A review of research on authorial evaluation in English academic writing: A methodological perspective

Jianping Xie

School of English Education, Guangdong University of Foreign Studies, 178 Waihuang Donglu, Guangzhou Higher Education Mega Center, Guangzhou, 510006, China

1. Introduction

Evaluation is pervasive in academic writing (Hyland, 2005), as academic writers construe evaluative meanings to help convince the readers of their epistemic knowledge claims. Evaluation addresses the interpersonal meanings of language, construing attitude, stance or point of view (e.g., Hood, 2010; Hyland & Diani, 2009), and encompasses both attitudinal features towards entities and epistemic features towards propositions (Fairclough, 2003; Gray & Biber, 2012; Thompson & Hunston, 2000). That is, evaluation is a unified concept integrating two dimensions: the *attitudinal* dimension which indicates speakers'/writers' positive or negative feelings towards entities and the *propositional* dimension which indicates speakers'/writers' certainty of or commitment to the propositions in terms of reliability or trueness. Therefore, following Hunston and Thompson (2000), this study defines *evaluation* as writers' explicit or implicit encodings of their emotions of, viewpoints on, attitudes and positions towards entities or propositions in academic writing.

The past three decades witnessed a proliferation of studies on evaluation conducted under various headings. Generally speaking, earlier studies tended to focus on specific evaluative resources that function on either the attitudinal or the propositional dimension with the latter having received more attention. This is because epistemic meanings are "considerably more important in academic research writing than the attitudinal meanings" (Gray & Biber, 2012, p.19). For example, Ochs

and Schieffelin's (1989) study on *affect* is one of the rare early endeavors addressing the attitudinal dimension while the multitude of studies like *intensity* (e.g., Labov, 1984)*, modality* (e.g., Palmer, 1990)*, hedging* (e.g., Crompton, 1997) *evidentiality* (e.g., Chafe, 1986), and *averral and attribution* (e.g., Tadros, 1993) address the propositional dimension of evaluation. Among these early studies, the two lines of research on affect and evidentiality have laid particular foundation for the recent conceptions of evaluation (Gray & Biber, 2012). Affect is defined by Ochs and Schieffelin (1989) as "a broader term than emotion which includes feelings, moods, dispositions, and attitudes associated with persons and/or situations" (p. 7), which permeates the entire linguistic system at different levels such as phonological features (e.g., intonation), morpho-syntactic features (e.g., *t/v* pronouns signifying intimacy/distance), and discourse features (e.g., affective speech acts like teasing and apologizing). For evidentiality, Chafe (1986) defined it as any linguistic expressions of attitudes towards knowledge, and distinguished three aspects of the marking of evidentiality: the reliability of the knowledge itself on a continuum from reliable to unreliable; the mode of knowing as personal belief, hearsay, or deduction; and the source of knowledge such as evidence, the language of others, or hypotheses. Chafe found academic writers were especially concerned with how true something was and constantly indicated their assessments of the reliability of knowledge. Though these studies focused on a unilateral dimension of evaluation, they definitely have laid the groundwork for the later unified view of evaluation. Biber and Finegan (1989), for instance, brought affective and evidential meanings together into their examination of stance features, and Biber and colleagues later developed a more full-fledged analytical framework of stance, as will be discussed in Section 3.

Hunston and Thompson's (2000) edited book *Evaluation in text: Authorial stance and the construction of discourse* can be considered as a milestone for research on evaluation, in which Thompson and Hunston introduced and explicated the definitions, functions, parameters and instantiations of evaluation. Since then, there have been growing interests in examining the matter. Building on the earlier studies as discussed earlier, recent studies on authorial evaluation tend to cover both the attitudinal and propositional dimensions. Accordingly, systematic frameworks for analyzing evaluation have been developed, and research on evaluation has become even more thriving and insightful. On the other hand, however, the even more diversified array of terminologies related to evaluation in the extant literature such as *stance* (e.g., Conrad & Biber, 2000)*, metadiscourse* (e.g., Hyland, 2005), *appraisal* (e.g., Martin & White*,* 2005), and *voice* (e.g., Matsuda, 2001) have also contributed to the growing complexity of the whole picture.

Such being the case, a systematic review of research on authorial evaluation is sorely needed, which, unfortunately, is rare so far. One reason for this scarcity lies in the daunting task of sorting the great amount of studies conducted under the great variety of headings adopting different methodological approaches. To fill in the gap, this study aims to first disentangle the complicated literature on authorial evaluation in English academic writing and identify the major strands of research in the field of applied linguistics over the past twenty years, and then focus on the methodological issue and outline the major methodological approaches adopted in the literature. Specifically, this study addresses the following questions: What are the major strands of research on authorial evaluation in English academic writing? What are the major methodological approaches to authorial evaluation in English academic writing? And what are the respective strengths and weaknesses of the methodological approaches in revealing authorial evaluation in English academic writing? It is hoped that this review will provide implications for future research on evaluation in English academic writing.

2. Methodology of review

To identify relevant literature for this review, a systematic search in online databases ProQuest, Elsevier, Springer, SAGE, Taylor and Francis, and Wiley Online Library within the time range from 2000 to 2019 was conducted. Considering the various possible terms used in the literature, search terms *evaluation*, *stance*, *voice, metadiscourse, appraisal,* and *academic writing* were used. The abstracts and sometimes the whole texts of the studies appeared in the search results were carefully read, and studies that meet all of the following criteria were selected for this review:

- Studies that discussed academic writers' authorial evaluation as the central topic or one of the major objects of study;
- Empirical studies that addressed evaluations of either student writers or expert writers or both in various academic genres, given that this review focuses on the methodological issues;
- Studies that discussed writers' authorial evaluation in English academic writing or compared with non-English academic writing, and were accessible in English;
- Studies that were published on international peer-reviewed journals or as books or book chapters, excluding those unpublished thesis/dissertations.

These inclusion criteria helped to narrow down the scope for the present review, but a potential limitation can be that some studies would be missed. For instance, studies on identity in academic writing (e.g., Hyland, 2002) were excluded from this review despite their relevant contributions. Nevertheless, making an all-embracing review covering all relevant studies is beyond the scope of the present review as its focus is placed on the methodological approach adopted in the literature.

The full texts of the chosen studies were then thoroughly read to identify their research objective(s), the data, the major findings or conclusions and most importantly, the methods and methodology employed. During this careful reading process, more relevant studies were traced and added into the selection if they meet all of the above inclusion criteria. Altogether 75 studies were included in this study with the majority being journal articles published in prestigious and specialized journals

in the field such as *Journal of English for Academic Purposes, English for Specific Purposes, Journal of Second Language Writing,* etc. The Appendix provides detailed information of the studies.

3. Major strands of research on authorial evaluation

As mentioned above, analytical frameworks incorporating both the attitudinal and propositional dimensions of evaluation have been developed in the past two decades. Therefore, according to the analytical framework being fully or partially applied (if any), four major strands of literature can be identified, namely the *stance* strand, the *metadiscourse* strand, the *appraisal* strand, and the *voice* strand.

3.1. The stance strand

One strand of research are studies under the heading *stance,* which is defined as "the lexical and grammatical expression of attitudes, feelings, judgments, or commitment concerning the propositional content of a message" (Biber & Finegan, 1989, p. 94). Biber and his colleagues are the representative scholars of this strand. Conrad and Biber (2000) differentiated three types of stance, namely *epistemic stance, attitudinal stance,* and *style stance.* Epistemic stance corresponds to the propositional dimension of evaluation and operates on the certainty-uncertainty parameter, attitudinal stance corresponds to the attitudinal dimension of evaluation and operates on the positive-negative parameter, while style stance indicates the manner the speaker/writer presents the information. Therefore, we can see that the notion *stance* is basically equivalent to the notion *evaluation.* Applications of the stance taxonomy can be found in studies such as Biber (2006), Xu (2007), Chan (2015), Çakır (2016), and Ahmada and Mehrjooseresht (2012), specifics of which are presented in Table 1.

3.2. The metadiscourse strand

Another prominent strand of research is based on Hyland's *metadiscourse* framework. Hyland (2004) differentiated two dimensions of metadiscourse*: interactive dimension* and *interactional dimension,* with the latter being further divided into *stance* and *engagement.* Stance here refers to "the features writers use to annotate their propositions to convey epistemic and affective judgments, opinions and degrees of commitment to what they say" (Hyland, 2004, p. 6) and corresponds to both the attitudinal and propositional dimensions of evaluation, thus being the most relevant to the present discussion. In Hyland's (2005) categorization, stance includes resources of hedges (e.g., *might, possible*), boosters (e.g., *in fact, definitely*), attitude markers (e.g., *unfortunately*), and self-mentions (e.g., *I, our*). The exuberance of studies applying the metadiscourse taxonomy has proved its vitality in disclosing the ways in which academic writers express evaluation. Twenty-five out of the total 75 studies in this review belong to this strand. Some researchers applied the full metadiscourse framework (e.g., Gillaerts, 2014; Li & Wharton, 2012), some applied a partial framework (e.g., Abdollahzadeh, 2011), and some examined some stance markers such as hedges and boosters (e.g., Hu & Cao, 2011), first person pronouns (Sanz, 2006), or attitude markers (e.g., Dueñas, 2010). Due to limited space, Table 2 presents some of the metadiscourse studies in a chronological order and the complete list can be found in the Appendix.

3.3. The appraisal strand

The third thread of research are the *appraisal* studies applying the appraisal framework, which is a functional model of studying evaluative language at the discourse-semantic level developed by Martin and his colleagues (Martin & Rose, 2007; Martin & White, 2005). White (2001) defined *appraisal* as a "catch-all term encompassing all evaluative uses of language, including those by which the speaker/writer adopts particular value positions or stances, and by which they negotiate these stances with either actual or potential respondents". The comprehensive multilayered appraisal framework consists of three subsystems: *attitude, graduation,* and *engagement*, and their subcategories. The attitude system differentiates three types of attitude: *affect, judgment*, and *appreciation,* and two modes of encoding attitude: *explicit inscribing* or *implicit evoking.* The graduation system identifies that values can be *up-scaled* or *down-scaled* in *force* or *focus* (i.e., the boundaries of a categorical meaning). Different from engagement in Hyland's metadiscourse framework which concerns the relation between the writer and the reader, the engagement system in the appraisal taxonomy concerns the relationship between the writer's internal

Table 1
The stance studies.

Studies	Object of study
Conrad & Biber (2000)	Stance adverbials in English conversations, academic writing, and news reports
Biber (2006)	Collocates of stance phrases in research articles in agriculture and economics
Xu (2007)	Stance markers in Chinese PhD dissertations and expert English writers' journal articles in applied linguistics
Ahmada & Mehrjooseresht (2012)	Stance adverbials in engineering doctoral thesis abstracts in Malaysia
Chan (2015)	Lexico-grammatical devices for stance in acknowledgements from soft and hard disciplines
Çakır (2016)	Stance in research article abstracts by Turkish and native writers of English

Table 2
Part of the metadiscourse studies.

Studies	Object of study
Hyland (2005)	Metadiscourse in published articles in eight disciplines
Sanz (2006)	First person pronouns as metadiscoursal devices in research article abstracts in English and in Spanish
Dueñas (2010)	Attitude markers in articles in the discipline of Business Management in English international journals and Spanish national journals
Gillaerts & Van de Velde (2010)	Interactional metadiscourse in research articles in the discipline of linguistics
Hu & Cao (2011)	Hedges and boosters in Chinese and English journal article abstracts in applied linguistics
Abdollahzadeh (2011)	Interactional metadiscourse in English journal article conclusions by Anglo-American and Iranian writers in applied linguistics
Li & Wharton (2012)	Metadiscourse in academic essays of L1 Mandarin undergraduate through the medium of English in China and UK in Literary Criticism and Translation Studies
Gillaerts (2014)	Metadiscourse in research article abstracts
Junqueira & Cortes (2014)	Metadiscourse in book reviews in Brazilian Portuguese and English from three disciplines
Lee & Casal (2014)	Metadiscourse in engineering master thesis result and discussion chapters written in English and in Spanish.
Salek (2014)	Metadiscourse in different parts of native English research articles

Table 3
Part of the appraisal studies.

Studies	Object of study
Hood (2006)	Evaluative prosody in research article introductions in education and applied linguistics
Derewianka (2009)	Evaluation in academic texts of the history subject written by four adolescents of different stages, three in secondary school, and one in tertiary education
Swain (2009)	Evaluation in two short Italian ESL undergraduate discussion essay answers
Hood (2010)	Evaluation in research articles in disciplines of social sciences, humanities, and sciences
Chang and Schleppegrell (2011)	Engagement resources in four research article introductions in education
Liu (2013)	Evaluative language in high- and low-rated English argumentative essays by Chinese university EFL students
Hu and Wang (2014)	Citation in research articles in Chinese and English in the disciplines of applied linguistics and medicine
Miller, Mitchell, & Pessoa (2014)	Engagement resources in higher-graded and lower-graded argumentative course essays by students in an English-medium university in the Middle East
Lee (2015)	Appreciation in high-graded and low-graded persuasive essays of undergraduates in Australia
Oliver (2015)	Hedges and attitude markers in English and Spanish research papers, case reports and book reviews in medicine and linguistics

voice and other external voices as either *monoglossic* (i.e., the writer's solo voicing) or *heteroglossic* (i.e., multi-voicing). We can see that the attitude system corresponds to the attitudinal dimension of evaluation and the engagement system to the propositional dimension of evaluation. Though appraisal theory was originally developed out of studies on non-academic discourses, the past decade has witnessed a proliferation of appraisal studies on academic discourse with Susan Hood (2006, 2010) being an avant-garde. Following her lead, other researchers applied the appraisal framework in various academic genres, such as adolescent academic writing (Derewianka, 2009), ESL discussion essays (Swain, 2009), argumentative writing (Liu, 2013), book reviews (Oliver, 2015), and research articles (RAs, Hu & Wang, 2014). In this review, 20 studies fall within the appraisal strand, and Table 3 presents some of them.

3.4. The voice strand

Different from the above three strands, the voice strand does not have a unified analytical framework. This might have something to do with the broad range of meanings ascribed to voice (Tardy, 2012) as reflected in its often cited definition "the amalgamative effect of the use of discursive and non-discursive features that language users choose, deliberately or otherwise, from socially available yet ever-changing repertoires; it is the overall impression" (Matsuda, 2001, p. 40). Matsuda, Tardy and colleagues (e.g., Matsuda, 2001; Matsuda & Jeffery, 2012; Matsuda & Tardy, 2007) are representatives of this strand. Hyland and Guinda's (2012) edited anthology *Stance and Voice in Written Academic Genres* collects some recent work on voice.

According to Tardy (2012), voice encompasses three dimensions: *individual*, *social*, and *dialogic*. The individual aspect represents the writer's "unique and recognizable imprint" (p. 37) realized via linguistic features such as rhetoric and evaluation, and is associated with authenticity, authoritativeness, and authorial presence. Hence the individual aspect of voice overlaps with the attitudinal and propositional dimensions of evaluation. The social aspect of voice is related to the writer's disciplinary and social contexts since the writer's choice of discursive features (e.g., words, phrases, structures, organization patterns) is shaped by the repertoire provided by the social contexts he/she is situated in. The social aspect also points to the fact that voice of a text is a mixture of multiple voices in the text, thus resonating with the notion *heteroglossia* in the engagement system of appraisal. Voice as dialogic is concerned with the interaction between the individual and the social dimensions, especially between the writer and the reader.

Table 4
The voice studies.

Studies	Object of study
Hirvela and Belcher (2001)	The impact of voice on three NNS graduate student writers'experiences of academic writing
Ivanič & Camps (2001)	Self-representation in six Mexican postgraduates' coursework at four British universities
Matsuda & Tardy (2007)	Reader's construction of authorial voice in blind manuscript review process for academic journal in rhetoric and composition
Sanz (2011)	First person pronouns in research articles in Business Management, written by L1 and L2 writers in English and in Spanish.
Bondi (2012)	Authorial voice in academic textbooks and journal articles
Gross and Chesley (2012)	Hedging, stance and voice in biomedical research articles with regard to involvement from industry sponsors.
Matsuda & Jeffery (2012)	Voice and voice-related concepts in US high school and university curriculum guidelines and rubrics
Silver (2012)	Voice in journal article introductions from three disciplines
Dontcheva-Navrátilová (2013)	Authorial presence in research articles in applied linguistics by Anglo-American linguists in 2000−2010 and Czech linguists in 2008−2011
Bondi (2014)	Authorial voice in three disciplines in 1990, 2000 and 2010.
Peng (2019)	Authorial voice via citation in doctoral thesis literature review chapters of home-grown and overseas-trained Chinese writers

Given the relatedness of voice to authorial evaluation, many studies of this strand can enlighten us on authorial evaluation in different academic genres, such as RAs (Sanz, 2011), textbooks vs. journal articles (Bondi, 2012), postgraduate course work (Ivanič & Camps, 2001), and review reports (Matsuda & Tardy, 2007) (see Table 4).

From the above we can see the notions *stance, metadiscourse, appraisal* and *voice* are intricately intertwined. Though it is beyond possibility to draw clear-cut boundaries among them, this study, in line with Hyland and Guinda (2012) and Gray and Biber (2012), views stance as basically equivalent to evaluation and appraisal, and voice a broader notion encompassing stance (Bondi, 2012; Tardy, 2012; Thompson, 2012). Hyland (2012) clarified the difference between voice and stance as:

Voice is a collection of rhetorical devices recognized by a community which allows the writer to speak as a member of that community, bestowing on competent users the right to be heard and to have their ideas taken seriously. Stance is essentially about what the writer has to say: how he or she takes an attitude to the truth or value of what is presented (p.149).

3.5. Other studies

It should be noted that there are also some relevant studies that do not fall within any of the four above strands. Some of them did not indicate any analytical framework applied (e.g., Chang & Tsai, 2014; Aull, Bandarage, & Miller, 2017). Some (e.g., Jiang, 2015; Kazemi, 2016) applied alternative frameworks in their analyses of particular evaluative resources. For instance, Kazemi (2016) drew on Hinkel's (2004, 2005) taxonomy of hedges in her analysis of hedges and intensifiers in Iranian journal articles while Jiang (2015) devised his own classification of nominal stance construction in his study. A multiplicity of analytical frameworks were integrated in some studies (e.g., Diani, 2009; Dong & Buckingham, 2018; Dontcheva-Navratilova, 2016a, 2016b), for example, Dontcheva-Navratilova (2016a, 2016b) drew on typologies of Thompson and Tribble (2001), Petrić (2007) and Lin, Chen and Chang (2013) in his examination of citation in English-medium RAs by Czech and Anglophone scholars. These studies (see Table 5) are therefore grouped as *other studies* in this review.

4. Major methodological approaches

Generally speaking, three major methodological approaches can be identified in the literature on authorial evaluation in English academic writing in the past two decades: the corpus-based approach, the in-depth textual approach, and the ethnographic approach. Table 6 presents an overview of the employment of the approaches, for a fuller picture, please refer to the Appendix. It should be noted that there is no one-to-one correspondence between a methodological approach and a theoretical framework nor mutual exclusiveness among the different methodological approaches (Lillis & Scott, 2007). There are also some studies integrating several approaches together, such as Hu and Wang's (2014) and Liardéta's (2018) corpus-based textual analyses, which were grouped according to the dominant approach in this review.

In addition to the three methodological approaches, research on authorial evaluation in English academic writing is also characterized by the comparative perspective, which can be cross-disciplinary, cross-linguacultural,[1] cross-language proficiency, cross-generic, or diachronic, utilizing a mixture of qualitative and quantitative methods. Sometimes a multiplicity of perspectives are taken in one study (e.g., Hu & Cao, 2011; Sheldon, 2018; Çakır, 2016).

4.1. Corpus-based approach

From Table 6, we can see the corpus-based approach is the dominant one, which is utilized by 64% of the total studies. Among them, the stance and metadiscourse strands are particularly featured by this approach, with all the stance studies and

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[1] Following Dontcheva-Navratilova (2016a, 2016b), the term *cross-linguacultural* is used in a broad way to encompass cross-lingual and cross-cultural, since language and culture are two inseparable notions.

Table 5
Other studies.

Studies	Object of study
Lewin (2005)	Authors' and readers' identification of hedging in scientific texts
Diani (2009)	Reporting clause in English book review articles in linguistics, history and economics
Sanz (2009)	Evaluative acts in history book reviews in English and Spanish
Chang and Tsai (2014)	The conceptions of authorial stance of EFL doctoral students from social science and hard science in Taiwan
Jiang (2015)	Nominal stance construction in argumentative essays of Chinese L2 university students and L1 American students
Dontcheva-Navratilova (2016a, 2016b)	Citation English-medium research articles in linguistics by Czech and Anglophone scholars
Kazemi (2016)	Hedges and intensifiers in five different Iranian scholarly EFL journal articles
Lancaster (2016b)	An advanced undergraduate's awareness of stance in course essay writing
Aull, Bandarage, & Miller (2017)	Generality in essay writing of new college students, advanced student, and in published academic writing.
Dong and Buckingham (2018)	Collocation networks of stance phrases in agriculture and economics research articles
Lee, Hitchcock, & Casal (2018)	Citation in research papers written by L2 first-year university students

Table 6
Overview of the use of methodological approaches.

	Corpus-based		In-depth textual		Ethnographic		Total	
	No.	%	No.	%	No.	%	No.	%
The stance strand	6	100.0	0	0.0	0	0.0	6	100.0
The metadiscourse strand	25	92.6	1	3.7	1	3.7	27	100.0
The appraisal strand	4	20.0	15	75.0	1	5.0	20	100.0
The voice strand	6	54.5	3	27.3	2	18.2	11	100.0
Other	7	63.6	1	27.3	3	9.1	11	100.0
Total	**48**	**64.0**	**20**	**26.7**	**7**	**9.3**	**75**	**100.0**

Note. No. = raw number of studies % = percentage.

92.6% of the metadiscourse studies employing this approach. This "lexico-grammatical" (Gray & Biber, 2012, p. 23) approach usually involves large-scale quantitative investigation for patterns across the texts in the corpus from a variety of comparative perspectives.

Some corpus-based studies took the cross-disciplinary perspective since variation in disciplines has been one of the foci in the field of academic writing. Chan (2015) explored the use of a range of lexico-grammatical stance devices (e.g., modals, adverbs, complement constructions, stance verbs/noun/adjectives + *that* clause) in 256 Hong Kong PhD dissertation acknowledgments from six soft and hard disciplines: Applied Linguistics, Business Studies, Public Administration, Biology, Computer Science, and Electronic Engineering. Drawing on Biber's (2006) stance taxonomy and using CLAWS5 to tag the corpus, Chan conducted a "separate search on each grammatical device" and manually checked each concordance line to "eliminate any lexemes that did not express stance" (p. 179). The study showed that the soft disciplines favor adverbs and complement constructions and the hard disciplines favor modals. Li and Wharton's (2012) study is another example addressing cross-disciplinary variation, who compared undergraduate essays from two disciplines: Literary Criticism and Translation Studies. Meanwhile, they also took a cross-contextual perspective as they added the factor of learning context into the analysis: one group were Chinese students studying in China through the medium of English, and the other Chinese students studying in the UK. Thus they built four discipline-based and context-based subcorpora: the Bohai Literary Criticism subcorpus, the Warwick Literary Criticism sub-corpus, the Bohai Translation Studies sub-corpus, and the Warwick Translation Studies sub-corpus. Both manual and software coding were employed: first the authors identified and labeled metadiscourse features according to Hyland's interactional metadiscourse model, then they used UAM Corpus Tool 2.0 to annotate the corpora. Through these multiple lenses, the study found "a certain amount of disciplinary variation" (p. 353) but contextual factors exerted greater impacts than the disciplinary factor.

Similarly, Çakır (2016) compared the disciplinary difference in writers' use of stance adverbs in six disciplines: Sociology, Psychology, Linguistics, Physics, Chemistry and Biology. Descriptive statistics were performed which indicated that academic writers from the soft sciences used more stance adverbs than those from the hard sciences. Jiang and Hyland (2017, 2018), through corpus-based quantitative analysis, discovered that metadiscursive nouns such as *fact, analysis*, and *beliefs* and the "metadiscursive noun + post-nominal" clause patterns were important means in foregrounding the writer's claim and crafting a "disciplinary stance" (p. 1).

Cross-linguacultural variation of academic writers' evaluation is another topic that has been intensively explored (e.g., Hu & Cao, 2011; Junqueira & Cortes, 2014; Lee & Casal, 2014; Mu et al., 2015; Mu, Zhang, Ehrich, & Hong, 2015; Sanz, 2006; Xu, 2007). Mu, Zhang, Ehrich, and Hong (2015) applied Hyland's (2005) metadiscourse framework and examined metadiscourse features in English RAs and Chinese RAs in the field of Applied Linguistics, using Nvivo 10 in the manual coding. Since Hyland's model was built for the English language, one challenge for their cross-lingual comparison was to identify the corresponding Chinese metadiscourse features. To solve this, the authors resorted to the context and strove to be consistent in the coding to ensure interrater reliability. Chi-square analysis was run to detect any statistically significant differences and cross-lingual

differences were indeed found: the English articles contained statistically significantly more interactional metadiscourse than the Chinese ones. Dontcheva-Navratilova's (2013) voice study examined author-reference pronouns (e.g., *I, we, us*) in RAs written by Anglo-American and Czech linguists for any intercultural variation in manifesting authorial voice. Two corpora were built with one comprising 12 English RAs by native speakers of English and one 13 English RAs by Czech linguists. The corpora were searched via Antconc concordance programme and then the raw data were normalized to allow valid comparison. Five authorial roles of author-reference pronouns were identified, basing on which Dontcheva-Navratilova analyzed the instances in relation to the generic structure of RAs. It was found that Czech writers demonstrated less interactiveness, authoritativeness and backgrounded authorial presence, due to their "non-native speaker status and the influence of the Czech academic writing literacy" (p. 9).

Other studies also show that cross-linguacultural differences in evaluation demonstration are commonly existent, such as between English and Persian RAs in architecture (Ariannejad, Osam, & Yigitoglu, 2019), between English and Iranian RAs in geology (Ebadi, Salman, & Ebrahimi, 2015), between English and Spanish RA abstracts (Sanz, 2006), and between English and Brazilian Portuguese book reviews (Junqueira & Cortes, 2014). These indicate that academic writers' evaluating practices are subject to the "linguistic and rhetorical characteristics of writing in a language" (Lee, 2011, p. 59) as well as the cultural practice unavoidably interwoven with the language.

In addition to the variables of discipline and linguaculture, some scholars (e.g. Crosthwaite, Cheung, & Jiang, 2017; Işık-Taş, 2018; Lee & Deakin, 2016; Liardéta & Black, 2019) paid close attention to the impact of writers' English proficiencies on their constructions of authorial evaluation in English academic writing. The 90,007-word corpus used in Işık-Taş' (2018) study, which was drawn from Cambridge Learner Corpus, consisted of L2 writers' IELTS test writings of *Academic Writing Task 2* and was further divided into three subcorpora: L4 (limited user), L6 (competent user), and L8 (very good user) texts. Stance nouns and premodifiers were searched via the Corpus Query Language feature of Sketch Engine (Kilgarriff et al., 2014), followed by the one-way ANOVA to determine significant difference across the three subcorpora. Results indicated that language proficiency level was an influencing factor for the students' use of stance nouns. Similarly, Lee and Deakin (2016) compared successful and less-successful Chinese ESL university students' as well as high-rated final-year L1 English university students' argumentative essays. This study chose L1 student writing instead of expert writing because the authors believed that L1 students' writing "represent more realistically appropriate targets than published research article" (p. 23). Data analysis was conducted with the assistance of the concordance tool Antconc basing on Hyland's (2005) interactional metadiscourse framework. Statistical Chi-square test was also performed to see whether the differences across the corpora were statistically significant. Like Işık-Taş's (2018) study, this study also detected language proficiency level causing variation in the students' use of evaluative resources. For instance, successful essays contained significantly greater instances of hedging devices than less-successful essays. Besides, cross-linguacultural difference was also found in this study: Chinese ESL students were, different from their L1 peers, "overwhelmingly reluctant to establish an authorial identity in their writing" (p. 21).

Recently, there has been an emergent diachronic turn in the field as some scholars (e.g., Gillaerts, 2014; Babaii, Atai, & Mohammadi, 2016; Hyland & Jiang, 2018a, 2018b; Bondi, 2014; Man & Chau; 2019) started to unveil the change of a group of writers' evaluations over an extended period of time. Applying Hyland's (2005) model, Gillaerts (2014) explored the change in metadiscursive features in RA abstracts published from 1987 to 2007 in the prestigious journal *Applied Linguistics*. The corpus was comprised of 60 abstracts with 12 from each of the 5-year intervals. However, just as Gillaerts said, the methodology was fundamentally qualitative in spite of its corpus-based approach and some quantification. The author and another coder coded the data and double coding was carried out when necessary. Results indicated an increase in interactive metadiscourse and a decrease in interactional metadiscourse. Babaii et al. (2016) examined stance markers in English RAs in four disciplines (anthropology, education, horticulture, and zoology) over the periods of 1990 and 2010. Altogether 240 research articles were selected with 120 from each of the time intervals. This diachronic study is more "quantitative" than Gillaerts' (2014) in that statistical frequency count and three rounds of Chi-square were employed to detect the differences across disciplines, publication date, and subsections. However, similar to Gillaerts' study, the authors also found a decreasing pattern in the use of stance markers. Hyland and Jiang's (2018b) large-scale corpus analysis also produced a similar finding. They explored academic writers' use of metadiscourse over the past 50 years at three periods: 1965, 1985 and 2015 in a corpus of 2.2 million words taken from four disciplines: Applied Linguistics, Sociology, Biology and Engineering. Through using the concordance software *Antconc*, manual check of the concordance lines, and Log likelihood tests to determine statistical significance, the authors discovered a significant increase in the use of interactive resources and a significant decrease in the use of interactional resources. This means academic writers now use more features "to guide readers through more explicitly cohesive texts and fewer features to take a personal stance and engage directly with readers" (p. 28).

Different from the above three studies, Man and Chau (2019) focused on novice learner writers' development in evaluative language and examined evaluative *that*-clauses in argumentative essays of 158 Chinese undergraduate students. The students performed the same writing task at four points in time, with a three-week interval in between. The instances were retrieved with the help of AntConc and then coded with MAXQDA Pro 12. Finally, the frequency of *that*-clauses at different time points were compared with the loglikelihood and effect size calculator. The authors discovered a non-linear developmental trajectory, for example, the use of verb *that*-clauses decreased while the use of noun and adjective *that*-clauses increased. One weakness of this study is that the findings cannot be overgeneralized since the data covers only 11 weeks while, ideally, language development requires over a year or two to generate any substantial changes (Ortega, 2003). Bondi (2014) focused on the social aspect of voice and examined 900 RA abstracts in Economics, History, and Linguistics that were published in 1990, 2000 and 2010. This corpus-based study integrated both a diachronic and a cross-disciplinary perspective. Wordsmith

was used to generate wordlists and keywords of voice markers such as self-reference, modal verbs and other evaluative expressions, followed by a close discourse reading of concordances. The author found that personalization seemed to be trendy among the three disciplines as a statistically significant increase of *we* over the time span was detected. A general increase in other voice markers and disciplinary differences were also discovered.

We can see that the diachronic perspective unveiled the developmental trace of academic writers' evaluating practices, which also enriched and to some point reshaped our understanding of the matter. That is, academic writers' construction of evaluative stances in English academic writing is far more than being a pure and isolated subjective behavior of expressing personal attitudes and positions. Instead, it is a dynamic practice susceptible not only to personal factors such as language proficiency or knowledge of academic writing, but also to the broader environmental and socio-cultural influences such as academic instruction (Chen & Li, 2019), external expectations (Hyland & Jiang, 2018b), etc. It is also worth mentioning that except for the above-mentioned variables (discipline, language, writers' English proficiencies, time), other variables were also explored in the literature, such as evaluative features across sections of the academic texts (e.g., Salek, 2014), or across genres such as between thesis and RAs (Kawase, 2015).

The review of the corpus-based studies shows that, as Connor (2004) pointed out, the corpus-based comparative approach is very effective in uncovering the general pattern of writers' evaluative stances in different disciplines, genres, languages, and times. In addition, the common practice of integrating qualitative and quantitative analysis, to a great degree, ensures the revealment of the evaluative features in academic texts. Another advantage of the corpus-based approach is that it enables researchers to explore evaluative patterns with a large sample with the help of analytical tools like CLAWS, UAM CorpusTool, MonoConc Pro, WordSmith, AntConc, etc., which also guarantees the generalizability and validity of the findings. However, one weakness of the corpus-based approach is that it mainly focuses on the lexico-grammatical level of language. That is, the researchers mainly analyzed writers' evaluations explicitly encoded via attitudinal lexis or grammatical structures and neglected the fact that due to the epistemic function of academic writing, many of the academic writer's evaluations might be implicitly embedded beyond the clause level. Another reason for the lexico-grammatical focus is that the corpus-based approach works better in identifying general features of the usage of lexico-grammatical constructions, rather than probing into the veiled evaluative meanings at the discourse-semantic level of language.

4.2. In-depth textual approach

The in-depth textual approach, which involves a close reading of texts in search for the evaluative instantiations, is implemented by 26.7% of the studies (see Table 6) and the majority of which fall within the appraisal strand. This is consistent with what Gray and Biber (2012) found that appraisal studies are characterized by in-depth textual analysis.

Since appraisal theory is located at the discourse-semantic stratum of language, appraisal studies give priority to meaning rather than lexico-grammatical realizations. For example, appraisal analysts are concerned most with the evaluation encoded as positive judgment in the expressions *He is excellent* and *His excellence* instead of the different grammatical realizations of the adjectival *excellent* or the nominalized *excellence*. Therefore, most appraisal analysts adopt the in-depth textual approach to closely examine academic writers' evaluations in a limited number of texts, and their analyses are largely manual and qualitative in nature. For example, Hood (2010) examined 34 published RA introductions from various disciplines of social sciences, humanities, and sciences basing on the appraisal framework. Her detailed textual analysis showed that academic writers preferred the explicit way when evaluating the object of study, but the implicit way when evaluating other research. The study also revealed the richness of evaluative meanings in the seemingly "objective" academic texts and brought into surface some evaluative resources peculiar to academic discourse. For example, the piling up of the attributed sources in academic texts gives weight to the propositions or claims as the writer's positive support. The evaluative prosody over a stretch of discourse was also found to evoke positive or negative attitudes within a particular co-text. To illustrate, the normally value-free word *traditional* flags a negative reading in the co-text *The limitation of the study lies in its employment of the traditional methods of …* Therefore, we can see that co-text is an important factor for identifying and interpreting evaluation in appraisal analysis, since identifying evaluation is mainly a kind of subjective practice (Thompson & Hunston, 2000) and there are no definite criteria for distinguishing the evaluative from the non-evaluative. Accordingly, appraisal analysts resort to reading between the lines at the discoursal-semantic level to understand the writer's evaluative positions.

Like the corpus-based studies, many appraisal studies also took various comparative perspectives (e.g., Chen & Li, 2019; Geng & Wharton, 2016; Lee, 2015). For example, Lee (2015) focused on the variable of language proficiency and examined the particular appraisal category "appreciation" in the persuasive essays of less than 1000 words written by 12 undergraduates in an EAP class in an Australian university language program. The essays were divided into high-graded essays and low-graded essays and were examined via a "multiple coding technique" (p. 57) at both the lexico-grammatical and discourse-semantic levels of language. For example, in the sentence "*In Western intellectual tradition, individualism is a character, and this individualism can cause social problems*" (p.57), the embodiments of attitude *individualism* and *problems* were first identified and marked. Then, at the whole clause complex or sentence level, the sentence was doubly coded as *inscribed appreciation (valuation)* and *evoked negative judgement*, because "the subject *individualism* is an abstract thing (thus appreciation), while the whole clause implicitly condemns Western culture's selfishness (thus judgement propriety)" (p. 59). Afterwards, the author probed into the clause level and interpreted the clause *individualism is a character* as carrying neutral values according to the co-text, and coded the second clause *this individualism can cause social problems* as connoting negative judgement. Through such intricate and multi-dimensional analysis, the study detected variation resulted from writers' proficiency levels:

the high-graded essays contained "a richer vocabulary, including valuation adjectives and nouns" (p. 72) than the low-graded essays.

Also focusing on student writers, Geng and Wharton (2016) investigated engagement resources in 12 doctoral discussions by L1 Chinese and L1 English writers from Applied Linguistics, aiming to find out whether writers' first language affects their evaluation demonstration in L2 writing. The texts were coded manually "at clause level and across clauses" through a "recursive process of coding, checking and re-coding" (p. 83) after "sensitive consideration of co-text" (p. 81). The authors found no significant differences, thus concluding that first language was not a variable affecting writers' choices of evaluative resources. Chen and Li (2019) adopted a diachronic perspective in examining Chinese postgraduate students' evaluations in 40 thesis literature review chapters in linguistics and applied linguistics over two periods: 1990−2000 and 2005−2015. Through in-depth appraisal analysis, this study revealed that the more recent Chinese student writers were "discursively more critical than their earlier counterparts" (p. 48).

These studies show that manual coding of appraisal categories can generate rich and nuanced findings of academic writers' evaluations. However, such manual coding can also be very time-consuming and demanding, therefore, annotating softwares such as WordSmith, UAM Corpus Tool were sometimes employed (e.g., Hu & Wang, 2014; Liardéta & Black, 2019) as a supplementary means to lessen the coding workload. Some appraisal studies even integrated textual analysis with a quantitative perspective (e.g., Liardéta, 2018; Hu & Wang, 2014; Xu & Nesi, 2019). For instance, applying the engagement system of Appraisal, Liardéta (2018) used a corpus-assisted method in investigating 130 Chinese EFL learners' development of interpersonal grammatical metaphors (e.g., *I believe, It is evident*) in argumentative essays across two years of university study in mainland China. A manual analysis of a sample of 50 texts was first made to identify instantiations, which was followed by a concordance analysis across all texts. Liardéta argued that this corpus-assisted method allowed for "atypical, or intermediate, developmental realizations to be identified that may otherwise be missed using corpus-tagging software" (p. 68). Another example is Xu and Nesi (2019), who compared 15 Chinese-authored and 15 English-authored RA introduction and conclusion sections in applied linguistics from 2010 to 2015. The UAM Corpus Tool were used to annotate the texts according to the Engagement subsystem. Three months later, the data was annotated again by one author to ensure the consistency in the coding. In addition, the study implemented the one-tailed T-test to detect any significant differences between the two datasets.

Just as Thompson and Ye (1991) pointed out that "evaluation is best seen as working at the discourse level of text rather than at the grammatical level of the clause" (p. 367), the discourse-semantic perspective enables appraisal analysts to identify not only the linguistic realizations of evaluation at the lexico-grammatical level, but also the implicit evaluative meanings embedded in the co-text. Actually, evoked attitude as an independent category raised by the appraisal approach broadens the scope of research on evaluative meanings in discourse, which is especially facilitative for unearthing evaluation in the "objective" academic discourse. On the other hand, the discourse-semantic perspective enables appraisal analysts to pay attention to evaluation not just encoded by lexico-grammatical constructs in isolation, but also the co-articulation of evaluative instantiations beyond the clause level (e.g., Hood, 2006) that spread over a stretch of text and configure into an evaluative prosody at the discourse-semantic level. Therefore, compared with the corpus-based approach, the in-depth textual approach empowers analysts to explore in depth both the explicit and implicit evaluations in texts. However, owing to the limited sample of texts normally used by the appraisal analysts, the findings can not be unreasonably generalized. Another weakness of this approach is that the quality of appraisal analyses can sometimes be wavered by the analysts' subjective interpretations since they might have different reading positions from the writer's real intention. For example, for the expression *X fails to* …, the analyst may interpret it as an explicit instantiation of judgement (e.g., Xie, 2016) whereas the writer could actually mean to be implicit.

Though most of the studies adopting the in-depth textual approach are from the appraisal strand, there are also a few studies of other strands adopting the approach, such as Lancaster's (2016a) metadiscourse study of stance in undergraduates' course papers, Silver's (2012) study on voice in journal article introductions, as well as Kazemi's (2016) analysis of hedges and intensifiers in Iranian scholarly EFL journal articles.

4.3. Ethnographic approach

The corpus-based and in-depth textual studies are basically text-centered: they focus on the written texts, the final product of academic writing, and identify and interpret evaluations in the texts. In the literature, however, a number of researchers (seven out of 75 as shown in Table 6) turned away from the textual core and took an ethnographic approach to authorial evaluation by focusing on the context of academic writers' evaluating practices. For example, Hirvela and Belcher (2001) and Matsuda and Tardy (2007), two often cited studies on voice, implemented the ethnographic approach in their analyses. Targeting three NNS graduate students who already had professional writing experiences in L1, Hirvela and Belcher (2001) mainly resorted to interviews to "unravel the ways in which voice may impact the experiences and struggles" (p.84) of the three mature multilingual writers. Interviews were conducted both with the students and their graduate advisors, together with textual analysis of their writings. Similarly, to explore how readers construct author's voice in their simulated blind peer review, Matsuda and Tardy (2007) utilized interviews with both the reviewers and the author. Two rounds of interviews were conducted with the reviewers, one "post-task interviews" right after the review and the other "subsequent confirmatory interviews" (p. 240). The former aimed to find out the reviewers' images of the author and any information that

they used to construct the author's identity, and the later meant to confirm the researchers' analysis with the reviewers. This study also conducted textual analysis of the reviewers' reviews, and theme analysis was undertaken in analyzing all the data.

Likewise, Lancaster (2016b) brought "Discourse-Based Interviews (DBI)" (p. 119) into his case study of Richard, an advanced undergraduate of philosophy in the United States. Textual analysis of stance expressions in Richard's coursework papers was also conducted to compare with the essays in the Michigan Corpus of Upper-level Student Papers (MICUSP). Then Richard completed a short survey during the interview about three questions: "his goals for expressing stance, the extent to which he tries to engage with others' views, and the relationship he seeks to establish with his reader" (p. 125). His professor Maria also participated in two interviews to talk about her ideas on writing in philosophy and stance in writing, as well as her comment on Richard's essays. The text analysis showed that Richard's regular use of epistemic stance was in accordance with the values of philosophical argumentation, but his use of hedging and boosting were lower than those MICUSP English essays. This is because, just as the DBI interviews indicated, Richard and his professor did not have the awareness of the stance patterns despite the fact that they commonly used them in writing. Methodologically, this study has demonstrated that textual analysis can offer "inductively-derived data to seed prompts" for the DBIs, thus "adding a degree of objectivity to the procedure of eliciting retrospective accounts of verbal data" (p. 143).

Chang and Tsai (2014) also employed interviews interspersed with text analysis to explore 20 EFL doctoral students' conceptions of authorial stance in Taiwan. After finishing the interview concerning their academic background and experiences and understandings of authorial stance, the students were invited to read and compare two sets of Introductions of three published RAs to elicit their judgments of authorial stance in the texts. Then they were continued to be interviewed about their conceptions, preferences, and criteria for judging stance in the texts. This method of mixing interview, protocol, and discourse analysis was named as "phenomenographic method" (p.14) by the authors. This study revealed that ESL doctoral students' epistemic beliefs seemed quite mature but were incompatible with their "superficial and polarized" (p.14) conceptions of stance. Unlike most metadiscourse studies, McCambridge's (2019) metadiscourse study also adopted the ethnographic approach to trace the writing experiences of four international MA students in Finland. The data included 12 texts of the students' course papers, interview transcripts and the students' journals. Through the interviews, both students and their teachers were found to be aware of the importance of "arguing one's own point of view in academic writing" (p. 110). However, textual analysis of the students' writings revealed that their employment of metadiscourse markers varied from text to text, and the "voice types" (p. 115) they construed were also strikingly different. The author attributed such differences to the students' individual experiences of "the classroom and teacher, as well as their disciplinary backgrounds" (p.110).

The above ethnographic studies show that ethnography can contribute to approach the social practice of academic writing along with the "textualist analytic lens" (Lillis, 2008, p. 354). The methods like interview and survey help to reveal that writers' cognitions of academic writing and awarenesses and knowledge of evaluative resources influence the ways they express evaluations. These studies also demonstrate that the ethnographic approach can be effective in unveiling factors, subjective or objective, which can not be detected from the academic texts alone but do exert influence on academic writers' evaluating practices. Though the share of ethnographic studies is thin in the extant literature, it is obvious that the ethnographic approach provides a new lens with more means to explore authorial evaluation from dimensions external to academic texts, such as situational, socio-cultural, educational, or cognitive ones. Of course, integrating ethnographic methods in research of academic writers' evaluations does require more sophisticated research design from the researcher, especially when one aims to track the interplays of various factors throughout the whole generally "lengthy" process of academic writing.

5. Conclusion

The overview of research on authorial evaluation in English academic writing shows that different methodological approaches (i.e., corpus-based, in-depth textual, and ethnographic) have been adopted to examine the matter in different contexts, across languages, cultures, disciplines, and times, through different analytical frameworks (e.g., stance, metadiscourse, appraisal) and methods (e.g., text analysis, statistical analysis, interviews, survey). However, it is not difficult to note that the extant literature on authorial evaluation is unproportionately dominated by the corpus-based approach and text-centered analysis, which seem unfitting with the diversified and dynamic nature of evaluating in academic writing. As discussed earlier, besides explicit evaluation, evaluative meanings can be and are often expressed implicitly in academic texts (Gray & Biber, 2012), permeating at different levels of language. In addition, as the comparative and ethnographic studies revealed, academic writers' evaluating is a complicated practice which can vary across disciplines, languages and cultures, times and are subject to both internal and external influences. Therefore, methodological approaches which allow for reliable analysis of authorial evaluation in academic writing need to be developed (ibid.) so as to unveil the complicated and dynamic nature of the issue.

Considering the dynamic writing process and that the writing context may impact the writer's construction of evaluation in the writing, the ethnographic approach needs to be more often used to unveil the various personal and contextual factors involved (Connor, 2004; Lillis, 2008) that affect academic writers' (especially novice writers') evaluation expressions in English academic writing. As revealing as the textual analytical lens can be, ethnography, which plays an important role with regard to context (Connor, 2004, p.354), provides another effective lens to unfold the diversified contextual factors in the real complex situations and thus "bridges the gap between textual and contextual analysis"(Lillis, 2008, p.375). Though quantitative statistical analysis of a large sample to validate a generalized pattern is still useful and necessary, qualitative methods

like reflective journals, in-depth interviews, observations, informal conversations as mentioned by Hammersley (2006) can also be employed to engender more insights.

Second, more diachronic studies are called for to explore how and to what extent academic writers' constructions of evaluative meanings change over time as a response against the broader ever evolving socio-cultural environment in L1 contexts and L2 contexts. In addition to the various cross-linguacultural, disciplinary, contextual, and generic perspectives, the perspective of diachrony has been highly promoted by scholars in the field since it can "trace developmental trends" (Bondi, 2014, p. 243), show how "language and communities are mutually entailed and constituted" (Hyland, 2000), and help understand students' developing writing practice (Man & Chau, 2019). Examining the matter both at the horizontal axis and the vertical axis can better disclose the dynamic and changing nature of evaluating in academic writing.

Third, a mingling and mixture of approaches and perspectives can also help to generate more insightful findings on the topic. For example, the corpus-based approach for large-scale pattern detection for explicit lexico-grammatical instantiations of evaluation can be integrated with the in-depth textual examination for "hidden" evaluative meanings in the co-text; the text-centered analysis can be supplemented by the ethnographic methods to probe into the relevant agents behind the academic text such as writers, supervisors, reviewers, etc. While keeping in mind that the methodological choices should always be the most relevant and sufficient to answer the research questions, a triangulation of quantitative and qualitative data is highly recommended to achieve a required level in terms of the width and depth of investigation.

Through outlining the major strands of research on authorial evaluation in English academic writing as well as the major methodological approaches employed in the field of applied linguistics, this review helps to, to some extent, sort out the abundant but "disordered" literature and present a clearer picture of the matter from the perspective of methodology. This can be helpful for those who are interested in the topic to obtain a general and comprehensive knowledge of the development of this area. Discussions of the merits and demerits of different methodological approaches and analyzing perspectives as well as the methodological recommendations raised in this review may also benefit future researchers in making the choice of appropriate and relevant methodology and methods, so as to be better equipped to uncover the sophisticated practice of evaluating in academic writing.

CRediT authorship contribution statement

Jianping Xie: Conceptualization, Methodology, Data curation, Writing - original draft, Visualization, Investigation, Writing - review & editing.

Acknowledgments

Appendix. Overview of selected studies

	Studies	Object of study	Framework (if any)	Methodological approach/ perspectives	Major findings/Conclusion	Publication type and source
1	Conrad and Biber (2000)	Stance adverbials in English conversations, academic writing, and news reports	stance	Corpus-based, cross-generic, quantitative	Heavy use and a wide range of epistemic stance markers in academic writing.	Book chapter *Evaluation in text: Authorial stance and the construction of discourse*
2	Biber (2006)	Collocates of stance phrases in research articles in agriculture and economics	stance	Corpus-based, cross-disciplinary, quantitative	Significant disciplinary differences in within-stance phrase collocating patterns.	Journal article *Journal of English for Academic Purposes*
3	Xu (2007)	Stance markers in Chinese PhD dissertations and expert English writers' journal articles in applied linguistics	stance	Corpus-based, Cross-linguacultural, quantitative	No significant difference, Chinese EFL writers use epistemic stance markers less frequently, but use attitudinal and style stance markers equally frequently.	Book *A corpus-based study of authorial stance markers in academic research discourse by Chinese advanced EFL writers*
4			stance	Corpus-based, cross-disciplinary, quantitative	Epistemic stance most frequently used; Different	

(*continued*)

	Studies	Object of study	Framework (if any)	Methodological approach/ perspectives	Major findings/Conclusion	Publication type and source
	Ahmada and Mehrjooseresht (2012)	Stance adverbials in engineering doctoral thesis abstracts in Malaysia			adverbial stance types are used at varying frequency in the rhetorical moves.	Journal article *Procedia - Social and Behavioral Sciences*
5	Chan (2015)	Lexico-grammatical devices for stance in acknowledgments from soft and hard disciplines	stance	Corpus-based, cross-disciplinary, quantitative + qualitative	Soft disciplines contain more stance than hard disciplines.	Journal article *Journal of English for Academic Purposes*
6	Çakır (2016)	Stance in research article abstracts by Turkish and native writers of English	stance	Corpus-based, cross-disciplinary, cross-linguacultural, quantitative	Native writers use more stance adverbs; Writers in soft sciences used more stance adverbs.	Journal article *Open Journal of Modern Linguistics*
7	Hyland (2005)	Metadiscourse in published articles in eight disciplines	metadiscourse	Corpus-based, cross-disciplinary, quantitative + qualitative (interview)	Stance and engagement are important elements of writers' argument and of a disciplinary context.	Journal article *Discourse Studies*
8	Sanz (2006)	First person pronouns as metadiscoursal devices in research article abstracts in English and in Spanish	metadiscourse	Corpus-based, cross-linguacultural, quantitative	English writers use *I* in a higher proportion than Spanish peers. Spanish scholars favor exclusive *we* even if the abstract is written by one author.	Journal article *ESP across Cultures*
9	Dueñas (2010)	Attitude markers in articles of Business Management in English international journals and Spanish national journals	metadiscourse	Corpus-based, cross-linguacultural, quantitative	A similar percentage of attitudinal markers used. Cross-cultural effect on attitudinal evaluation is overridden by the disciplinary conventions shared in the two contexts.	Journal article *International Journal of Applied Linguistics*
10	Gillaerts and Van de Velde (2010)	Interactional metadiscourse in articles in the discipline of linguistics	metadiscourse	Corpus-based, diachronic, quantitative	Interactional metadiscourse dropped in pragmatics due to possible changes in scholarly ethos and the growth in the discourse community.	Journal article *Journal of English for Academic Purposes*
11	Hu and Cao (2011)	Hedges and boosters in Chinese and English journal article abstracts in applied linguistics	metadiscourse	Corpus-based, cross-linguacultural, cross-generic, quantitative	English journals have markedly more hedges than Chinese journals; Empirical articles have significantly more boosters than non-empirical one.	Journal article *Journal of Pragmatics*
12	Abdollahzadeh (2011)	Interactional metadiscourse in English journal article conclusions by Anglo-American and Iranian writers in applied linguistics	metadiscourse	Corpus-based, cross-linguacultural, quantitative	Pronounced higher use of emphatics and attitude markers by Anglo-American authors; High certainty avoidance and abstinence from attitudinal language by Iranian authors.	Journal article *Journal of Pragmatics*
13	Li & Wharton (2012)	Metadiscourse in academic essays of L1 Mandarin undergraduate through the medium of English in China and UK in Literary Criticism and Translation Studies	metadiscourse	Corpus-based, cross-disciplinary, cross-contextual, quantitative + qualitative,	Metadiscourse use are associated with disciplinary and contextual factors, but contextual factors have a stronger effect.	Journal article *Journal of English for Academic Purposes*
14	Gillaerts (2014)	Metadiscourse in research article abstracts	metadiscourse	Corpus-based, diachronic, quantitative	An increase of boosters and attitude markers as well as in interactive metadiscourse.	Book chapter *Abstracts in academic discourse: Variation and change*
15	Junqueira & Cortes (2014)	Metadiscourse in book reviews in Brazilian Portuguese and English from three disciplines	metadiscourse	Corpus-based, cross-disciplinary, cross-linguacultural, quantitative	Brazilian Portuguese corpus has less internal difference across the three disciplines than the English corpus.	Journal article *Rhetoric, Professional Communication and Globalization*
16	Lee & Casal (2014)	Metadiscourse in engineering master thesis result and discussion chapters written in English and in Spanish.	metadiscourse	Corpus-based, cross-linguacultural, quantitative	Significant differences for overall frequency of metadiscourse and most (sub-)categories.	Journal article *System*
17	Salek (2014)	Metadiscourse in different parts of native English research articles	metadiscourse	Corpus-based, Cross-sectional, quantitative	The rate of interactional metadiscourse is more significant in abstracts,	Journal article *Journal of Language Sciences & Linguistics*

(continued)

	Studies	Object of study	Framework (if any)	Methodological approach/ perspectives	Major findings/Conclusion	Publication type and source
					discussions, and conclusions than in other sections.	
18	Ebadi et al. (2015)	Metadiscourse in discussion and conclusion sections of Iranian and English writers in geology	metadiscourse	Corpus-based, cross-linguacultural, quantitative	English writers use more interactional than interactive features; Persian authors use more interactive than interactional ones.	Journal article *Journal of Applied Linguistics and Language Research*
19	Kawase (2015)	Metadiscourse in introductions of NNS PhD theses and research articles by the same authors in applied linguistics	metadiscourse	Corpus-based, Cross-generic, quantitative + qualitative	The majority make greater use of metadiscourse in research article introductions, which can be ascribed to the nature of the PhD thesis and that of research articles.	Journal article *Journal of English for Academic Purposes*
20	Mu et al., 2015	Metadiscourse in English and in Chinese research articles in applied linguistics	metadiscourse	Corpus-based, cross-linguacultural, quantitative	Statistically significant more use of interactive than interactional resources; The English articles use statistically significantly more interactional metadiscourse than the Chinese ones.	Journal article *Journal of English for Academic Purposes*
21	Babaii et al. (2016)	Stance markers in English research articles during two periods1990 and 2010 in four fields	metadiscourse	Corpus-based, diachronic, quantitative	A decreasing pattern in the use of stance markers among the scholars of the four fields of zoology, anthropology, horticulture, and education.	Journal article *Issues in Language Teaching*
22	Dontcheva-Navratilova (2016a, 2016b)	Hedges and boosters in linguistic research articles in English international journals and in Czech English-medium journal	metadiscourse	Corpus-based, cross-linguacultural, quantitative	Similarities in the distribution of hedges and boosters are discipline- and genre-driven; Anglophone linguists' more use of hedges and boosters reflect linguacultural and epistemological difference.	Journal article *Prague Journal of English Studies*
23	Lancaster (2016a)	Stance in high- and low-graded undergraduate course papers in economics and political theory in US	metadiscourse	In-depth textual analysis, Cross-proficiency level, cross-contextual, qualitative (interview)	High-graded papers in both courses have significantly more frequent use of stance.	Journal article *Journal of English for Academic Purposes*
24	Lee & Deakin (2016)	Interactional metadiscourse in successful and less-successful argumentative essays of Chinese ESL undergraduates	metadiscourse	Corpus-based, Cross-proficiency level, quantitative	Successful essays contain significantly greater instances of hedges; No significant differences for boosters and attitude markers.	Journal article *Journal of Second Language Writing*
25	Crosthwaite et al. (2017)	Hedging, boosting, self-mention and attitude markers in dentistry research reports by learners and experts	metadiscourse	Corpus-based, cross-proficiency level, quantitative	Expert writers used a narrower set of linguistic devices than student writers, who used a much wider range of the four stance features.	Journal article *English for Specific Purposes*
26	Hyland and Jiang (2018a)	Changes of the use of evaluative *that* construction over three periods: 1965, 1985 and 2015	metadiscourse	Corpus-based, diachronic, quantitative	Evaluative *that* construction is one widely used means in English academic writing though its popularity has declined in the past 50 years.	Journal article *Australian Journal of Linguistics*
27	Hyland and Jiang (2018b)	Metadiscourse in research articles from different disciplines over the past 50 years	metadiscourse	Corpus-based, diachronic, quantitative	A significant increase in the use of interactive resources and a significant decrease in the use of interactional resources.	Journal article *English for Specific Purposes*
28	Işık-Taş (2018)	Stance nouns in L2 writing texts in IELTS tests across proficiency levels	metadiscourse	Corpus-based, Cross- proficiency level, quantitative	Significant differences across the three proficiency levels. Level 8 writers employed stance nouns with greater frequency and variety.	Journal article *Journal of English for Academic Purposes*
29	Jiang & Hyland (2017)	Metadiscursive nouns in research article abstracts from six disciplines	metadiscourse	Corpus-based, cross-disciplinary, quantitative	Metadiscursive nouns played a great role in foregrounding writer claim and crafting a disciplinary stance in various disciplines.	Journal article *English for Specific Purposes*
30	Jiang & Hyland (2018)	Metadiscursive "noun + post-nominal clause" patterns in	metadiscourse	Corpus-based, cross-disciplinary, quantitative	Metadiscursive "noun + post-nominal clause'" patterns are	Journal article *Applied Linguistics*

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	Studies	Object of study	Framework (if any)	Methodological approach/ perspectives	Major findings/Conclusion	Publication type and source
		research articles in six disciplines.			another key element of Metadiscourse for writers to construct a stance.	
31	Ariannejad et al. (2019)	Hedges, boosters, and attitude markers in English and Persian research articles in architecture	metadiscourse	Corpus-based, Cross-linguacultural, quantitative + qualitative	Statistically significant differences of hedges, boosters, and attitude markers but basic similarities in epistemic metadiscourse strategies.	Journal article *Poznań Studies in Contemporary Linguistics*
32	Man & Chau (2019)	Evaluative that-clauses in Chinese undergraduate argumentative essays	metadiscourse	Corpus-based, diachronic, quantitative	The range of the lexical words co-occurring with evaluative that-clauses expanded while the authorial visibility in stance expression decreased.	Journal article *Journal of English for Academic Purposes*
33	McCambridge (2019)	Metadiscourse in student writing of an international Master's programme in Finland	metadiscoruse	Ethnographic, textual analysis + interview qualitative + qualitative	Students' use of metadiscourse varied from text to text, and they construed strikingly different voice types in their writing.	Journal article *English for Specific Purposes*
34	Hood (2006)	Evaluative prosody in research article introductions in education and applied linguistics	appraisal	In-depth textual analysis, qualitative	Evaluative prosodies function prospectively or retrospectively in the clause, across a clause-complex or in longer phases of discourse to serve the arguments of introductions.	Journal article *Journal of English for Academic Purposes*
35	Derewianka (2009)	Evaluation in academic texts of the history subject written by four adolescents at different stages, three in secondary school, and one in tertiary education	appraisal	In-depth textual analysis, qualitative	Learners in the adolescent years extend interpersonal repertoires as they tune into the shared value system and institutionalized norms of secondary schooling.	Book chapter *Advances in language and education*
36	Swain (2009)	Evaluation in two short Italian ESL undergraduate discussion essay answers	appraisal	In-depth textual analysis, qualitative	The shift implied by the engagement system from a writer-centered to communicative context-oriented is heuristically useful in discussion writing.	Book chapter *Advances in language and education*
37	Hood (2010)	Evaluation in research articles in disciplines of social sciences, humanities, and sciences	appraisal	In-depth textual analysis, qualitative	Academic writers preferred the explicit way when evaluating the object of study, but the implicit way when evaluating other research.	Book *Appraising research: Evaluation in academic writing*
38	Chang and Schleppegrell (2011)	Engagement resources in four research article introductions in education	appraisal + move	In-depth textual analysis qualitative	Different lexico-grammatical choices for engagement can be used to serve the rhetorical moves and discursive effects.	Journal article *Journal of English for Academic Purposes*
39	Liu (2013)	Evaluative language in high- and low-rated English argumentative essays by Chinese university EFL students	appraisal	In-depth textual analysis; cross- proficiency level	Students of high-rated essays successfully use appraisal values to foreground authorial voice and position readers to build strong persuasion.	Journal article *Electronic Journal of Foreign Language Teaching*
40	Hu and Wang (2014)	Citation in research articles in Chinese and English in the disciplines of applied linguistics and medicine	appraisal	Corpus-based textual analysis cross-disciplinary; cross-linguacultural quantitative + qualitative	Marked cross-disciplinary and cross-linguacultural differences in the level and type of citation-based dialogic engagement.	Journal article *Journal of English for Academic Purposes*
41	Miller, Mitchell, & Pessoa (2014)	Engagement resources in higher-graded and lower-graded argumentative course essays by students in an English-medium university in the Middle East	appraisal	In-depth textual analysis, cross-linguacultural, cross- proficiency level qualitative	Higher-graded essays showed a recurring pattern of Engagement resources for including and interpreting source texts.	Journal article *Linguistics and Education*
42	Lee (2015)	Appreciation in high-graded and low-graded persuasive essays of undergraduates in Australia	appraisal	In-depth textual analysis, cross-proficiency level, qualitative	High-graded essays contained richer vocabulary of appreciation and applied a context sensitive approach in	Journal article *Text & Talk*

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Studies	Object of study	Framework (if any)	Methodological approach/ perspectives	Major findings/Conclusion	Publication type and source
				compliance with the register and genre	
43 Oliver (2015)	Hedges and attitude markers in English and Spanish research papers, case reports and book reviews in medicine and linguistics	appraisal	Corpus-based, cross-linguacultural, cross-disciplinary, qualitative + quantitative	Similar appraisal across English and Spanish, but more "veiled" attitude markers in medical book reviews when criticize others' work in English.	Book chapter *English As a Scientific and Research Language*
44 (Starfield et al. (2015))	Attitude and engagement in examiners' reports on doctoral theses in New Zealand	appraisal	In-depth textual analysis, qualitative	Doctoral thesis is primarily appreciated, but often judged and affected by the examiner.	Journal article *Linguistics and Education*
45 Geng and Wharton (2016)	Engagement in 12 doctoral thesis discussions by Chinese and English writers in applied linguistics	appraisal	In-depth textual analysis, cross-linguacultural, qualitative	No significant differences in engagement choices in the texts; First language is not an influencing variable for evaluative resources.	Journal article *Journal of English for Academic Purposes*
46 (Loi, Lim, & Wharton (2016))	Attitude and engagement in conclusion sections of English and Malay research articles in psychology	appraisal + move	In-depth textual analysis, qualitative	English writers employed a balanced mixture of assertion and mitigation while the Malay writers preferred to contract dialogic space.	Journal article *Journal of English for Academic Purposes*
47 (Mitchell, Miller, & Pessoa (2016))	One first-year student's use of engagement resources in argumentative writing of a history course	appraisal	Ethnographic, diachronic, textual analysis + interview qualitative	The student achieved improvement in using engagement resources to incorporate and interpret the source text and manage alternative and opposing voices.	Journal article *Multiperspective Studies of Language: Theory and Application*
48 Xie (2016)	Evaluation in Chinese MA thesis literature reviews in applied linguistics.	appraisal	In-depth textual analysis quantitative + qualitative	Chinese MAs demonstrate evaluation in a complicated way, which can't be simply labeled as direct/indirect, or critical/uncritical.	Journal article *Journal of English for Academic Purposes*
49 Liardéta, (2018)	Chinese EFL learners' development of interpersonal grammatical metaphors in argumentative essays over 2 years	appraisal	Corpus-assisted textual analysis, diachronic, quantitative + qualitative	Chinese learners prefer subjective realizations but gradually develop toward more enriched interpersonal reconstruals.	Journal article *English for Specific Purposes*
50 Sheldon (2018)	Engagement in research article conclusions in English and Spanish in applied linguistics	appraisal + move	In-depth textual analysis, qualitative	English L1 negotiate space for readers to dis/approve propositions. Spanish L1 limit space for negotiation; English L2 use a hybrid dialogic space for writer/reader interaction.	Journal article *Ibérica*
51 Chen and Li (2019)	Thesis literature review chapters of Chinese postgraduate students of applied linguistics over 1990−2000 and 2005−2015.	appraisal	In-depth textual analysis, diachronic quantitative + qualitative	Recent Chinese student writers are discursively more critical than their earlier counterparts.	Journal article *Journal of English for Academic Purposes*
52 Liardéta & Black (2019)	Use of reporting verbs by EAL and English L1 learners and experts	appraisal	Corpus-based, cross-proficiency level, quantitative + qualitative	Experts favor dialogically contracting RVs while learners favor expanding RVs, esp. Neutral attribute.	Journal article *Journal of Second Language Writing*
53 Xu & Nesi (2019)	Engagement in Chinese-authored and English-authored article introduction and conclusion sections in Applied Linguistics	appraisal	In-depth textual analysis, cross-linguacultural, quantitative + qualitative	Chinese authors used monoglossia for assertion more often than the British counterparts, who used more heteroglossia to open up the dialogic space.	Journal article *Journal of English for Academic Purposes*
54 Hirvela and Belcher (2001)	The impact of voice on three NNS graduate student writers' experiences of academic writing	voice	Ethnographic (case study, interviews + text analysis), qualitative	Taking voice as an analytic tool and acquiring a deep understanding of students' voicist experiences and problems will enrich voicist	Journal article *Journal of Second Language Writing*

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	Studies	Object of study	Framework (if any)	Methodological approach/ perspectives	Major findings/Conclusion	Publication type and source
					research and help the teaching of voice.	
55	Ivanic & Camps (2001)	Self-representation in six Mexican postgraduates' coursework at four British universities	voice	In-depth textual analysis, +interview, qualitative	Bringing voice as self-representation for writing pedagogy is a productive way of achieving the purpose.	Journal article *Journal of Second Language Writing*
56	Matsuda & Tardy (2007)	Reader's construction of authorial voice in blind manuscript review process for academic journals in rhetoric and composition	voice	Ethnographic (text analysis + interviews) qualitative	Voice plays a role in academic writing; Readers are important in co-constructing the writer's voice.	Journal article *English for Specific Purposes*
57	Sanz (2011)	First person pronouns in research articles of Business Management, written by L1 and L2 writers in English and in Spanish.	voice	Corpus-based, Cross-linguacultural, quantitative	The disciplinary and linguistic variables interplay; most author visibility in L1 English texts and least in L1 Spanish texts.	Journal article *Text & Talk*
58	Bondi (2012)	Authorial voice in academic textbooks and journal articles	voice	Corpus-based Cross-generic, Quantitative + qualitative	The voice of 'Academic Arguer' is more prominent in journal articles but the voice of the 'Recounter' and 'Interpreter' is conspicuous in textbooks.	Book chapter *Stance and Voice in Written Academic Genres*
59	Gross and Chesley (2012)	Hedging, stance and voice in biomedical research articles with regard to involvement from industry sponsors.	voice	Corpus-based, Cross-contextual, Quantitative + qualitative	Contextual aspects such as industrial funding might influence the writer's voice: fewer hedges in articles with industrial funding than in those without.	Book chapter *Stance and Voice in Written Academic Genres*
60	Matsuda & Jeffery (2012)	Voice and voice-related concepts in US high school and university curriculum guidelines and rubrics	voice	In-depth textual analysis, Cross-generic, qualitative	Voice is prevalent in US secondary schools while conspicuously absent from standardized writing assessment rubrics in higher education.	Book chapter *Stance and Voice in Written Academic Genres*
61	Silver (2012)	Voice in journal article introductions in three disciplines	voice	In-depth textual analysis, Cross-disciplinary qualitative	Significant variations in the ways the writers construct their voice across the disciplines.	Book chapter *Stance and Voice in Written Academic Genres*
62	Dontcheva-Navrátilová (2013)	Authorial presence in research articles in applied linguistics by Anglo-American linguists in 2000−2010 and Czech linguists in 2008−2011	voice	Corpus-based, cross-linguacultural, diachronic, quantitative + qualitative	Czech writers demonstrate less interactiveness and authoritativeness and backgrounded authorial presence, due to their non-native speaker status and the influence of the Czech academic writing literacy; There is a tendency towards a more subjective way of expression in the field of applied linguistics.	Journal article *Linguistica Pragensia*
63	Bondi (2014)	Authorial voice in research article abstracts in three disciplines in 1990, 2000 and 2010.	voice	Corpus-based, diachronic, cross-disciplinary, quantitative	A general increase in voice markers across time.	Book chapter *Abstracts in academic discourse: Variation and change*
64	Peng (2019)	Authorial voice via citation in doctoral thesis literature review chapters of home-grown and overseas-trained Chinese writers	voice	Corpus-based, cross-contextual, quantitative + qualitative (interviews)	Variations across academic training contexts detected: authorial voice was more often communicated via lexical devices by the home-grown writers whereas overseas-trained writers preferred syntactic and discoursal devices.	Journal article *Journal of English for Academic Purposes*
65	Lewin (2005)	Authors' and readers' identification of hedging in scientific texts	none	Ethnographic qualitative	Authors' understanding of hedging diverge greatly from that of readers; Great divergence exists between the	Journal article *Journal of English for Academic Purposes*

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	Studies	Object of study	Framework (if any)	Methodological approach/ perspectives	Major findings/Conclusion	Publication type and source
66	Diani (2009)	Reporting clause in English book review articles in linguistics, history and economics	other	Corpus-based, cross-disciplinary, quantitative + qualitative	authors' intentions and the readers' recognition Significant differences in the distribution of reporting verbs across disciplines.	Book chapter *Academic Evaluation:Review Genres in University Settings*
67	Sanz (2009)	Evaluative acts in history book reviews in English and Spanish	other	Corpus-based, cross-linguacultural quantitative + qualitative (questionnaire survey)	Spanish and British book reviewers share conventions as to the degree of 'evaluativeness' and the distribution of evaluation in general, but differ in the way that praise and criticism flows along the text	Book chapter *Academic Evaluation:Review Genres in University Settings*
68	Chang and Tsai (2014)	The conceptions of authorial stance of EFL doctoral students from social science and hard science in Taiwan	none	Ethnographic (text analysis + interviews), qualitative	Conceptions are superficial and polarized, affected by disciplinary assumptions. Epistemic beliefs are quite mature, incompatible with their imprecise conceptions of stance.	Journal article *Teaching in Higher Education*
69	Jiang (2015)	Nominal stance construction in argumentative essays of Chinese L2 university students and L1 American students	other	Corpus-based, cross-linguacultural, quantitative	Chinese students used significantly less of the Noun Complement construction while more attitudinally evaluative and personal possessive pre-modifications to the stance nouns.	Journal article *Journal of English for Academic Purposes*
70	Dontcheva-Navratilova (2016a, 2016b)	Citation in English-medium research articles in linguistics by Czech and Anglophone scholars	other	Corpus-based, cross-linguacultural, quantitative	There is significant intercultural variation in the use of interpersonal rhetorical devices by writers from different linguacultural backgrounds.	Journal article *Discourse and Interaction*
71	Kazemi (2016)	Hedges and intensifiers in five different Iranian scholarly EFL journal articles	other	In-depth textual analysis, Quantitative + qualitative	Hedging devices are used much more frequently than intensifiers; The type of hedging devices and their formality and informality vary.	Journal article *International Journal of Language Studies*
72	Lancaster (2016b)	An advanced undergraduate's awareness of stance in course essay writing	none	Ethnographic (textual analysis + interviews), qualitative	Systematic analysis of text enriches discourse-based interviews.	Journal article *Journal of Writing Research*
73	Aull, Bandarage, & Miller (2017)	Generality in essay writing of new college students and advanced students, and in published academic writing.	none	Corpus-based, cross-proficiency level, cross-linguacultural, quantitative	Clear differences in the frequency and scope of generalizations: published academic writing contains the fewest while new college writing the most.	Journal article *Journal of English for Academic Purposes*
74	Dong and Buckingham (2018)	Collocation networks of stance phrases in agriculture and economics research articles	other	Corpus-based, cross-disciplinary, quantitative	Collocating patterns are not just shaped by but are also constitutive of conventionalized communicative norms in the respective academic community.	Journal article *Journal of English for Academic Purposes*
75	Lee, Hitchcock, & Casal (2018)	Citation in research papers written by L2 first-year university students	other	Corpus-based, quantitative	L2 students are inclined to show deference to the perceived authority of published sources.	Journal article *Journal of English for Academic Purposes*

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Jianping XIE is an associate professor at School of English Education, Guangdong University of Foreign Studies. Her current research areas include English academic writing, discourse analysis, and English language teaching.