive rise in the introduction (+43%) and discussion (+60%) sections over this period.
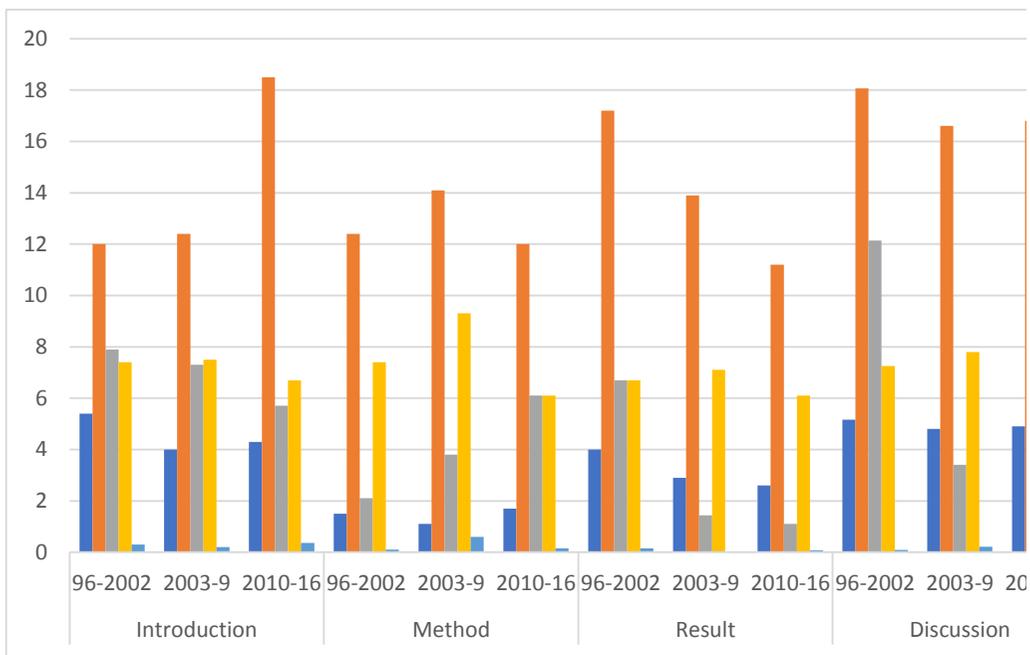
Figure 5. Cross -Sectional Changes in Engagement Markers

Surprisingly, almost similar distribution to stance markers was seen in the pattern of engagement markers across sections of RAs. Discussion sections comprised a large share of engagement markers among other sections, by contrast, the method sections exhibited the lowest percentage of these devices in the whole corpus. Moreover, directives were found to have the highest proportion of use among the various types of engagement markers in all sections across all time periods.

However, as Figure 5 shows the decline in engagement markers is not so evenly distributed. The overall substantial decline in the use of engagement markers was mainly due to fall in the result (-39%) and discussion (-20%) sections with devices in all categories. Question markers showed the biggest fall by (-82%) and (-60%) in result and discussion sections respectively. Directives (-34%) and reader pronouns (-33%) also registered the significant fall in result section over the 20-year span.

4.2. Discussion

The quantitative analysis of RAs clearly revealed an overall decline in the evolutionary behavior of interactional metadiscourse over two decades. It is interesting to note that these findings are broadly consistent with those of Gillaerts and Van de Velde (2010), Gillaerts (2014), Hyland and Jiang (2016a, 2016b, 2018a). Moreover, we have uncovered a somewhat surprising picture, finding that this decrease was entirely due to the overall decline in

the use of stance markers particularly in result and method sections. The following interpretive, conceptual interpretation is based on the assumption that understanding these changes is possible through exploring textual dynamics of this genre in its socio-historical contexts. In fact, our discussion rests on the assumption that this shift in academic conventions may indicate more hard science orientation in research practices, the emergence of promotional and commercial discourse, and increasing specialization of research.

4.2.1. Metadiscourse Changes and More Hard Science Orientation in Research Practices

It is now well established that the ways writers represent themselves, their work and their readers differ from one discipline to another (Hyland, 2005a). In fact, for centuries there has been a traditional dividing line in the history of science and scholarship between humanities and social sciences on one side and natural sciences and technology on the other. Essentially, the soft fields are regarded as more explicitly interpretive, producing discourses which often recast knowledge as sympathetic understanding (Hyland & Salager-Meyer, 2008). In contrast, in hard science, "knowledge is built on the non-contingent pillars of impartial observation, experimental demonstration, replication, and falsifiability" (Hyland& Salager-Meyer, 2008, p. 299).

Accordingly, in a number of studies, disciplinary variation in the use of hedges and boosters (Hyland, 1998, 2001b; Hyland & Tse, 2004), attitude markers (Hyland, 2004), and self-mention (Hyland, 2001a) has been addressed in research papers; according to these results the soft-science papers contained 75 percent more stance items than the hard-science ones. However, the evidence provided by our investigation witnessed the significant decline of boosters (-18%), attitude markers (-16%), hedges (-13%) (see Table 3) in result sections and self-mentions (-63%) in method sections.

In fact, a significant decrease in the use of hedges (-13%) might indicate "a more measured epistemic stance and a more circumspect approach to authorial intrusion than in the past" (Hyland &Jiang, 2018, p.27). This is achieved mainly through epistemic lexical verbs such as *suggest* and *indicate* which "represents an important shift from commitments expressed as personal beliefs towards those which seek to convey more objective, data-supported assurances" (Hyland & Jiang, 2018, p.27) (see examples below):

- The results of this study **suggest** that the discourse of academic blogs tends to be more informal, personal and uninhibited than the discourse of other face-to-face academic genres in various disciplines.

- The current results **indicate** that the two groups exhibited similar noticing behavior under the [L2] condition, but not under the [+L2] condition.

The greater use of empirically oriented boosters such as *find* and *show* was also as clear evidence of a substantial shift from "a personal belief toward more empirical and data-supported commitments to claims" (Hyland & Jiang, 2016a, p. 11) (see examples below):

- In sum, we **found** a marked overall disposition towards non-integral and non-subject citation forms in the science and engineering papers.

- This study also goes some way to **showing** that a fairly comprehensive explicit intervention on an area of L2 pragmatics that follows a Concept-Oriented Approach.

This profound shift from comparatively "involved" and "verbal" discourse to highly "informational" and "nominal" discourse may plausibly be related to "an increasing scientism in the social sciences due to a more hard science orientation in their dominant methods and approaches" (Glynos & Howarth, 2007 cited in Hyland & Jiang 2018, p. 10).

Moreover, dramatic falls in the use of self-mentions (-60%) in method section was also an indication of the growth of scientism in applied linguistic practices. In fact, the dramatic falls in use of self-mentions in this section may plausibly lend support to view that "the author-centered approach seems to slide gradually into the object-centered one, submerged in an object-centered rhetoric of methods in which scientific 'objects', rather than 'scientific' people, assume increasing centrality and importance" (Atkinsion, 1999, p.28).

4.2.2. Metadiscourse Changes and Emergence of Promotional and Commercial Discourse

Whereas the dramatic fall in use of self-mention in method sections is evidence for increasing scientism in AL research practices in our corpus. However, it seems that their massive rise in the introduction (43%) and discussion (60%) sections can also enhance the development of a promotional and consumer-oriented discourse through establishing a stronger image of their "self" among their readers (see examples below):

- **We** suggest that the reduction in L1 contact which is the primary catalyst for attrition needs to be taken into account in order to characterize the function of aptitude in attrition.

- The results of **our** study have provided some evidence that learners increasing control over sociolinguistic variation is linked to their conceptual understanding of the language.

In this light, Law and Williams (1982) claim that the opening paragraph of an article is a vital part of the promotional packaging which helps alert the readership to novelty. Thus, a massive rise in the use of self-mentions in our corpus closely mirrors writers' desire to promote their work and market themselves and their research by constructing a picture of newsworthiness and uniqueness. Such promotional devices can also help repeat claims and findings in the discussion sections, to show that the work deserves to be taken seriously (Harwood, 2005a). It might be argued that tendencies towards the competitive, self-motivating, entrepreneurial self, dominated by the need to publish, to get claims accepted, and to secure funding and promotion, are reflected in the interactional features of published academic texts (Hyland, 2004). In fact, in modern academy, the academic writer's desire for promotion may plausibly be evidence for the emergence of commodified discourse due to a dramatic change in the nature of professionalism (Kuhi, 2014).

4.2.3.Metadiscourse Changes and Increasing Specialization of Research

The findings of the present research also lend support to the view that applied linguists are becoming less powerful than they used to be in the past. Considerable decrease in the use of question markers, reader pronouns, directives (see table3) in result sections is the projection of an insider ethos which involves addressing readers as if they were knowledgeable in the general area, familiar with the discipline's forms of argument and ways of establishing truth and possessing similar authority and influence. Textual manifestations of such assumptions are indicated in a stronger tendency of writers to use inclusive *we* instead of exclusive *you* (see examples below):

- **We** must keep in mind that the goal of introducing variation in L2 education should not be to create replicas of native speakers.

- As **we** have seen, the differences between Intermediate High and Advanced stories are differences of degree, rather than of kind.

Moreover, writers' desire to use imperatives particularly *see* as the directive of choice can be seen as an investment strategy to carry less threat to the reader's face, particularly by reducing their possible imposition by their placement in brackets:

- It is, however, an approach that is at odds with much current mainstream language assessment where a deficit model is avoided (**see** discussion in Conclusion).

Speculatively, this may be due to the increasing specialization of research in the social sciences for, as topics become more focused and the literature more concentrated, audiences are themselves becoming more specialized. These aspirations are also manifested in greater use of shared knowledge marker, *familiar* seeking to position readers within the borders of disciplinary knowledge by appealing to their assumed familiarity with aspects of background information:

- The examples presented earlier; the English tutors' strategies may appear more **familiar** to many readers of this article.

This tendency to the specialization of research has been addressed in a number of studies (see, e.g., Chaudron, 2001; Master, 2005; Ellis, 2012; Stapleton & Shao, 2017).

5. Conclusion and Implications

In this study, we have tracked how stance and engagement practices have changed across four different sections of research articles (introduction, methodology, results, and discussion/conclusion) published in three leading journals of applied linguistics (applied linguistics, English for specific purposes, modern language journal) between 1996 and 2016. Using Hyland's(2005b) model and looking at the articles from leading journals of applied linguistics discipline, we are witnessing writers' less use of these explicit markers than in the past.

Moreover, we have uncovered a somewhat surprising picture, finding that this decrease was entirely due to the overall decline in the use of stance markers particularly in result and method sections. The most significant change in result section was the decline in the extent to which writers used boosters and attitude markers which might be a clear evidence of an increase in more empirically grounded studies and data reporting practices which may plausibly be related to an increasing scientism in the social sciences due to a more hard science orientation in their dominant methods and approaches. Moreover, dramatic falls in use of self-mention in method section might be also an indication of more hard science orientation of researchers in their dominant methods in our corpus. However, its massive rise in introduction and discussion sections can be an evidence of development of a promotional and consumer-oriented discourse which may be related to the emergence of

commodified discourse due to dramatic change in the nature of professionalism.

Approaching interactional dimension of academic writing from such a diachronic perspective, we might argue that the very selective use of interactional resources by academic writers over time means metadiscourse does not operate in a vacuum and is sensitive to changes within disciplines and their academic practices. In fact, we think in line with Hyland and Jiang (2016a,2016b,2018a) that while particular sets of conventions and practices of a discipline may be dominant in a given age, they are not permanent. These changes are taking place and both expert and novice members of academic discourse communities should be able to adopt their rhetorical practices to them. This rhetorical consciousness clearly has the potential to initiate change for it gives researchers the power to question, to experiment, and to exercise options.

Based on these findings, this study offers implications for renewing the EAP course for Iranian students. Hyland (2002d, p.392) is of the opinion that "specificity is an essential task of EAP/ESP writing" and warns against the adoption of an 'autonomous' view of literacy, which "misleads learners into believing that they simply have to master a set of rules which can be transferred across fields". In fact, EAP material need to be based on the actual rhetorical practices of scholars writing in English research reporting rather than prescriptive materials and/or the normative use of certain language features. In other words, even though the educational and social issues surrounding EAP classrooms are complex and often hostile to innovation and critique, they can be places of awareness of changes. This means academic writing should be seen as a process of raising students' consciousness of variations in rhetorical choices that make their texts appropriate for audience and context of the specific time. Thus, it might be argued that diachronic perspective on metadiscourse contributes to teachers and novice writers' awareness of the malleability of academic writing and its sensitivity to context along with providing access to current practices for the creation and delivery of teaching materials in EAP courses.

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Appendix 1. Stance Features

Attitude Markers
admittedly; agree; agrees; agreed; amazed; amazing; amazingly; appropriate; appropriately; astonished; astonishing; astonishingly; best;better; complex; comprehensive; conclusively; consistent; correctly; critical; curious; curiously; desirable; desirably; difficult; disappointed; disappointing; disappointingly; disagree; disagreed; disagrees; dramatic; dramatically; essential; essentially; even x; expected; expectedly; fortunate; fortunately; hopeful; hopefully; important; importantly; inappropriate; inappropriately; interesting; interestingly; key; main; major; meaningful; necessary; only; prefer; preferable; preferably; preferred; remarkable; remarkably; robust; shocked; shocking; shockingly; significant; striking; strikingly; surprised; surprising; surprisingly; unbelievable; unbelievably; understandable; understandably; unexpected; unexpectedly; unfortunate; unfortunately; unique; useful; unusual; unusually;' usual; valuable.

Boosters
actually; always; believe; believed; believes; beyond doubt; certain; certainly; clear; clearly; conclude; conclusively; decidedly; definite; definitely; demonstrate; demonstrated; demonstrates; determine; doubtless; emphasize; establish; established; evident; evidently; find; finds; found; in fact; hold; incontestable; incontestably; incontrovertible; incontrovertibly; indeed; indisputable; indisputably; know; known; must; never; no doubt; obvious; obviously; of course; primarily; prove; proved; proves; realize; realized; realizes; really; revealed; show; showed; shown; shows; sure; surely; think; thinks; thought; truly; true; undeniable; undeniably; underscore; undisputedly; undoubtedly; without doubt

Hedges
about; almost; apparent; apparently; appear; appeared; appears; approximately; argue; argued; argues; around; assume; assumption; assumed; broadly; certain amount; certain extent; certain level; claim; claimed; claims; common; could; couldn't; doubt;

doubtful; essentially; estimate; estimated; fairly; feel; feels; felt; frequently; from my perspective; from our perspective; from this perspective; generally; guess; hypothesis; hypothesized; indicate; indicated; indicates; in general; in most cases; in most instances; in my opinion; in my view; in this view; in our opinion; in our judgment; in our view; largely; likely; mainly; may; maybe; might; mostly; notion; often; on the whole; ought; partly; perhaps; plausible; plausibly; possible; possibly; postulate; postulated; postulates; presumable; presumably; probable; probably; proposed; quite; rather x; relatively; roughly; seems; should; sometimes; somewhat; suggest; suggested; suggests; suppose; supposed; supposes; suspect; suspects; tend to; tended to; tends to; tentatively; to my knowledge; typical; typically; uncertain; uncertainly; unclear; unclearly; unlikely; usually; virtually; view; would; wouldn't.

Self-mentions

I; we; our; us; me; my

Appendix2. Engagement Features

Reader Pronouns

Your; Your; you; one's; One's; the reader; The reader; our reader

Directives

Add; Allow; Analyse; Analyze; Apply; Arrange; Assess; Calculate; Choose; Classify; Compare; Connect; Consult; Contrast; Define; Demonstrate; Determine; do not; Develop; Employ; Ensure; Estimate; Evaluate; Follow; Go; have to; Review; Increase; Input; Insert; Assume; Think; Recall; look; Remember; mark; measure; let's ;mount ; Let; must; need to; Should; ought; ought to; observe; order; pay; Must; picture ; has to; prepare; recover; refer; regard ; remember; remove; see; select; set; should; show; suppose; state; think of; turn; use; take; consider; find; imagine ; note; notice.

Shared Knowledge

Apparently; as a rule; common; commonly; conventional; conventionally; established; familiar; normally; obvious; obviously; of course; prevailing prevalent; traditional; traditionally; integrate; Typical; Typically; Usual Routine;

Personal Asides

Incidentally, by the way

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