

An Exploration of Interactional Metadiscourse in Architecture Research Articles

Ping-Nan Chang

Freelancer

pchang01@qub.ac.uk; pingpingrob@gmail.com

Abstract

This study examines 14 research articles from *The Journal of Architecture* based on Hyland's (2005a) taxonomy of interactional metadiscourse. With the UAM CorpusTool, relevant devices were identified manually against Hyland's definition of each metadiscourse category. To assist the data interpretation, two architecture lecturers were consulted regarding the disciplinarity of architecture. A broad repertoire of interactional metadiscourse markers are observed in this small sample, suggesting academic writing is, instead of being impersonal, a ramification of reader-writer interaction. The analysis also shows noticeable variations in metadiscourse features among the articles as to frequency of occurrence, particularly relating self-mention and engagement markers. Such variations might reflect the interdisciplinary nature of architecture, implying that discourse conventions in the discipline are possibly still evolving rather than uniform and established.

Key words: metadiscourse, English for Academic Purposes (EAP)

I. Introduction

According to Hyland (2009a, p. 60), discourse "can be a useful way of describing the literacies and practices of individual disciplines, providing insights into the ways academics understand their communities." There is an expanding body of EAP research concerning disciplinary differences and linguistic phenomena. Studying academic discourse can thus afford a greater understanding of not only writing conventions, but also disciplinary practices and culture. The knowledge gained from this study can then be useful to practitioners to design and teach EAP. This research examines the writing of research articles (RAs) in architecture. Since Swales, Barks, Ostermann, and Simpson's (2001) call for more ESP research about architecture, there have been studies on genres associated with the discipline, such as crits/critiques (Melles, 2008; Morton, 2009; Swales et al., 2001), building reviews (Caballero, 2006), design project descriptions (Cabanés, 2007), and architectural students' sketchbooks (Medway, 2002). Although RAs have been central to EAP research, there appears no published investigation devoted to the genre in this discipline.

Academic writing is traditionally believed to be objective, and detached from the author; however, as Hyland (2005a, p. ix) contends, "written texts not only concern people, places and activities in the world, but also acknowledge, construct and negotiate social relations." It is thus important for writers to show a sensible management of personality while also appropriately engaging their readers in their writing. One means to achieve this interpersonal aspect of communication is through the use of metadiscourse, which is vaguely conceptualised as "discourse about discourse or communication about communication," (Vande Kopple, 1985, p. 83). There have been a number of attempts to describe it in taxonomies, including Vande Kopple (1985), Crismore, Markkanen and Steffensen (1993), Hyland (2005a), and Adél (2006). This study follows Hyland's (2005a) interpersonal model of metadiscourse as it "offers a more comprehensive and encompassing model of metadiscourse" (Lee & Casal, 2014, p. 42), "has been used in many studies of academic discourse" (Hu & Gao, 2015, p. 14), and possesses "relative theoretical and pedagogical advantages" (Kuhi & Behnam, 2011, p. 100). Metadiscourse is defined as "the cover term for the self-

reflective expressions used to negotiate interactional meanings in a text, assisting the writer (or speaker) to express a viewpoint and engage with readers as members of a particular community” (Hyland, 2005a, p. 37). Metadiscourse resources are categorised into interactive and interactional dimensions (Hyland, 2005a). This research focuses on the interactional metadiscourse, which functions to convey stance and engagement, and is useful to enable understanding of the interpersonal nature of academic writing. Despite its importance, interactional metadiscourse is however taught in “a rather piecemeal fashion” (Hyland, 2004, p. 135) or underrepresented in ESP course books (Zarei, 2008).

Hyland (2005a) classifies interactional metadiscourse into hedge, booster, attitude marker, self-mention, and engagement marker. Hedges are used to “recognize alternative voices and viewpoints and so withhold complete commitment to a proposition” (Hyland, 2005a, p. 52). The definition may be best captured by Martín-Martín’s (2008) the strategy of indeterminacy, which covers epistemic modality and approximators. The former is “concerned with the speaker’s judgement about the certainty, probability or possibility of something” (Carter & McCarthy, 2006, p. 902). The latter is used to express reservation and reveal the irrelevance, unavailability or impossibility of exactitude (Salager-Meyer, 1994). Unlike hedges which tone down assertiveness and open up a space for readers’ challenges, boosters enable writers to close down alternatives and judge conflicting views with certainty (Hyland, 2005a, p. 52). Boosters “also often stress shared information and group membership as we tend to get behind those ideas which have a good chance of being accepted” (Hyland, 2007, p. 94). Attitude markers are devices to “indicate writer’s affective, rather than epistemic, attitude to propositions, conveying surprise, agreement, importance, frustration, and so on, rather than commitment” (Hyland, 2007, p. 95). Attitude markers in RAs may be subcategorised into: “significance (i.e. relevance, importance), assessment (i.e. acuity, efficacy, novelty, interestingness, validity, strength, quality), and emotion (i.e. personal, emotional judgements)” (Mur Dueñas, 2010, pp. 62-63) Self-mention is a strategy to demonstrate “explicit author presence in a text” (Hyland, 2005a, p. 53) and most apparently realised by the use of the first person pronouns. The device is found to promote an author’s scholarly identity and to gain academic credentials (Harwood, 2005a, Hyland, 2001b; Kuo, 1999).

Engagement markers are linguistic devices used to “explicitly address readers, either to focus their attention or include them as discourse participants”; that is to say, by utilising them, writers can “either highlight or downplay the presence of their readers in the text” (Hyland, 2005a, p. 53). There are four main categories of engagement markers (Hyland, 2005a). Reader pronouns draw readers into a text in the most explicit manner often through the use of *you*, *reader*, or inclusive *we* in writing. Personal asides “briefly interrupt the argument to offer a comment on what has been said” (Hyland, 2005a, p. 152), and thus allow writers not only to “intervene” so as to provide an opinion but also to “initiate a brief interpersonal dialogue” (Hyland, 2005b, p. 183). The common linguistic realisation of asides is as a stream of words within brackets, commas or hyphens; these punctuation marks are clues to identify this feature. Questions are most explicitly manifested by the presence of the question mark. They are used as a strategy for an author to invite readers for dialogic involvement and to establish rapport with them (Hyland, 2002b). Directives, the last category of engagement markers, are defined to “instruct the reader to perform an action or to see things in a way determined by the writers” (Hyland, 2005b, p. 184). Unlike most other elements of interactional metadiscourse aiming to create rapport and maintain a harmonious relationship between writers and their readers, they impose on readers and thereby take the risk of being face-threatening (Hyland, 2002a) through the use of imperative, obligation modals and predicative adjectives showing necessity or importance (Hyland, 2005b). Directives in RAs can be grouped into three acts: textual, physical, and cognitive: textual acts direct readers to internal reference or external reference; physical acts intend to lead readers to perform physical acts, either regarding research processes, or real world actions; cognitive acts guide readers to interpret an argument as the writer prefers, in order to achieve stated rhetorical purposes, elaborative purposes, and emphatic purposes (2005b, pp. 184-185). Based on the overview, the analysis will be presented in the order of hedge, booster, attitude marker, self-mention, reader pronoun, aside, question and directive.

II. Method

This study examines a small sample of 14 texts (JA1, JA2,...JA14) randomly selected from the 2010 and 2011 issues of *The Journal of Architecture* (JA), the oldest refereed journal of its kind in the UK and listed in

the high-stake Thomson Reuters Arts and Humanities Citation Index. While one journal cannot represent an entire discipline, JA is a suitable source to sample the quality RAs in architecture required for this study, considering that it is “one of the foremost architectural journals in the world” (University of Westminster, 2014). The sample contains 91,322 running words (main texts only). This small collection of texts also demonstrates international authorship and global interest in architectural cases.

Considering Hyland’s (2005a, p. 28) principle of “explicitness,” the lexical level of realisation is the subject of focus when recognising metadiscourse, and includes individual lexical items, punctuation marks and formulaic phrases. While Hyland’s (2005a) wordlist is an informative reference, the word-by-word procedure was applied to recognise relevant features by considering their co-texts. By means of the approach, potential items not in Hyland’s list could be identified, for example, *arguable* as a hedge, and *extraordinary* as an attitude marker. As metadiscourse is “highly contextual” (Hyland, 2004, p. 136), examining the co-text also makes it possible to better determine an item’s metadiscoursal status. As for the issue of demarcation raised by Gillaerts and Van de Velde (2010), aside from common phrases and raising structure with the anticipatory *it*, which functions as a directive, the instances found in this analysis were predominantly of single lexical items. As in EX1, *would* and *argue* might convey hedging, and were counted separately.

EX1: *I would argue that the rammed-earth wall of the Chapel.... [JA4]*

While the analysis was done manually, the coding was input to the UAM CorpusTool for greater efficiency in gathering frequency information. The frequency count was normed to the basis of 1000 words, making it possible to compare the results for the architecture RAs with those from selected previous research: including Hyland (2005b), McGrath and Kuteeva (2012) and Kuhl and Behnam (2011), where RAs of other disciplines are examined. In addition, to complement the textual analysis, two architecture lecturers at a British university acted as informants to provide ideas about their discipline. Both lecturers are native speakers of English and licensed/chartered architects, and have published research internationally.

III. Results and Discussion

There are 1278 instances of interactional metadiscourse recognised. As indicated in Table 1, stance-related markers are approximately five times more common than engagement markers. Among individual categories, hedges dominate, with over half of all instances being of this kind. Boosters and attitude markers are the second and third most frequently seen categories and the remaining occur less frequently within the texts.

Table 1. Number of observations of interactional metadiscourse in the texts (total word count: 91322)

Feature	Number of instances	Percentage	Per 1000 words
STANCE	1038	81.22%	11.4
hedge	688	53.83%	7.5
booster	194	15.18%	2.1
attitude marker	102	7.98%	1.1
self-mention	54	4.23%	0.6
ENGAGEMENT	240	81.22%	2.6
reader pronoun	88	6.89%	1.0
personal aside	49	4.30%	0.5
question	48	3.76%	0.5
directive	55	3.83%	0.6
Total	1278	100%	14.0

Consistent with the findings of several prior studies on RAs across various disciplines (e.g. Hyland, 2005ab; Kuhl & Behnam, 2011; Lee & Casal, 2004), hedges are found to be the most frequently used interactional metadiscourse feature. The prevalence of hedges reflects “the critical importance of distinguishing fact from opinion and the need for writers to present their claims with appropriate caution and regard to colleagues’ views” (Hyland, 2005b, p. 186). Hyland (2005a, p. 145) argues that “the soft-knowledge fields are typically more interpretive and less abstract than the hard sciences and their forms of argument rely more on a dialogic engagement and more explicit recognition of alternative voices.” This interpretation may apply to the architecture texts; unlike empirical research involving an experiment or direct

observation, these architecture RAs present either opinions or arguments in relation to specific theories and phenomena, or evaluations of aesthetic and design elements of a piece of art or architecture, in lieu of scientific or engineering concepts. Over 70% of instances of hedges belong to epistemic modality, principally realised by modal auxiliary verb (e.g. *could, might*), epistemic lexical verbs (e.g. *assume, suggest*), modal adverbs (e.g. *perhaps, presumably*), semi-auxiliary (e.g. *appear, seem*), and modal adjectives (e.g. *likely, possible*). Almost 30% of instances were labelled as approximative expressions, most of which are associated with frequency and degree. Approximators are used “when exact figures are irrelevant or unavailable or when the state of knowledge does not allow the scientists to be more precise” (Salager-Meyer, 1994, p. 154). As illustrated in EX2, while it is possible to provide a precise frequency when the tunnel’s repeater system was shut down, this information may not be necessary for the author’s narration of a potential road user’s experience of this tunnel.

EX2: As noted above, occasionally the tunnel’s radio repeater system is shut down, leaving the drivers only with the constancy of other engine noises as accompaniment. [JA13]

The majority of degree type approximators function to tone down a proposition. In EX3, the adverb *generally* can be seen to establish the limit that this argument can be extended to. Other lexical items, such as *normally, typically, relatively, and on the whole*, are also observed in the collected articles to similar effect.

EX3: Museum space can generally be conceptualised as a visual field, internally differentiated and articulated by occlusions, and accessed sequentially through movement. [JA6]

Boosters are seen less frequently than hedges, though they are observed in every text. As Dafouz-Milne (2008, p. 109) suggests, both hedges and boosters are “inherently persuasive” and the combination of the two can “contribute to the development of a relationship with the readers.” Boosters are manifest in a variety of forms in the sample articles, particularly adverbials to help intensify and emphasise propositional material, as in EX4. Boosters can sometimes “mark involvement and solidarity with an audience, stressing shared information, group membership, and direct engagement with readers” (Hyland, 1998, p. 350). This functions to imply shared knowledge between the author and readers, as illustrated in EX5.

EX4: Indeed, certain theories of movement touched one here, notably those of gestalt theory, have claimed a physiological and scientific basis. [JA12]

EX5: Of course, to show that such an evolution did take place it is necessary to make a careful study of many examples, and to be rigorous about dates. [JA12]

Attitude markers allow a writer to express an affective, as opposed to epistemic, judgment of a proposition (Hyland, 2005a, p. 53). They can be particularly important in soft fields where the writer is more likely to incorporate an explicit evaluation in their writing, to convince readers of their argument and to “establish personal credibility, critical insight and disciplinary competence” (Hyland, 2005a, p. 151). The majority of attitude markers observed in this study are used to offer an assessment of a proposition, and linguistic markers expressing emotion or feeling are rare. Attitude markers in the sample articles are mainly realised in adjectives and adverbs describing attitude (see EX6 and EX7), though they can also be achieved through other forms, such as ! (exclamation mark) and *alas* (interjection).

EX6: This is a dramatic change from the 1970s when the national government conveyed exactly the opposite message, seeking to contain and lower population growth by restricting couples to two children at most. [JA7]

EX7: Importantly, in the summer of 1960, Shiber, in collaboration with Kuwait’s Baladiya (municipality), initiated a process that involved transforming eleven districts in Kuwait City.... [JA11]

While “we cannot avoid projecting an impression of ourselves and how we stand in relation to our arguments, discipline and readers” (Hyland, 2009b, p. 76), the explicit signal of self-mention is only present in eight texts, with particularly high frequency of use in JA9 and JA12. It is mostly realised in the first-person pronouns (*I*, exclusive *we*), though a third-person noun, *the authors*, was observed once (see EX8).

EX8: From the late 1970s to 1990, according to the authors’ statistics, more than twenty buildings.... [JA10]

In line with the findings of prior research (Hyland, 2005b; Kuo, 1999; Harwood, 2005b), the ‘inclusive *we*’ is the most prominent form of reader pronoun. The indefinite pronoun *one* is also common in some of the texts. According to Kuo (1999, p. 136), both devices can refer to readers, or readers and authors, functioning to acknowledge “shared knowledge, goals and beliefs,” and to show “solidarity.” As illustrated in EX9, *we* helps construct virtual scenarios where readers are guided by the author to experience the space of the architecture under examination. Harwood (2005b) speculates that the use of the inclusive *we* could be the result of convention to avoid self-reference with *I*, which is strongly discouraged in hard sciences. However,

judging from JA5, JA8, JA9, and JA12 where both *I* (self-mention) and exclusive *we* (reader pronoun) are found, the authors appear conscious of the different effects of using devices for self-reference and reader engagement instead of abiding by a particular writing convention throughout.

EX9: It is to this sensory construction of the Limehouse Link which we now turn. [JA13]

There are not many instances of personal asides, which are observed in eleven texts. This feature permits an author to briefly interrupt an ongoing discussion, providing a “metacomment” on what has just been said, and thus engage readers in a “mid-argumentative flow” (Hyland, 2001a, p. 561). As exemplified in EX10, asides are principally manifest in parentheses marked with brackets or dashes.

EX10: Among the other first-day plinthers, Jill Gatum sent green balloons into the sky...and Scott Illman was a publican (presumably inept) dressed as a town crier calling out the buy-one-get-one-free offer in his bar. [JA9]

Questions are observed in nine articles, most noticeably in JA1 and JA9. None of them truly seek information from the reader; rather, they are rhetorical questions, often followed immediately by answers, or later in the text. Not all sentences ending with a question mark are direct questions. EX11 is particularly interesting; it cannot even be regarded as a complete sentence, due to the absence of a main verb. This question appears immediately after the author describes a harsh criticism of the architectural design reviewed in the paper. It arguably demonstrates the author’s frustration in response to the cited criticism, but also, with the use of the question mark, invites the reader to identify with this attitude.

EX11: Architects, blindly pursuing their design agendas—surely not? [JA14]

Directives are found in ten of the sample articles. About 25% of the instances are for the textual acts referring readers to a location within the text, and they are mainly realised by the form of imperative (see EX12). The majority of directives in the architectural RAs are of the cognitive type, which functions to direct or even coerce readers to a particular method of reasoning or reading of an argument. These instances are more associated with emphatic purposes (Hyland, 2002a). In EX13, the directive is realised through the raising structure, with an anticipatory *it*. For example, the adjective *noteworthy* is also categorised in the analysis as an attitude marker, expressing significance. The raising structure could however help draw the reader’s attention to the claim the authors are trying to convey. The modal verb *has to* in EX14 does not increase the confidence in a claim, but may prompt the reader to think along the same lines as the author.

EX12: Flowing forms (see also figs 8, 9 below) regardless of a previous norm, may suggest.... [JA9]

EX13: It is noteworthy that the criticism was directed towards researching a better computational model.... [JA8]

EX14: But my argument here is that the formal structure of a work of architecture has to be clearly seen before one can begin to approach meanings, homologies or explanations. [JA12]

As shown in Table 2, the results are compared to three previous studies, where full-text RAs were analysed by means of Hyland’s (2005a) model. Judging from the total number of instances, interactional metadiscourse is less represented in the architectural RAs, even compared to the figures for RAs from hard disciplines, which tend to use less metadiscourse (Hyland, 2005b). The relatively fewer observations of metadiscourse may be partly explained by the much smaller sample size in the current study. By comparing Hyland’s (2005b) and Kuhl and Behnam’s (2011) results regarding applied linguistics RAs, the overall frequency is much lower within the latter, despite their studying the same discipline. Hyland investigates 30 RAs across ten journals, and Kuhl and Behnam examine 20 RAs from fifteen periodicals; speculatively, a greater variety and number of metadiscoursal items may be observed from a larger corpus.

Despite fewer instances of engagement markers per 1000 words in this sample in comparison to the findings of the past research, they occur relatively more frequently in the architecture RAs than most other disciplines. The percentage of engagement markers out of the total interactional metadiscourse occurrences is approximately 19%. Only philosophy, in Hyland’s study, demonstrates a higher percentage of such markers, at approximately 28%. In the three past studies cited, philosophy is the only typical discipline of humanities. The saliency of such markers in the architecture RAs seem to suggest linkage of these texts to the domain of humanities. Interestingly, the occurrences of self-mention found in the analysis are relatively low, implying that these RAs are somewhat “author-evacuated” (Geertz, 1983, as cited in Harwood, 2005a, p. 1208). If explicit authorial reference is often downplayed in scientific writing (Hyland, 2005b), judging solely from overall low occurrences of self-mention, this collection of texts might have been positioned within the domain of sciences. However, when the frequency information of individual article is considered,

this category is actually present in over half of the texts. Thus, variations in metadiscourse distributions among these articles need to be discussed.

When the frequency information in each text is considered, the most distinctive variations lie on self-mention and engagement markers. Only hedges, boosters and attitude markers occur in all articles, and each of the remaining categories is more prominent in one or two articles. Self-mention and reader pronoun are particularly interesting here, as these two categories are the most explicit linguistic markers that writers can employ to refer to themselves and to readers. Self-mention is absent in six texts, but is heavily featured in JA9 and JA12, where it is identified 18 and 17 times respectively. On the other hand, reader pronouns are observed in all but two articles, with the frequency being noticeably higher in JA5 (23 instances) and JA12 (22 instances), together representing approximately half of the total instances in this category. That is to say, although some features do not have a prominent presence across the dataset, they can be particularly significant with some articles, where the authors employ relevant linguistic resources to promote identity (self-mention), foster solidarity (reader pronoun), initiate dialogue with the readers (question and personal aside) or guide readers in reasoning actions (directive).

Table 2. Number of interactional metadiscourse markers per thousand words, in comparison to the results of Hyland (2005b), McGrath and Kuteeva (2012), and Kuhl and Behnam (2011)

Feature	Arch	Phil	Soc	AL	Mk	Phy	Bio	ME	EE	Math	AL
Research	C	H								M&K	K&B
Stance	11.4	42.8	31.1	37.2	38.5	25.0	23.8	19.8	21.6	10.7	20.6
hedge	7.5	18.5	14.7	18.0	20.0	9.6	13.6	8.2	9.6	1.8	11.4
booster	2.1	9.7	5.1	6.2	7.1	6.0	3.9	5.0	3.2	5.4	3.2
attitude marker	1.1	8.9	7.0	8.6	6.9	3.9	2.9	5.6	5.5	2.7	2.8
self-mention	0.6	5.7	4.3	4.4	5.5	5.5	3.4	1.0	3.3	0.8	3.2
Engagement	2.6	16.3	5.1	5.0	3.2	4.9	1.6	2.8	4.3	26.9	2.9
reader pronoun	1.0	11.0	2.3	1.9	1.1	2.1	0.1	0.5	1.0	20.3	0.8
personal aside	0.5	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.6
question	0.5	1.4	0.7	0.5	0.3	0.1	0.1	0.1	0.0	0.0	0.3
directive	0.6	2.6	1.6	2.0	1.3	2.1	1.3	2.0	2.9	6.6	1.2
Total	14.0	59.1	36.2	42.2	42.7	29.9	25.4	22.6	25.9	37.6	23.5

Note. The disciplines on the top row are architecture, philosophy, sociology, applied linguistics, marketing, physics, biology, mechanical engineering, electronic engineering, pure mathematics and applied linguistics. The second row refers to the current study, and the three past studies.

The variations observed might result from individual writer's preference or personal intentions. As Bhatia (1993, p. 16) argues, an expert writer is able to not only follow "the range of generic rules and conventions," but also "exploit genre constraints for effectiveness and originality." It is also possible that the interdisciplinary nature of architecture plays a role. Both lecturers consulted during the study expressed that architecture is indigenously interdisciplinary. As one commented, architecture "must 'work' by standing up, staying together, keeping out the elements & provide comfort for its users", and thus science is essential; architecture is "people-centred," helping people to live, socialise and communicate, and thus must involve an element of social sciences; architecture should not only fulfil a function, but also achieve beauty, and thus art is indispensable. Although architecture has been institutionalised in university education for over a century, it is "a practice that borrows methods and concepts from other fields, whether the natural or the social sciences, engineering, or the fine arts" (Leatherbarrow, 2001, p. 83), and a discipline long contested for being so "broad in scope and range of methods" (Troiani, Ewing, & Periton, 2013, p. 9). It may thus be argued that architecture has borrowed not only concepts and methods, but also writing conventions, preferences and expectations from other fields, as is evident in the analysis where, for example, self-mention, a feature often discouraged in the sciences but is widely accepted in the humanities and social sciences, is seen in some of the sample articles, but not all. It is possible that an agreed writing convention has not yet been established within the discipline, perhaps partly due to its epistemic basis in a wide spectrum of fields.

IV. Conclusion

This research presents an analysis of 14 architecture RAs in terms of interactional metadiscourse. Even with a relatively small sample of texts, a broad repertoire of markers are observed, supporting Hyland's (2005b, p. 173) claim that "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." Variations observed in the analysis might reflect the interdisciplinary and practice-oriented nature of the discipline, suggesting that the discourse convention could still be evolving, rather than uniform and well-established. This study is certainly limited in many ways. Future research can involve a larger sample, with more texts to be included drawn from a wider variety of journals. Qualitative case studies or ethnographic research methods, exemplified by Harwood's (2006) discourse-based interview, can also be applied so as to gain deeper understandings of EAP contexts.

Members of a discourse community constitute the rationale of a genre, and the rationale further "shapes the schematic structure of the discourse and influences and constrains choices of content and style" (Swales, 1990, p. 58). Therefore, ESP teaching needs to address the relationship between the discourse community and the associated genres. The model of metadiscourse adopted in the analysis could be transferrable into teaching EAP as this framework allows teachers and students to explore about linguistic markers in a systematic manner and attend to the importance of the reader-author interaction. Teachers could provide "doctored" texts with metadiscourse features removed (Parvaresh & Nemati, 2008), alongside un-edited versions for comparison, and encourage consideration of the interpersonal effects of metadiscourse. Teachers could also guide learners to examine texts in their own fields, which may encourage them to discover the linguistic conventions of their disciplines, to further develop awareness of audience, context and disciplinary cultures in academic writing, and to promote autonomous learning.

References

- Ädel, A. (2006). *Metadiscourse in L1 and L2 English*. Amsterdam. The Netherlands: John Benjamins B.V.
- Bhatia, V. K. (1993). *Analysing genre: Language use in professional settings*. Harlow, UK: Longman.
- Caballero, R. (2006). *Re-viewing space: Figurative in architects' assessment of built space*. Berlin, Germany: Walter de Gruyter.
- Carter, R., & McCarthy, M. (2006). *Cambridge grammar of English*. Cambridge, UK: Cambridge University Press.
- Crismore, A., Markkanen, R. and Steffensen, M.S. (1993). Metadiscourse in persuasive writing: A study of texts written by American and Finnish university students. *Written Communication*, 10, 39-70.
- Dafouz-Milne, E. (2008). The pragmatic role of textual and interpersonal metadiscourse markers in the construction and attainment of persuasion: A cross-linguistic study of newspaper discourse. *Journal of Pragmatics*, 40, 95-113.
- Gillaerts, P., & Van de Velde, F. (2010). Interactional metadiscourse in research article abstracts. *Journal of English for Academic Purposes*, 9, 128-139.
- Harwood, N. (2005a). "Nowhere has anyone attempted...In this article I do just that": A corpus-based study of self-promotional *I* and *we* in academic writing across four disciplines. *Journal of Pragmatics*, 37, 1207-1231.
- Harwood, N. (2005b). "We do not seem to have a theory...The theory I present here attempts to fill this gap": Inclusive and exclusive pronouns in academic writing. *Applied Linguistics*, 26, pp343-375.
- Harwood, N. (2006). (In)appropriate personal pronoun use in political science: A qualitative study and a proposed heuristic for future research. *Written Communication*, 23, 424-450.
- Hu, G. W., & Cao, F. (2015). Disciplinary and paradigmatic influences on interactional metadiscourse in research articles. *English for Specific Purposes*, 39, 12-25.
- Hyland, K. (1998). Boosting, hedging and the negotiation of academic knowledge. *Text*, 18, 349-382
- Hyland, K. (2001a). Bringing in the reader: Addressee features in academic articles. *Written Communication*, 18, 549-574.
- Hyland, K. (2001b). Humble servants of the discipline? Self-mention in research articles. *English for Specific Purposes*, 20, 207-226.
- Hyland, K. (2002a). Directives: Argument and engagement in academic writing. *Applied Linguistics*, 23, 215-239.
- Hyland, K. (2002b). What do they mean? Questions in academic writing. *Text*, 22, 529-557.

Chang, P. (2016). An exploration of interactional metadiscourse in architecture research articles. The Joint International Conference of the 8th International Conference on ESP in Asia & the 3rd International Symposium on Innovative Teaching and Research in ESP in Japan, Tokyo, August 19, 2016. Tokyo: UEC IGTEE Research Station. Vol. 1, 5-12

- Hyland, K. (2004). Disciplinary interactions: metadiscourse in L2 postgraduate writing. *Journal of Second Language Writing*, 13, 133-151.
- Hyland, K. (2005a). *Metadiscourse: Exploring interaction in writing*. London, UK: Continuum.
- Hyland, K. (2005b). Stance and engagement: A model of interaction in academic discourse. *Discourse Studies*, 7, 173-192.
- Hyland, K. (2007). Different strokes for different folks: Disciplinary variation in academic writing. In K. Fløttum (Ed.), *Language and Discipline Perspectives on Academic Discourse* (pp. 89-108). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Hyland, K. (2009a). *Academic discourse: English in a global context*. London, UK: Continuum.
- Hyland, K. (2009b). English for professional academic purposes: Writing for scholarly publication. In D. Belcher (Ed.), *English for specific purposes in theory and practice* (pp. 83-105). Ann Arbor, MI: University of Michigan Press.
- Kuhi, D., & Behnam, B. (2011). Generic variations and metadiscourse use in the writing of applied linguistics: A comparative study and preliminary framework. *Written Communication*, 28, 97-141.
- Kuo, C-H. (1999). The use of personal pronouns: Role relationships in scientific journal articles. *English for Specific Purposes*, 18, 121-138.
- Leatherbarrow, D. (2001). Architecture is its own discipline. In A. Piotrowski, & J. W. Robinson (Eds.), *The Discipline of Architecture* (pp. 83-102). Minneapolis, MN, USA: University of Minnesota Press.
- Lee, J. J., & Casal, J. E. (2014). Metadiscourse in results and discussion chapters: A cross-linguistic analysis of English and Spanish thesis writers in engineering. *System*, 46, 36-54.
- Martín-Martín, P. (2008). The mitigation of scientific claims in research papers: A comparative study. *International Journal of English Studies*, 8(2), 133-152.
- 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.
- Medway, P. (2002). Fuzzy genres and community identities: The case of architecture students' sketchbooks. In R. M. Coe, L. Lingard, & T. Teslenko (Eds.), *The rhetoric and ideology of genre: Strategies for stability and change* (pp. 123-153). Cresskill, NJ: Hampton Press.
- Melles, G. (2008). Producing fact, affect and identity in architecture critiques-a discourse analysis of student and faculty discourse interaction. *Art, Design & Communication in Higher Education*, 6, 159-171.
- Morton, J. (2009). Genre and disciplinary competence: A case study of contextualisation in an academic speech genre. *English for Specific Purposes*, 28, 217-229.
- Mur Dueñas, P. (2010). Attitude markers in business management research articles: A cross-cultural corpus-driven approach. *International Journal of Applied Linguistics*, 20, 50-72.
- Parvaresh, V., & Nemati, M. (2008). Metadiscourse and reading comprehension: The effects of language and proficiency. *Electronic Journal of Foreign Language Teaching*, 5, 220-239. Retrieved from <http://e-flt.nus.edu.sg/v5n22008/parvaresh.pdf>
- Salager-Meyer, F. (1994). Hedges and textual communicative function in medical English written discourse. *English for Specific Purposes*, 13, 149-170.
- Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge, UK: Cambridge University Press.
- Swales, J. M., Barks, D., Ostermann, A. C., & Simpson, R. C. (2001). Between critique and accommodation: Reflections on an EAP course for Masters of Architecture students. *English for Specific Purposes*, 20, 439-458.
- Troiani, I., Ewing, S., & Periton, D. (2013). Architecture and culture: Architecture's disciplinarity. *Architecture and Culture*, 1, 6-19.
- University of Westminster. (2004, October 8). Prestigious Journal of Architecture appoints Dr Lindsay Bremner as commissioning editor. Retrieved from <http://www.westminster.ac.uk/news-and-events/news/architecture/2014/prestigious-journal-of-architecture-appoints-dr-lindsay-bremner-as-a-commissioning-editor>
- Vande Kopple, W. J. (1985). Some exploratory discourse on metadiscourse. *College Composition and Communication*, 36, 82-93.
- Zarei, G. R. (2008). Do English for specific purposes (ESP) textbooks prepare students for writing research articles (RAs): A case of metadiscourse analysis. *English for Specific Purposes World*, 7(2). Retrieved from http://www.esp-world.info/Articles_18/metadiscourse_analysis.htm