

Constructing Criticality: A Corpus Contrastive Analysis of Applied Linguistics Literature Reviews

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ABSTRACT

Literature review is a central element of academic writing, that enables researchers to identify gaps, position their studies, and synthesize prior work. Its effectiveness relies on criticality, which allows writers to evaluate existing knowledge, highlight strengths and limitations, and establish a foundation for new contributions. Developing this skill is crucial for producing coherent and persuasive review of literature. However, many student writers struggle to demonstrate criticality, as they tend to summarize previous findings without making a critical analysis or presenting their own perspective when reviewing the literature. This tendency weakens their ability to strike a balance between caution and assertion, and to project a convincing authorial voice. The current study examines how criticality is expressed in literature reviews through five strategies: hedging, boosting, attitude markers, disclaim markers, and self-mentions. To this end, two specialized corpora were compiled: the expert corpus (Expert Literature Review Corpus (ELRC), 1.26 million words) and the learner corpus (Malaysian Literature Review Corpus (MLRC), 696,494 words). Using Wordsmith Tools 6.0, a corpus-based contrastive analysis was conducted to identify the frequencies of linguistic devices associated with these strategies. Findings reveal that while both expert and student writers employed all five strategies, expert writers used them more frequently and with greater lexical variety. This suggests that experts are more adept at striking a balance between caution and evaluation, thereby constructing stronger criticality in their writing. The study underscores the importance of pedagogical support to help students move beyond reliance on hedging and adopt a broader range of linguistic resources that foster more critical and impactful literature reviews.

Keywords: Criticality, Literature Reviews, Corpus-Linguistics, Corpus-Based Study, Contrastive Analysis

INTRODUCTION

The development of Malaysia's higher education landscape reflects the nation's commitment to advancing the quality of tertiary education, highlighting the central role of universities in fostering knowledge creation, innovation, and research commercialization. To support these priorities, universities promote a research-driven culture through initiatives such as multidisciplinary projects, external funding, and high-impact publications. In line with this agenda, postgraduate enrolments at the Master's, PhD, and postdoctoral levels have expanded to strengthen research capacity and promote academic excellence (Isa & Ahmad, 2018). At these levels, students are expected to conduct systematic research and generate original contributions that advance existing knowledge, with their impact reflected in institutional indicators such as the QS World University Rankings and the MyRA KPI (Isa & Ahmad, 2018).

Despite these expectations, postgraduate students (hereafter referred to as student writers) continue to face persistent challenges in academic writing, including articulating ideas, structuring arguments, and developing writing skills (Isa & Ahmad, 2018). To address this, universities have introduced seminars and workshops aimed at strengthening writing abilities. For instance, UiTM offers a research skills seminar with modules on literature review, methodology, and proposal writing, including guidance on drafting effective reviews (Information for

Applicants, 2024). Such initiatives are crucial, as postgraduate research culminates in thesis writing, where mastery of academic conventions is essential (Jeyaraj, 2018).

Even with these supports, thesis writing remains a significant challenge. Osman (2012) highlights that postgraduates often struggle to make their case, construct persuasive arguments, and critically engage with existing ideas. This difficulty is particularly pronounced in literature reviews. Akindele (2008) and Shahzavar and Kourepaz (2020) similarly note that even experienced PhD students find it difficult to demonstrate criticality, moving beyond summarizing prior studies to critiquing, contextualizing, and presenting their own perspectives.

The literature review is a central element of academic writing because it fulfils several key objectives in scholarly inquiry. Demonstrating criticality within the review enables writers to identify research gaps (Fernandez, 2019; Kwan, 2006; Hart, 1998), position their studies within the broader academic conversation (Fernandez, 2019; Hart, 1998; Rowle & Slack, 2004), develop hypotheses or theoretical perspectives (Fernandez, 2019; Hart, 1998), and synthesize and evaluate prior research (Boote & Beile, 2005; Hart, 1998; Shahzavar & Kourepaz, 2020). By critically engaging with existing studies, authors can assess their strengths and limitations and establish a rationale for their own contributions (Akindele, 2008; Bruce, 2014). Mastering this skill equips writers to navigate these demands effectively, producing literature reviews that are not only coherent in structure but also persuasive in demonstrating the significance of new research.

However, mastering criticality presents considerable challenges for student writers. These difficulties are particularly evident in literature reviews, where postgraduate students often struggle to articulate their own perspectives, construct persuasive arguments, and engage critically with the ideas of others (Akindele, 2008; Fernandez, 2019; Osman, 2012). As a result, their reviews may lack the evaluative depth needed to interpret prior studies, establish clear research objectives, and position their work effectively within scholarly discourse. This underscores the importance of examining how criticality is expressed in literature reviews in order to provide more targeted support for student writers

Although extensive guidance exists on writing literature reviews (Boote & Beile, 2005; Denny & Tewksbury, 2013; Lim et al., 2022; Oosterwyk et al., 2019; Randolph, 2009; Snyder, 2019), little attention has been given to how criticality is enacted in this context. In particular, the roles of strategies and linguistic devices in conveying critical evaluation remain underexplored. Much of the existing research has focused on rhetorical and structural aspects, with frameworks such as Swales' CARS model applied to examine how writers establish research space and construct arguments (Kwan, 2006; Gil-Salom & Soler-Monreal, 2014; Kwan et al., 2012; Rabie & Boraei, 2021). Other studies have considered evaluative dimensions (e.g., Xie, 2017), offering insights into how writers position their work within disciplinary dialogues. While these contributions enhance understanding of organizational and rhetorical features, comparatively less is known about how criticality is expressed through specific linguistic resources.

Without clear frameworks, student writers often find it difficult to articulate their perspectives, convey attitudes, and signal degrees of certainty in relation to research claims. These elements are essential for producing effective and impactful reviews. To address this gap, the present study investigates how criticality is expressed in literature reviews by analysing the strategies employed by expert writers, defined as established scholars with peer-reviewed publications (Lee & Chen, 2009), alongside those used by student writers, as well as the linguistic devices through which these strategies are realised. By examining these elements, the study seeks to offer postgraduate writers practical guidance for developing persuasive and critical reviews. Such insights are particularly valuable at the master's level, where the ability to evaluate and position research critically is fundamental to demonstrating academic competence and contributing meaningfully to scholarly debates.

The present study examines how student writers express criticality in applied linguistics literature reviews in comparison with expert counterparts. It addresses the following research questions:

1. What strategies do expert and student writers employ to express criticality in literature review texts?
2. What linguistic devices are used to realize these strategies in expert and student literature review texts?

LITERATURE REVIEW

Challenges Faced by Student Writers in Literature Review Writing

Literature review writing is complex, as it involves extensive searching, critical evaluation of sources, and building a clear conceptual framework through careful analysis and argument (Boote & Beile, 2005; Rowley & Slack, 2004). Because of these challenges, many writers, especially students, struggle to produce effective reviews (Chen et al., 2015; Denny & Tewksbury, 2013; Dina, 2023; Shahsavar & Kourepaz, 2020).

Key challenges in writing literature reviews include evaluating and selecting credible sources (Dina, 2023; Hidalgo & Funderburk Razo, 2014), which often results in reliance on less reliable materials (Shahsavar & Kourepaz, 2020); linking the reviewed studies to the writer's own research focus (Akindele, 2008; Hei & David, 2015); and synthesizing prior work into a coherent argument rather than simply summarizing or listing sources (Boote & Beile, 2005; Shahsavar & Kourepaz, 2020). These challenges are further intensified by students' reluctance to critique established scholars, which contributes to descriptive rather than evaluative reviews (Akindele, 2008; Shahsavar & Kourepaz, 2020).

Several factors underlie these difficulties. Situational constraints include limited training, insufficient feedback, and restricted access to resources (Boote & Beile, 2005; Randolph, 2009; Dina, 2023). Cognitive factors such as language proficiency, underdeveloped critical thinking, and limited ability to synthesize and evaluate information also play a role (Bruce, 2014; Akindele, 2008; Hei & David, 2015). In addition, psychological pressures, such as fear of critiquing others' work, may hinder engagement (Randolph, 2009). Considering the situational and cognitive challenges faced by student writers, one of the key elements missing in many cases is the ability to engage critically with the literature. Criticality, a core component of academic writing, plays a crucial role in overcoming these barriers. It encompasses the capacity to evaluate, synthesize, and interpret existing research while situating one's own work within the broader academic discourse (Bruce, 2014). By fostering criticality, student writers can navigate challenges such as insufficient training, limited familiarity with academic conventions, and struggles with critical engagement when writing literature reviews.

Criticality in Literature Review Writing

The literature emphasizes the importance of demonstrating criticality in literature reviews, as it enables writers to analyse, evaluate, and synthesize studies rather than merely summarizing them (Akindele, 2008; Bruce, 2014; Shahsavar & Kourepaz, 2020). Through critical engagement, writers can identify gaps, highlight connections, and position their work within broader scholarly conversations, thereby establishing credibility and advancing knowledge (Boote & Beile, 2005; Hart, 1998).

Many student writers, however, struggle to demonstrate criticality due to underdeveloped critical thinking and analytical skills (Akindele, 2008; Boote & Beile, 2005; Hei & David, 2015; Shahsavar & Kourepaz, 2020). Critical thinking, defined as the disciplined process of analysing, evaluating, and synthesizing information (Cottrell, 2011; Khairuddin et al., 2021), underpins effective academic writing. Without it, reviews often remain descriptive rather than evaluative, limiting engagement with sources.

Criticality can be seen as the manifestation of critical thinking in literature reviews, requiring evaluation and synthesis of evidence alongside the articulation of opinions or attitudes (Akindele, 2008). Generally, it entails a balanced assessment of strengths and weaknesses (Oxford Learner's Online Dictionary, n.d.). Bruce (2014) defines it as the ability to make evaluative judgments across domains, while Dunne (2015) frames it as a "critical mode of being" integrating intellectual engagement, scepticism, and holistic approaches to knowledge. These perspectives point to the multifaceted nature of criticality, encompassing both cognitive processes and broader orientations to knowledge.

In literature reviews, this involves expressing analysis through judgments rather than merely reporting prior work. Yet definitions of criticality remain contested, with overlapping terms such as stance (Hyland, 2005),

evaluation (Thompson & Hunston, 2000), and appraisal (Martin & White, 2005), each with differing emphases (Bruce, 2014). Consequently, studies have examined criticality through linguistic, rhetorical, and cognitive perspectives (Azar & Hashim, 2019; Stotesbury, 2003; Petterson, 2023).

Despite this diversity, most approaches converge on two dimensions: evidentiality, which signals the degree of certainty or reliability of information, and affect, which conveys personal attitudes and evaluations. This study therefore defines criticality as the writer’s position, evaluative judgment, and stance toward a subject or proposition, encompassing both affect and evidentiality. Given its central role in academic writing, it is essential to examine how criticality is expressed linguistically, particularly how writers communicate evaluations, positions, and attitudes to establish stance and engage effectively in scholarly discourse.

Strategies and Linguistic Devices for Expressing Criticality

In academic writing, and particularly in literature reviews, criticality is expressed through a range of linguistic resources. It is closely tied to frameworks such as stance, appraisal, and evaluation, which explain how writers position themselves, assess knowledge claims, and engage with readers. Among the most influential are Martin and White’s (2005) Appraisal Theory, Biber’s (2006) stance framework, and Hyland’s (2005) Model of Interaction in Academic Discourse, which together illustrate how evaluations, positions, and attitudes are linguistically constructed in academic texts.

Appraisal Theory (Martin & White, 2005) provides a systematic framework for analysing interpersonal meanings through three components: attitude (evaluations expressed as affect, judgment, and appreciation), engagement (how writers acknowledge or challenge alternative views), and graduation (the intensity of evaluations). These resources enable writers to balance critique with respect for prior work, adjust the strength of claims, and position themselves within academic debates.

Biber and Finegan (1989) introduced stance to describe how lexical and grammatical choices convey attitudes, judgments, and commitment toward propositions. Their framework highlights evidentiality (markers of certainty, reliability, or knowledge source) and affect (evaluative and emotional language), later expanded to include style of speaking (Biber, 2004; 2006; Biber & Conrad, 2009). This model emphasizes how linguistic markers signal confidence, doubt, or personal evaluation, shaping both epistemic and affective positioning.

Table 1: Summary of Models and Taxonomies for Expressions of Criticality

Lexico-Grammatical Features (Biber, 2006)	Academic Interactional Model (Hyland, 2005)	Evaluation Theory (Martin & White, 2005)
Modal and semi-modal verbs ●Possibility/ permission/ ability ●Necessity/ obligation ●Prediction/ volition Stance Adverbs ●Epistemic ●Certainty ●Likelihood ●Attitude ●Style Complement clauses controlled by stance verb, adjectives, and nouns ●Stance verb + that clause ●Stance verb + to clause	Stance Evidentiality ●Hedges ●Boosters Affect ●Attitude markers Present ●Self-mentions Engagement ●Reader pronouns ●Directive ●Question ●Shared knowledge ●Personal aside	Attitude ●Affect ●Judgment ●Appreciation Engagement ●Dialogic expansion ●Dialogic contraction ●Disclaim-deny ●Disclaim-counter ●Acknowledge ●Proclaim/Endorse ●Alignment Graduation ●Force ●Focus

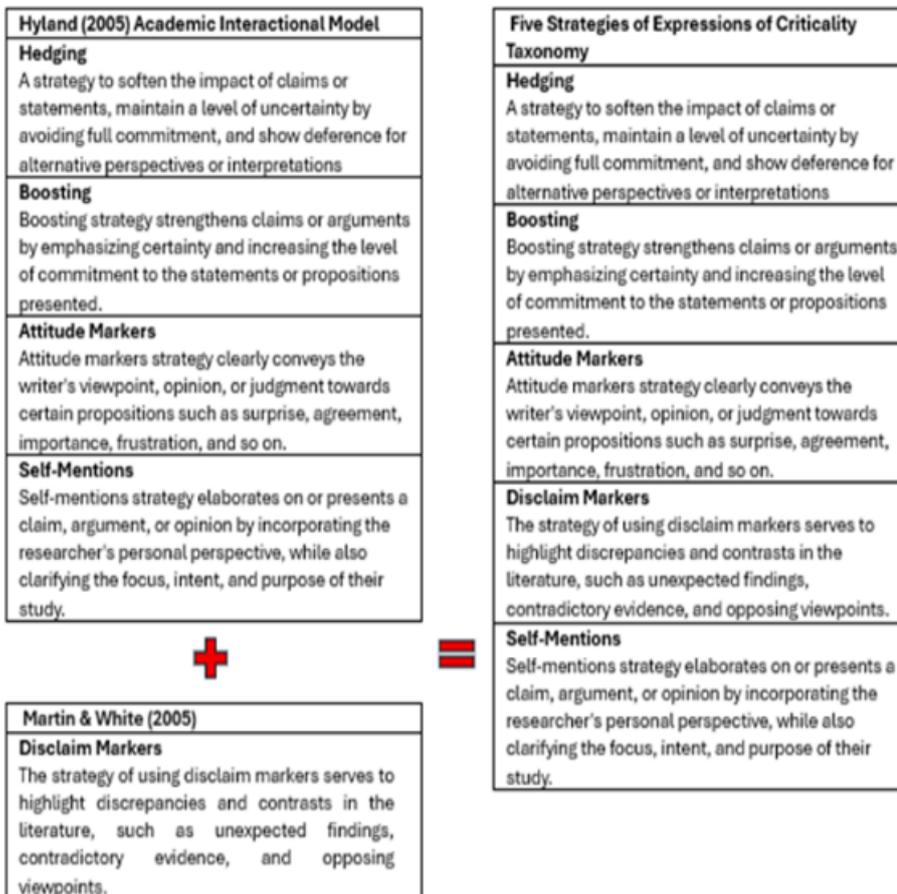
<ul style="list-style-type: none"> ● Stance adj + that clause ● Stance adj + to clause ● Stance noun + that clause ● Stance noun + to clause ● Speech acts and other communication verbs 		<ul style="list-style-type: none"> ● Prototypicality
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Hyland’s (2005) Model of Interaction integrates stance and engagement to capture the dialogic nature of academic writing. Stance refers to the writer’s textual voice and authority, encompassing evidentiality, affect, and presence. Engagement reflects how writers address readers, anticipate objections, and build rapport through features such as reader pronouns, appeals to shared knowledge, and questions. This model stresses that academic writing is both informative and interactive, designed to establish credibility while engaging readers.

Together, these frameworks highlight complementary dimensions of criticality. Appraisal Theory categorizes evaluative language systematically, Biber’s stance model foregrounds lexico-grammatical markers of epistemic and affective positioning, and Hyland’s model situates these within writer–reader interaction. Applied to literature reviews, they explain how writers move beyond description to evaluate sources, establish credibility, and contribute to scholarly dialogue.

While each framework contributes distinct insights, this study adapts elements most relevant to the expression of criticality. Selected components from Hyland’s model and Appraisal Theory are adopted. Hyland’s writer-oriented features, hedges, boosters, attitude markers, and self-mentions, capture evidentiality and affect, while reader-oriented markers are excluded. From Appraisal Theory, disclaim markers are included, as they emphasize caution, complexity, and alternative viewpoints. These adapted strategies, hedging, boosting, attitude markers, disclaim markers, and self-mentions, form the analytical framework for examining how expert and student writers express criticality in literature reviews.

Figure 1: Analytical Framework for Strategies to Express Criticality in Literature Reviews



The following table presents the adapted strategies for expressing criticality in literature reviews, including Hedging, Boosting, Attitude Markers, Disclaim Markers, and Self-Mentions, along with the linguistic devices that realize them.

Table 2: Taxonomy of Strategies for Criticality in Literature Reviews

Strategy	Linguistic Devices
<p>Hedging</p> <p>A strategy to soften the impact of claims or statements, maintain a level of uncertainty by avoiding full commitment, and show deference for alternative perspectives or interpretations</p>	<p>Modal verbs (e.g., could, would, may, must, might, etc.)</p> <p>Lexical Verbs (e.g., argue, claim, expect, note, indicate, feel, etc.)</p> <p>Adverbs (e.g., about, generally, highly, typically, usually, etc.)</p> <p>Adjectives (e.g., main, major, noticeable, possible, significant, etc.)</p> <p>Nouns (e.g., argument, assumption, hope, suggestion, tendency, view, etc.)</p>
<p>Boosting</p> <p>A strategy to strengthen claims or arguments by emphasizing certainty and increasing the level of commitment to the statements or propositions presented.</p>	<p>Modal Verbs (e.g., can't, couldn't, have to, must, won't, etc.)</p> <p>Lexical Verbs (e.g., confirm, do, does, indicate, predict, reinforce, etc.)</p> <p>Adverbs (e.g., absolutely, always, certainly, essentially, extremely, etc.)</p> <p>Adjectives (e.g., apparent, clear, essential, obvious, real, etc.)</p> <p>Nouns (e.g., certainty, confidence, evidence, precision, etc.)</p>
<p>Attitude Markers</p> <p>A strategy to clearly convey the writer's viewpoint, opinion, or judgment towards certain propositions such as surprise, agreement, importance, frustration, and so on.</p>	<p>Attitudinal adjectives (e.g., Important, significant, major, main, key, validity, meaningful, valuable, essential, consistent, useful, momentous, influential, potential, complex, first, developing, etc.)</p> <p>Adverbs (e.g., Importantly, only significantly, widely, remarkably, correctly, consistently, broadly, etc.)</p> <p>Nouns (e.g., Issues, problems, challenges, concern, question, limitation, constraint, neglect, etc.)</p>
<p>Disclaim Markers</p> <p>A strategy to highlight discrepancies and contrasts in the literature, such as unexpected findings, contradictory evidence, and opposing viewpoints.</p>	<p>Conjunctions / Prepositions (e.g. Although, though, but, despite/in spite of, even though, even if, even so, however, nevertheless, nonetheless, notwithstanding that, yet, while, etc.)</p>
<p>Self-Mentions</p> <p>A strategy to elaborate on or presents a claim, argument, or opinion by incorporating the researcher's personal perspective, while also clarifying the focus, intent, and purpose of their study.</p>	<p>First-person pronouns (e.g., I, we)</p> <p>Possessive adjectives (e.g., my, our)</p> <p>Self-reference (e.g. the researcher/s)</p>

Previous Studies

Scholars have examined various thesis sections such as acknowledgements, introductions, and discussions, but comparatively less attention has been given to the literature review. Research on this section has focused mainly

on its structure, rhetorical moves, and functions, showing that literature reviews form the foundation of research and require writers to engage critically with prior studies rather than merely summarize them (Bruce, 2014; Fernandez, 2019; Kwan, 2006; Winchester & Salji, 2016).

Early work by Kwan (2006) linked the rhetorical structure of literature reviews with Swales' CARS model. Later studies turned to how writers convey evaluation and critique: Gil-Salom and Soler-Monreal (2014) demonstrated the role of linguistic markers in expressing judgment, while Rabie and Boraie (2021) identified cross-cultural differences in rhetorical practices. Together, these studies emphasize the importance of rhetorical and linguistic strategies in organizing reviews and situating research within disciplinary conversations.

Further work has highlighted evaluation practices in specific contexts. Kwan et al. (2012) compared behavioural science and design science research articles, showing disciplinary contrasts in how evaluation was used to critique or justify research. Bruce (2014) examined criticality in literature reviews, focusing on attitude markers and concession–contra expectation as ways of expressing stance. His analysis showed how writers highlight weaknesses, acknowledge counterarguments, and reinforce positions through linguistic devices. Xie (2016) similarly investigated evaluation in Chinese MA theses, finding that students often used explicit evaluation while balancing assertiveness and neutrality, shaped by both cognitive and social factors.

Despite these insights, research remains uneven. Many studies rely on rhetorical or genre-based models such as CARS, while fewer adopt corpus-based approaches that capture broader patterns. Moreover, while stance and evaluation have been explored, the wider set of strategies and linguistic devices central to criticality, including hedges, boosters, attitude markers, self-mentions, and disclaim markers, has received less systematic attention. Addressing this limitation requires approaches that integrate structural and linguistic perspectives to provide a fuller account of how criticality is constructed in literature reviews.

Criticality in academic writing is shaped by rhetorical strategies and linguistic choices that enable writers to evaluate, judge, and position themselves in relation to prior research. Key devices include hedges, boosters, attitude markers, self-mentions, and disclaim markers (Hyland, 2005; Lancaster, 2016). Among these, hedges are the most widely examined. They allow writers to soften claims and display caution: Hyland (2005) found hedging to be the most common stance device across disciplines, while Lancaster (2016) showed that high-grade economics and political theory papers used more hedges, reflecting sensitivity to complexity. Wu and Paltridge (2021) added that PhD students used slightly more hedges than MA students, relying on modal verbs such as *may*, *should*, and *might*.

Boosters, by contrast, reinforce certainty. Lancaster (2016) reported higher booster use in economics than political theory papers, while Wu and Paltridge (2021) found MA students used more boosters than PhD students, particularly verbs such as *show* and *find*. Wang and Zeng (2021) also showed that expert writers combined boosters with self-mentions more frequently than doctoral students, signalling greater confidence.

Attitude markers are strongly linked to criticality in literature reviews. Bruce (2014) observed disciplinary differences, with applied linguistics reviews showing greater use than psychology texts. Azar and Hashim (2019) highlighted their role in conclusion sections for evaluating findings and signalling gaps, while Dobakhti (2013) found adjectives (e.g., *important*, *useful*) and adverbs (e.g., *necessarily*, *appropriately*) most common. Cross-cultural research adds further variation: Soylu et al. (2023) reported that Turkish writers tended to overuse assessment markers but underuse emotion markers compared to native English writers.

Self-mentions provide another means of asserting authorial identity. Their use varies across disciplines, with humanities and social sciences employing them more than the hard sciences (Hyland, 2005, 2008). Cross-cultural studies reveal further contrasts: Walkova (2019) found that Slovak L1 writers preferred non-pronominal forms, while Can and Cangir (2019) showed that Turkish doctoral students often avoided pronouns unlike their British peers. Dontcheva-Navratilova (2023) reported that Czech graduate students underused pronominal self-mentions, favouring nominal alternatives that reflect a modest stance. Wang and Zeng (2021) also noted that PhD students paired self-mentions with hedges, whereas expert writers combined them with boosters to project confidence.

Disclaim markers are equally central. Lancaster (2016) emphasized their function in signalling concession, denial, or counter-expectancy, enabling writers to acknowledge complexity, challenge claims, and enhance credibility. Taken together, these studies show that hedges, boosters, attitude markers, self-mentions, and disclaim markers are essential to constructing criticality, though most research has treated them in isolation. This points to the need for integrated analyses that show how these devices collectively support critical engagement in literature reviews.

Parallel work has compared learner and expert writing using corpus-based and contrastive approaches, examining differences in linguistic resources for evaluation (Can & Cangir, 2019; Hsiao, 2019; Imm et al., 2014; Kim & Kessler, 2022; Wu & Paltridge, 2021; Xie, 2016; Aull & Lancaster, 2014; Chen & Baker, 2010; Hyland & Jiang, 2018; Lee & Chen, 2009; Wang & Zeng, 2021; Zhang et al., 2021). These studies generally show that expert and student writing differ in linguistic choices, rhetorical strategies, and expressions of criticality. At the undergraduate level, Imm et al. (2014) found that final-year students used a wider range of stance adverbs and modals than first-year students, whose reliance on certainty adverbs limited engagement. At the postgraduate level, Hsiao (2019) showed that Chinese-speaking MA graduates relied mainly on appreciation rather than affect or judgment, signalling both disciplinary expectations and difficulties with evaluative complexity. Lee and Chen (2009) further highlighted the gap between Chinese learners and expert writers: while experts showed clarity, coherence, and adherence to disciplinary norms, learners often overused function words, misused collocations, and showed L1-influenced grammar, shaped by cultural rhetorical styles. Overall, while learners at different levels attempt to demonstrate critical evaluation, their writing often diverges from expert norms in range, sophistication, and disciplinary alignment.

METHODOLOGY

A corpus-based approach was adopted to identify strategies and linguistic devices used by expert and student writers to express criticality. To guide the analysis, a taxonomy of Strategies for Criticality in Literature Reviews was developed (Table 2), supported by lists of linguistic devices adapted from previous models and taxonomies. Each corpus was examined using WordSmith Tools 6.0 (Scott, 2012). Consistency analysis enabled the identification of words expressing criticality across the corpora, while concordance analysis ensured accurate categorization by examining each occurrence in context.

For this study, two specialised corpora were compiled for this study: a learner corpus consisting of literature review chapters from applied linguistics master’s theses, and an expert corpus comprising literature reviews from published journal articles. These corpora were designed to investigate the strategies and linguistic devices used by student and expert writers to express criticality in literature review writing. Although specialised corpora are typically smaller than general corpora, they are valuable when carefully tailored to specific research aims (Granger, 2008; Warren, 2012). Learner corpora can reveal developmental patterns (Gablasova et al., 2017; Granger, 2008), while expert corpora, usually drawn from peer-reviewed journals, provide benchmarks of proficient academic writing (Hyland, 2012; Lee & Chen, 2009). Examining how experts and students express criticality in literature reviews, therefore, offers insights into the lexico-grammatical features, strategies, and linguistic devices that distinguish effective academic writing and support learners’ development. A summary of both corpora is presented in Table 3.

Table 3: Corpora Used for the Study

Malaysian Literature Review Corpus (MLRC)	No. of Texts	No. of Words	Expert Literature Review Corpus (ELRC)	No. of Texts	No. of Words
Universiti Teknologi MARA	30	260,660	English for Academic Purposes	323	471,266
Universiti Kebangsaan Malaysia	30	181,078	English for Specific Purposes	279	344,200
Universiti Putra Malaysia	30	254,756	Language and Communication	443	448,728
Total	90	696,494	Total	1045	1,264,194

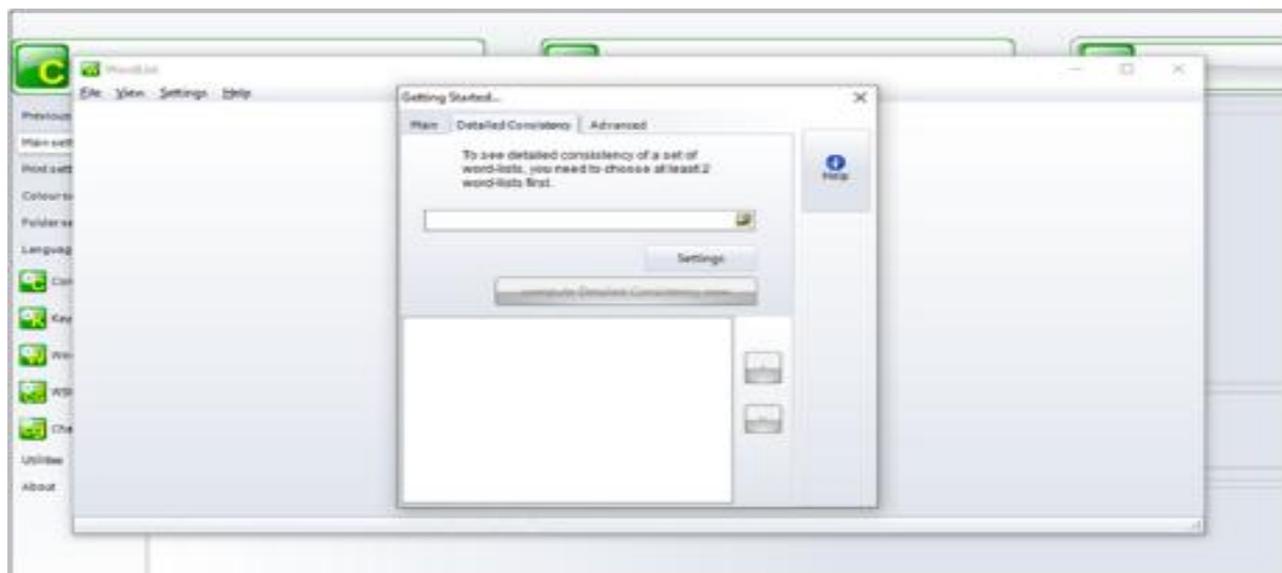
The learner corpus, termed the Malaysian Literature Review Corpus (MLRC), was compiled through purposive sampling of master’s theses from three public universities: Universiti Teknologi MARA (UiTM), Universiti Kebangsaan Malaysia (UKM), and Universiti Putra Malaysia (UPM). Selection criteria required that: (i) Malaysian students authored the theses; (ii) the focus was on language, linguistics, applied linguistics, or linguistics in education; (iii) texts were accessible in hard or soft copy from university repositories; and (iv) the theses were submitted between January 2010 and December 2020. The Expert Literature Review Corpus (ELRC), an expert corpus, was constructed through a targeted search of UiTM’s online repository for high-impact journals indexed in Scopus. Journals were selected based on topical relevance, academic reputation, citation metrics (CiteScore, SJR, and quartile rankings), and accessibility. Three journals were chosen: English for Academic Purposes (EAP), English for Specific Purposes (ESP), and Language and Communication (LNC).

To address the research questions, a taxonomy of strategies for expressing criticality in literature reviews was developed, with corresponding lists of linguistic devices. WordSmith Tools 6.0 was used to identify these devices systematically within the corpus, ensuring efficient data preparation and reducing reliance on manual annotation. The taxonomy is shown in Table 2 (see Literature Review Section), and the full list of linguistic devices is provided in Appendix 1.

Coding was conducted solely to establish inter-rater agreement and ensure consistency in identifying strategies and their associated devices. Inter-rater reliability was assessed through a two-stage procedure. First, the taxonomy developed for identifying strategies as expressions of criticality was reviewed by a senior English language lecturer with over fifteen years of experience in academic writing instruction. The expert evaluated whether the categories were mutually exclusive and exhaustive and assessed the clarity of the definitions and examples. Following refinement, the finalized taxonomy was used to train a second independent rater. A sample of 70 strategies and linguistic devices, drawn from both expert and student texts, was then independently coded by the researcher and the second rater. Cohen’s Kappa yielded a value of 0.919 for strategies and linguistic devices, indicating almost perfect agreement. These results confirm a high level of reliability in the classification process, supporting the validity of the qualitative analysis.

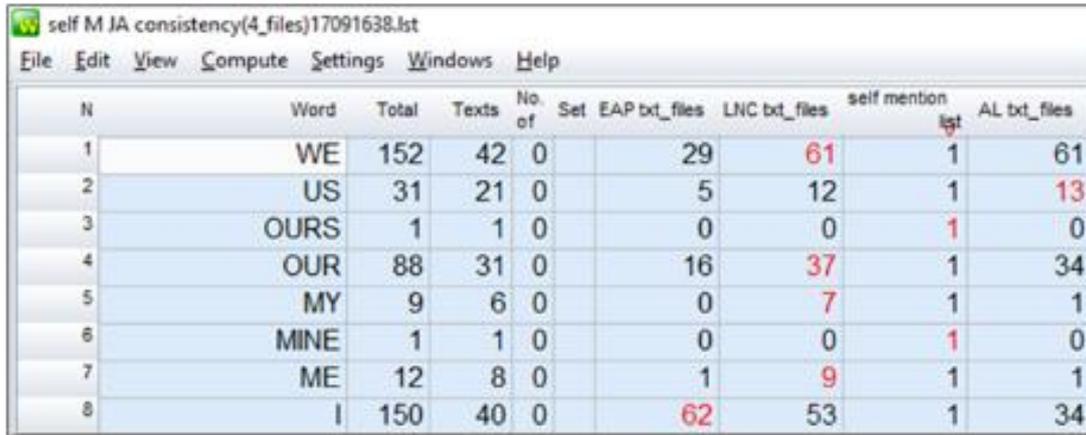
Data collection employed the Detailed Consistency Analysis (DCA) feature in WordSmith Tools, which enabled systematic identification of linguistic devices used to express criticality across both corpora. Word lists for the Expert Literature Review Corpus (ELRC), the Malaysian Learner Review Corpus (MLRC), and the precompiled lists of linguistic devices for each strategy were generated using the Wordlist tool as the foundation for the DCA. Previous studies (Mukundan, 2007; Mukundan & Aziz Hussin, 2006; Aziz et al., 2010; Tarmizi & Hussin, 2021) have also employed DCA to evaluate the distribution of vocabulary throughout texts, highlighting its effectiveness in revealing patterns and trends in textual data.

Figure 2: Detailed Consistency Analysis



The analysis identified both the type and frequency of each device: the “Word” column in the output displayed the precompiled items, the “Total” column indicated their overall frequency, and the “Texts” column showed the distribution across texts. For example, Figure 2 displays the results for the Self-Mention strategy, where the pronoun 'we' appeared 152 times across 42 expert texts, later refined to 151 after removing duplication.

Figure 3: Detailed Consistency Analysis for Self-Mentions



N	Word	Total	Texts	No of	Set	EAP bt_files	LNC bt_files	self mention	AL bt_files
1	WE	152	42	0		29	61	1	61
2	US	31	21	0		5	12	1	13
3	OURS	1	1	0		0	0	1	0
4	OUR	88	31	0		16	37	1	34
5	MY	9	6	0		0	7	1	1
6	MINE	1	1	0		0	0	1	0
7	ME	12	8	0		1	9	1	1
8	I	150	40	0		62	53	1	34

This procedure was applied to all five strategies and their associated lists in both corpora. Because not all identified devices conveyed a critical stance, their contextual use was further examined using the Concord tool in WordSmith Tools. Figure 3 illustrates such contextual analysis for the Self-Mention strategy.

Figure 4: Concordance Analysis for Self-Mentions ‘We’



N	Concordance	Set	Tgt	Word #	Set	Set	Para	Para	Para	Para	Para	Para	File	Date	%
1	field). According to Reinhartz (1997), we both bring the self to the field and			1,202	40	29	0	78					0 78	EAP 2019 Lx 2019Nov07	79%
2	are. As pointed out in section 2.1, we adopt the term 'learning needs' and			1,218	51	42	0	94					0 94	EAP 2019 Lx 2019Nov07	94%
3	Model (Dijkstra and Van Heuven 2002); we hypothesize that as proficiency in a			1,513	58	58	0	89					0 89	AL 2019 SAF 2019Nov07	89%
4	communicative dyad (Peraki, 2008). We suggest that the morphological			1,349	45	3	0	74					0 74	LNC 2019 Ju 2019Nov07	74%
5	challenging (e.g., Tribble, 2011), we know little about the extent to which			959	43	19	0	63					0 63	EAP 2019 Yl 2019Nov07	63%
6	(Gunda & Hyland, 2012; Tardy, 2012). We discuss this construct based on a			27	1	7	0	2%					0 2%	EAP 2019 Lx 2019Nov07	2%
7	and Schaeffer 2006; Stokoe 2013). We know very little about how ABE			448	17	8	0	77					0 77	AL 2019 EM 2019Nov07	78%
8	tutor. In Chiang and Grant (2017: 7), we examine moves in online grooming			1,071	38	30	0	76					0 76	AL 2019 EM 2019Nov07	76%
9	in language attitudes. Accordingly, we have modeled much of this present			173	6	11	0	16					0 16	AL 2019 WL 2019Nov07	16%
10	membership without familiarity or affect. We will see that this is pivotal for the			3,105	13	8	0	99					0 99	LNC 2019 Zc 2019Nov07	99%
11	based on corpus investigation alone, we have no evidence as to whether			1,587	54	47	0	61					0 61	AL 2019 SU 2019Nov07	61%
12	these texts shift between the T and we deixics (2017: 290). In this study I			1,575	41	99	0	95					0 95	LNC 2019 Ly 2019Nov07	95%
13	it. They can also contribute to it, and we hope that the new Researching			1,494	45	43	0	89					0 89	EAP 2019 M 2019Nov07	89%
14	traveller is still European-American, and we are yet to read stories by			1,273	42	58	0	94					0 94	AL 2019 KAL 2019Nov07	94%
15	epic in Serbo-Croatian. In the Appendix we provide a full list of short function			1,849	45	14	0	89					0 89	LNC 2019 M 2019Nov07	89%
16	recapitulate the argument of this article; we use the notion of pattern grammar			2,522	89	37	0	97					0 97	AL 2019 SU 2019Nov07	97%
17	and operational definition. In this article we will follow Palotti (2009; see also			335	12	8	0	9%					0 9%	AL 2019 GAI 2019Nov07	9%
18	(Sacks, 1989)—and sometimes, as we will show, this is expected because			1,010	36	78	0	90					0 90	LNC 2019 Je 2019Nov07	91%
19	; Sutorra and Salemi, 2011). As far as we know, almost no research has			261	15	19	0	15%					0 15%	LNC 2019 L 2019Nov07	15%
20	and public or more private settings. As we have seen, a number of studies			1,086	34	7	0	69					0 69	LNC 2019 V 2019Nov07	70%
21	referential meaning. As far as we know, there is no way to know			903	33	12	0	49					0 49	LNC 2019 Ju 2019Nov07	50%

The concordance lines illustrated how each device functioned, and instances that were irrelevant were excluded. For instance, in (1) below, we were excluded as it did not express a claim or opinion:

(1) Also highlighted in the findings is the use of the personal pronoun ‘we’. This personal pronoun was seen frequently used in international discussions, up to nearly half of the discussions but less seen in Thai discussions. (MLRC_UPM 15)

This filtering ensured that only instances expressing criticality were retained for analysis. The refined data were compiled into Excel spreadsheets to facilitate classification and maintain consistency. This step prepared the groundwork for the analysis stage, where the taxonomy of Strategies for Criticality in Literature Reviews was

systematically applied. By combining quantitative frequency counts with concordance analysis, this process provided a reliable foundation for examining the strategies and linguistic devices used to express criticality.

The data analysis began with the extraction of strategies and linguistic devices expressing criticality using corpus tools, including consistency analysis and wordlist generation. These items were refined with the Concord tool in WordSmith Tools to exclude irrelevant cases (e.g., instances where a word like "we" did not express a critical stance) and ensure accurate categorization. The validated instances were systematically organised in Excel spreadsheets. Frequencies and normalized frequencies per 1,000 words were then calculated, with a log-likelihood test applied to assess significant differences in strategy use between expert and student writers.

Subsequent analysis focused on the five strategies, Hedging, Boosting, Attitude Markers, Disclaim Markers, and Self-Mention, by examining the frequencies and normalized frequencies of their associated linguistic devices across the two corpora. A contrastive approach highlighted both similarities and differences in device use, providing insights into the differing repertoires of expert and student writers.

RESULTS AND DISCUSSION

Strategies Used by Expert and Student Writers for Expressing Criticality in Applied Linguistics Literature Reviews

The findings are presented in line with the research objectives, focusing on how expert and student writers employ strategies and linguistic devices to express criticality in literature reviews. Results include raw and normalized frequencies, percentages, and p-values from log-likelihood tests, and are discussed from the most frequently used strategy to the least.

Table 4: Strategies Used by Expert and Student Writers to Express Criticality in Applied Linguistics Literature Reviews

Strategies to Express Criticality	ELRC (1,264,194 words)			MLRC (696,494 words)			p
	Freq.	Normalized Frequency per 1000 Words	Percentage (%)	Freq.	Normalized Frequency per 1000 Words	Percentage (%)	
Hedging	34,266	23.84	46.01	17,380	24.95	53.46	0.002
Attitude Markers	12,784	10.11	19.51	6,836	9.81	21.02	0.046
Boosting	8,362	6.61	12.75	4,056	5.82	12.47	0.001
Disclaim Markers	8,285	6.55	12.64	3,732	5.36	11.48	0.011
Self-Mentions	5,960	4.71	9.09	502	0.72	1.54	0.059
Total	69,657	51.82	100	32,506	46.66	100	

The analysis revealed that both expert and student writers employed five strategies to convey criticality in literature reviews: hedging, attitude markers, boosting, disclaim markers, and self-mentions. Overall, expert writers used these strategies more frequently, with 69,657 occurrences in the ELRC compared to 32,506 in the MLRC. For both groups, hedging was the most common strategy, accounting for nearly half of all instances (46% among experts and 53% among students), followed by attitude markers, boosting, and disclaim markers, while self-mentions occurred least frequently. Notably, expert writers used self-mentions far more frequently (4.71 vs. 0.72 occurrences per thousand words), suggesting a stronger projection of authorial stance.

Statistical tests confirmed significant differences in four strategies: hedging ($p = 0.002$), attitude markers ($p = 0.046$), boosting ($p = 0.001$), and disclaim markers ($p = 0.011$), indicating that expert and student writers differ not only in frequency but also in rhetorical use. Although the difference in self-mentions was substantial, it did

not reach statistical significance ($p = 0.059$). Nonetheless, the higher frequency in the expert corpus suggests that expert writers more actively employ self-mentions to assert stance and engage critically with prior research.

Both groups primarily used hedging to express criticality, but expert writers did so more often and with greater variety. Experts also made more self-mentions, showing confident and authoritative engagement with the literature. Hedging was the most common strategy, consistent with previous research emphasizing its key role in academic writing (Hyland, 2005; Lancaster, 2016; Wu & Paltridge, 2021; Wang & Deng, 2023). After hedging, the next most frequent strategies were attitude markers, boosting, disclaim markers, and self-mentions. Unlike studies where boosting was more dominant, this study found attitude markers more prevalent, suggesting that writers focus more on clarifying their stance and connecting with readers. This supports Azar and Hashim’s (2019) idea that attitude markers are important in professional academic communication. Despite limited research on literature reviews, the consistent use of hedging by both groups demonstrates its crucial role in cautiously expressing interpretations and recognizing the complexity of academic evaluation.

Linguistic Devices Used by Expert and Student Writers in Strategies for Expressing Criticality in Applied Linguistics Literature Reviews

Based on the table, both expert and student writers relied on similar linguistic devices for hedging, most frequently modal verbs, lexical verbs, adjectives, adverbs, and nouns, consistent with findings from previous studies (Wang & Deng, 2023; Wu & Paltridge, 2021). Both groups showed a strong preference for modal verbs such as can, may, will, could, should, and would. At the same time, adjectives like ‘main’ and nouns like ‘some’ were also commonly used to provide critical evaluations in literature review texts. Overall, modal verbs remained the preferred means of expressing uncertainty or probability, while adjectives and lexical verbs appeared less frequently as they conveyed stronger categorical meanings. Table 5 presents the ten most frequent hedges across both corpora.

Table 5: Linguistic Devices Used by Expert and Student Writers in Hedging Strategy

Expert Writers			Student Writers		
Hedging	Freq.	Norm’d Freq.	Hedging	Freq.	Norm’d Freq.
Can	2972	2.35	Can	2,255	3.24
May	2175	1.72	Will	1,347	1.93
Some	1745	1.38	According to	955	1.37
Will	1323	1.05	Could	840	1.21
Often	1206	0.95	Would	728	1.05
Rather	825	0.65	May	708	1.02
Given	745	0.59	Some	698	1.00
Would	685	0.54	Should	682	0.98
Should	677	0.54	Given	395	0.57

A notable difference emerged in the use of the preposition ‘according to’, which appeared far more often in the learner corpus, with a normalized frequency of 1.93 per 1,000 words (5.5% of all hedges in MLRC). This pattern suggests that student writers rely on ‘according to’ as a safe and familiar device for attribution, supporting prior

observations of its use as a “lexical teddy bear” (Hasselgren, 1994; Leedham, 2015, cited in Weng & Zhang, 2021). This reliance suggests that learners often gravitate toward expressions that feel safe and versatile, even if their use is not always contextually precise. In contrast, the limited use of “according to” in expert writing reflects their mastery of a broader repertoire of linguistic resources for hedging and source attribution. Experts may prefer alternatives that allow for a more complex presentation of evidence, greater rhetorical flexibility, or a more deliberate distancing effect. This finding suggests a developmental progression in the ability to effectively employ hedging devices as writers gain expertise and become more attuned to academic conventions. As Weng and Zhang (2021) note, while the frequent use of ‘according to’ by students may not signify advanced formulation ability, it does reveal an emerging awareness of the need to engage with external sources, a key component of criticality in academic writing. However, the reliance on ‘according to’ without fully exploiting its potential for signalling cautious stance or attribution suggests that students may benefit from explicit instruction on its appropriate use and the broader functions of hedging in academic discourse.

As one of the most frequently employed strategies for expressing criticality, hedging typically serves three main functions: softening the strength of claims, mitigating the level of commitment, and demonstrating deference. The following examples illustrate how expert and student writers strategically deployed hedging devices to manage their stance, reduce the force of claims, and signal measured commitment to propositions.

Making a proposition:

“In terms of language ideology, it is **possible** to see that the speakers’ views on their language and culture can vary to extreme opposites.”

“The roles of language **can** be seen in many forms such as offering information, communicating feelings, in influencing the actions and principles of people, to express stories and many more.”

Explaining:

“That is, very frequent linguistic items are easily accessed and are more **likely** to be learned, which should mean that learners are more likely to produce these linguistic items than other, less frequent ones; this hypothesis will be tested in the present study.”

“The idea of using lexical coverage to determine the optimal percentage of known words in a text is based on the **assumption** that there is a lexical knowledge threshold which marks the boundary between having and not having sufficient vocabulary knowledge for adequate reading comprehension.”

“Meanwhile, the low proficiency students are more **likely** to be extrinsically motivated in learning English language whereas the high and average proficiency students are intrinsically motivated in learning second language.”

Creation of a research gap:

“However, with the exception of Anderson (2013), there **appears** to be little up to-date empirical research into the interaction between language policy, language choice and actual publication practices.”

Making claims:

“To expose business English learners to authentic workplace discourse, it has been **suggested** that teaching materials may be based on transcripts of authentic workplace talk. While ideas for using transcripts are available (e.g. Chan, 2009b; Clifton, 2005; Koester, 2002, 2004, 2010, 2014), the actual use of transcripts in business English teaching has not been investigated. To address the doubts, concerns and reservations that practitioners may have about the idea of using transcripts, pedagogically oriented research is necessary.”

“Furthermore, teachers need to encourage speaking and using the language because it would motivate them to study autonomously and at the same time they would consider different ideas of spoken communication after they read more upon it (López, 2011). It is **believed** that by giving some freedom to the students in learning process, it would help them to be more critical in whatever they do such as they could use the same strategies they have learn and apply it in different situations that they think suitable.”

The use of linguistic devices and lexical bundles under the Hedging Strategy in literature review writing, as discussed by Hyland (2005), allows writers to frame information as opinion rather than fact. These devices and bundles signal caution and indicate varying degrees of likelihood or possibility. The tendency of both expert and student writers to avoid strong or definitive claims reflects an awareness of multiple perspectives that may affect the truth value of their assertions or the subject under review. Thus, the Hedging Strategy supports writers in articulating critical evaluations of existing literature.

Attitude markers were the second most frequent strategy in both corpora, allowing writers to signal their opinions and evaluations. This contrasts with earlier studies (e.g., Wu & Paltridge, 2021; Wang & Deng, 2023), which reported higher use among learners, suggesting that in literature reviews, both groups recognize the genre-specific need to convey evaluation and stance. While the proportion was slightly higher in MLRC (20.9%) than in ELRC (18.35%), expert writers showed a higher normalized frequency (10.11 vs. 9.81 per 1,000 words). Both groups used nouns, attitudinal adjectives, and adverbs, with ‘only’ and ‘important’ among the most frequent items. Expert writers are more often employed ‘specifically’, ‘key’, ‘complex’, and ‘challenges’, whereas student writers favoured ‘better’, ‘major’, ‘difficult’, and ‘problems’. Table 6 lists the most frequent attitude markers across the two corpora.

Table 6: Linguistic Devices Used by Expert and Student Writers in Attitude Markers Strategy

Expert Writers			Student Writers		
Attitude Markers	Freq.	Norm'd Freq.	Attitude Markers	Freq.	Norm'd Freq.
Only	1353	1.07	Only	741	1.06
Important	1072	0.85	Important	705	1.01
Specifically	482	0.38	Main	351	0.50
Complex	456	0.36	Better	348	0.50
Main	445	0.35	Significant	312	0.45
Key	437	0.35	Problems	301	0.43
Issues	434	0.34	Issues	257	0.37
Significant	391	0.31	Potential	185	0.27
Potential	386	0.31	Major	169	0.24

While student writers’ use of attitude markers reflects a growing awareness of academic conventions and an effort to engage critically with the literature, their lexical range was narrower than that of expert writers. Learners tended to over-rely on terms such as ‘important’, ‘main’, and ‘significant’, which accounted for a large proportion of their usage, whereas experts employed a broader repertoire of markers. This pattern aligns with Wu and Paltridge (2021), who similarly noted a more limited range of attitude markers in learners’ writing. One possible explanation is students’ relative unfamiliarity with academic conventions and the genre-specific use of such markers. As Azar and Hasyim (2019) argue, the effective use of attitude markers in academic writing develops through experience and familiarity with disciplinary practices. Thus, the narrower range observed in

student writing may reflect their ongoing development of academic writing skills and gradual mastery of genre conventions. The following examples illustrate how expert and student writers strategically employed attitude markers to emphasize significance, convey evaluation, and shape their critical engagement with the literature.

Highlighting methodological considerations:

“Apart from considering the practice of published writers in the social science disciplines mentioned above, it is **essential** to consider whether genre analysts, apart from Nwogu (1997), actually viewed experimental procedural descriptions as a separate rhetorical move in experimental research papers. “

Highlighting the complexity of the topic:

“In his study of general practitioners’ consultations in the Netherlands, Ten Have (1989) argued that, ideally, medical consultations follow certain typical patterns, such as opening, complaint, examination, diagnosis treatment or advice, and closing. The **dynamic** nature of the interactions, however, may lead the consultation to ‘converge’ with other activities (Jefferson and Lee, 1981), such as troubles-telling.”

Addressing research gaps:

“One of the main issues in this area is to link scholarly research in writing with teaching practice, so that teachers can benefit from research findings. In the case of business English, it is **essential** to bridge the gap between academic research and the application to the workplace, often pointed out by different authors (Bhatia & Bremner, 2012; Sing, 2017). “

“In another research by Nijhuis & Collis (2003), it is found that if instructors cannot provide a well-organized learning environment, whether virtual or actual, students may also fail to use available resources and participate in learning activities. Meanwhile, Grandon, Alshare & Kwan (2005) observed in their study that knowing students’ goals and understanding students’ thinking towards online learning can help course administrators and course managers to create mechanisms for drawing more students into adopting the online learning environment. Thus, it is **essential** to carry out research that deals more intensively with students’ perception of online learning, their attitude towards online learning, and their intention to use online learning.”

Expressing the significance of specific points:

“It is **important** to note that communicative competence is not a neutral notion; rather it is influenced and affected by social structures, ideologies and institutions such as the education system. As underscored by Kataoka et al., communicative competence ‘invokes dynamics of authenticity, plurality, and mobility’ (2013, p. 349), by associating the communicative ability of people with their positions in socio-political systems that include structures of inequality, leading to both inclusion and exclusion.”

“After thorough reviews, it can be summarized that it is important to know the definition of the term "vocabulary" and to understand its importance to L2 learning. Without the proper acquisition of vocabulary, L2 learners will have difficulties in learning English and unable to practice it in other language competencies such as speaking, writing, reading and listening. Furthermore, it is also **important** for the learners to understand the importance of vocabulary in second language acquisition.”

Emphasizing issues, challenges, and limitations:

“This conceptualization underscores that when people lack the skills to engage in reflective, self-regulated practice, they will likely feel disempowered. Conversely, agency is fostered when people acquire awareness of how to set goals, make proactive plans, guide their own practice, and evaluate their efforts (Bandura, 2000). It is **clear** that unless doctoral students have received explicit guidance in scientific writing, these determinants of agency may be very much out of their reach.”

“In the study by Salina Husain (2011), suggested that there should be more studies done in Malaysia, in the area of contrastive studies of Malay and Spanish as there were insufficient academic papers to support the field of study. While it resonates to similar calls for studies in German language, it is **clear** that the study which focused on contrasting Malay and Spanish, looked at a broad variant of verb conjugation and not modal verb, thus manifesting a gap which needs to be addressed.”

The Attitude Markers Strategy serves two main functions. First, it highlights the significance of particular aspects of the discussion, such as major findings, methodological features, theoretical perspectives, or contrasting viewpoints that merit closer consideration. Second, it conveys evaluative attitudes, enabling writers to comment on the strengths and limitations of the reviewed literature, identify underexplored issues, and emphasize the complexity or importance of the subject under review. Analysis of the linguistic devices used shows that both expert and student writers employ these resources to strengthen their evaluations in literature reviews. Rather than expressing overt personal feelings, they primarily use these markers to underscore the importance or relevance of specific aspects of the reviewed literature, thereby reinforcing the critical stance of their writing. Overall, the strategic deployment of Attitude Markers strengthens the evaluative dimension of literature review writing.

The third most frequent strategy was the Boosting Strategy. In contrast to the Hedging Strategy, which mitigates claims and introduces caution, the Boosting Strategy strengthens claims, expresses certainty, and conveys strong commitment to the propositions made (Hyland, 2005). This strategy plays a pivotal role in reinforcing the writer's evaluations and ensuring the persuasiveness of their arguments. Expert writers used boosters slightly more often than student writers (6.61 vs. 6.11 per 1,000 words), though the proportion of boosters was marginally higher in MLRC (12.47%) than in ELRC (12%). Both groups employed five types of linguistic devices: modal verbs, lexical verbs, adverbs, adjectives, and nouns, but with differing preferences. Experts, however, used more adverbs, adjectives, and nouns. Frequent shared boosters included lexical verbs ‘do’, ‘does’, ‘find’, ‘show’, modal ‘must’, and adjective ‘certain’. Table 7 illustrates the specific choice of words that exhibit the ten most frequently used boosters in the two corpora.

Table 7: Linguistic Devices Used by Expert and Student Writers in Boosting Strategy

Expert Writers			Student Writers		
Boosting	Freq.	Norm'd Freq.	Boosting	Freq.	Norm'd Freq.
Do	530	0.42	Certain	273	0.39
Certain	470	0.37	Must	239	0.34
Show	459	0.36	Know	223	0.32
Does	445	0.35	Does	213	0.31
Evidence	397	0.31	Show	213	0.31
Find	322	0.25	Real	196	0.28
Must	317	0.25	Do	193	0.28
Clear	308	0.24	Find	174	0.25
Indeed	301	0.24	Have To	143	0.21

Based on the table, it can be observed that the Boosting Strategy was employed to convey the writers' confidence in their statements and to reinforce their arguments. In certain cases, boosters also serve to emphasize shared knowledge between writers and readers, thereby making the writers' claims more persuasive and credible. Both expert and student writers use the Boosting Strategy in literature review writing to express criticality, particularly when evaluating and synthesizing existing studies, reinforcing positions, and supporting authors' suggestions.

This strategy also aids in highlighting the strengths and limitations of previous literature, as well as in identifying research gaps and the relevance of the current study, as shown in the following excerpts:

Identifying research gaps:

“When responding in writing to this or similar questions, language plays a crucial role and may create challenges for students and perhaps teachers in relation to the representation of knowledge and the disciplinary literacy required. Similar to the development of disciplinary literacy in other subjects, there is a **need** for a pedagogic approach that connects discipline specific language and knowledge and also incorporates the explicit teaching of language for curriculum learning directly relevant to the subject area (Humphrey, 2017).“

“However, the use of MT tools is becoming more and more widespread. Examples include the socio-political empowerment of minority language communities in Canada (Bowker, 2008), the use of spoken machine translation for non-English speakers in the British healthcare system (Somers & Lovel, 2006) and screening of the gist of news reports by US intelligence agencies (Koehn, 2010). Despite the **fact** that the quality of the translation is often regarded as poor in comparison to human translations, the use of MT is now reaching a much wider audience than before (Hutchins, 2006), and the development of more sophisticated MT options is receiving more substantial attention from policymakers (Bellos, 2012).“

“Briefly, these studies only focus on Philip’s marginalised identity, which is the portrayal of his identity at the beginning of the story and during the Japanese occupation. The changes in Philip’s cultural practices and identity after fifty years the Japanese occupation ends have not been thoroughly investigated by scholars. Hence, there is a **need** for this study to address this issue.”

Clarification:

“The difference is that in our study expert judgment is used not only for the selection of lexical items for pedagogical purposes but also for the refinement for the final listing. It **should** be noted that manual intervention is perhaps much more challenging when tackling collocations than it is when listing formulas because the latter are rather fixed expressions (e.g. in terms of, at the same time, from the point of) with little variation of individual components.”

“The search successfully found a total of 100 pages of hits for reference on corpus-related studies from which a sample of 42 studies were discovered to be on English and Malay Language from Malaysia. These were published studies which the researchers used for the main source of data for further analysis. It involved the process of reading the references under study, identifying the focus of the research, and summarizing the research content. It was found that English language corpus-based studies were more than those of Malay language despite the **fact** that the corpus study began much earlier with Malay than English language.”

Further examination of the linguistic devices under this strategy reveals that expert and student writers assign differing levels of emphasis to these elements when reviewing the literature. This is evident in the variation in usage and combination patterns identified in this study. As shown in the table, expert writers frequently employed the lexical verb ‘need’ and the noun ‘fact’ to reinforce the strength of their claims and arguments. The greater variety incorporating the noun fact suggests that experts tend to bolster their arguments by emphasizing credibility and objectivity, often through evidence-based reasoning. By framing propositions as facts, they lend authority and certainty to their statements. Similarly, the use of ‘need’ allows expert writers to stress the importance of specific research findings, establish links between existing studies and the research problem, and justify the significance of their investigation.

On the other hand, student writers employed the Boosting Strategy primarily to make strong recommendations or to assert the importance of particular factors, concepts, or perspectives that they believed should not be overlooked. They often relied on modal verbs such as ‘should’ and ‘must’ in expressions like “it **should** be taken into” and “**must** be able to”, which allowed them to synthesize information from multiple sources and present it

with confidence. In addition, they frequently used the lexical verb ‘need’ in phrases such as “there is a **need**” and “there is a **need to**” to highlight research gaps and emphasize the relevance of specific findings to their own work. These patterns suggest that, while student writers drew on boosting devices to reinforce their arguments, their repertoire was narrower and more formulaic than that of experts. Examples illustrating how both expert and student writers employed these linguistic elements to express certainty and strengthen their evaluations are provided below:

Stressing the importance of specific findings:

“A vast body of research findings in psychology, education, and human resources development indicates that learning does not inevitably transfer and that transfer can be difficult to stimulate (e.g., see reviews by Detterman, 1993, and Haskell, 2001). Furthermore, academic contexts in which transfer is expected to occur are complex. In these contexts, students often **need** to be able to participate in a variety of activities that deal with diverse issues from a range of disciplines, and this must be done in a regularly shifting landscape of people (e.g., teachers and classmates) and places (e.g., classrooms) over an extended period of time (e.g., 3 or 4 years in a secondary school, 4 years in undergraduate studies).”

“CDA as what is known today explained by Van Dijk (1998a) is not a specific direction of work and doesn't have a unitary theoretical framework. It was due to the **fact** that there are many types of CDA, and these may be theoretically and analytically quite diverse. However, Van Dijk (1998a) asserted, "given the common perspective and the general aims of CDA, we may also find overall conceptual and theoretical frameworks that are closely related" (cited in Sheyholislami, 2001, p.2).”

RECOMMENDATIONS

“It is important for them to offer conducive online platform to promote active participation. According to Pappas (2014) the tone of the discussion should be informative and non-threatening, Online platform created by these facilitators **must** be able to promote interaction, with user friendly interfaces for the students to feel comfortable to ask questions and collaborate with their peers. “

The examples above demonstrate that the Boosting Strategy plays a vital role in reviewing existing literature. Through the use of specific linguistic devices, writers can express criticality when summarizing and synthesizing evidence, justifying or supporting arguments, and comparing or contrasting existing studies. This approach reinforces the strength of a statement and highlights the writer’s confidence and commitment to the propositional content. Such functions are crucial in literature review writing, particularly when identifying research gaps, offering strong recommendations, or presenting well-substantiated arguments, all of which contribute to a more persuasive and critically engaged discussion.

Another strategy employed by both expert and student writers to express criticality was the Disclaim Markers Strategy. This strategy involves counter-expectancy markers (e.g., however, but, nevertheless), concessive expressions (e.g., it is true, of course, certainly... but), and denial (e.g., it is not that). In literature review writing, these markers highlight contrasts or inconsistencies, particularly when addressing unexpected findings, contradictory evidence, or opposing perspectives. They also serve to underscore the strengths and limitations of reviewed studies, identify research gaps, and justify the rationale for the present study.

As Bruce (2014) notes, concession contraexpectation often appears at the end of paragraphs to emphasize key points or conclude arguments, aligning with the counterclaim strategy identified by Kwan et al. (2012). Similarly, Lancaster (2016) emphasizes the role of Disclaim Markers in facilitating critical analysis by enabling writers to negotiate meaning with readers and acknowledge alternative views. Aull and Lancaster (2014) also stress that these markers help construct a measured and cautious stance, allowing writers to recognize limitations or counterarguments. Collectively, these practices demonstrate advanced critical thinking and engagement with the literature, while aligning with the expectations of academic writing. Table 8 illustrates the specific choices of words, showing the most frequently used disclaim markers in the two corpora.

Table 8: Linguistic Devices Used by Expert and Student Writers in Disclaim Markers Strategy

Expert Writers			Student Writers		
Disclaim Markers	Freq.	Norm'd Freq.	Disclaim Markers	Freq.	Norm'd Freq.
But	2182	1.73	But	877	1.26
However	1709	1.35	However	819	1.18
While	1444	1.14	While	645	0.93
Although	796	0.63	Although	249	0.36
Yet	425	0.34	Still	204	0.29
Still	392	0.31	Though	153	0.22
Though	324	0.26	Whereas	124	0.18
Whereas	192	0.15	Yet	90	0.13
In Contrast	177	0.14	Nevertheless	87	0.12

Notably, the top ten disclaim markers were largely similar across the two groups, though their normalized frequencies and proportions varied. Expert writers employed these markers more frequently, with 6.55 occurrences per 1,000 words (11.89% of all expressions of criticality), compared to 5.36 occurrences per 1,000 words (11.41%) in the student corpus. More importantly, experts used disclaim markers with greater flexibility and variation, drawing on contrastive and concessive expressions such as however, although, and despite. These devices enabled them to move beyond straightforward comparisons, allowing for more balanced evaluations that acknowledged alternative perspectives and conflicting findings. Through this strategic use, expert writers displayed a higher level of critical engagement, framing their arguments as more carefully considered and aligned with the broader body of literature. The following examples illustrate how both expert and student writers employed disclaim markers in applied linguistics literature reviews:

Comparing and contrasting:

“Exploring citations in the biology subcorpus of MICUSP, Swales (2014) found differences between subfields **but** no noteworthy disparity between undergraduate and graduate students. Both groups included the sources in the sentence grammar (i.e., integral citations) much more commonly than found in previous studies of both biology master's theses (Samraj, 2013) and RAs (Hyland, 1999).”

Highlight contrasting viewpoints:

“The ability to communicate in an author’s primary language may also be important in editing situations (Burrough-Boenisch, 2006; He & Gan, 2008; Miki, 2009). **However**, not all English teachers have attained sufficient proficiency in authors’ native languages to enable them to communicate with authors about manuscripts and highly technical subject matter. The notion that one should be able to edit scientific manuscripts simply because one is a native English speaker is itself problematic. Benfield and Feak (2006) have asserted that the ideal authors’ editor should be an experienced applied linguist and not necessarily a native English speaker.”

“As they become socialized into academic discourse (Duff, 2007), writers learn to create appropriate identities and incorporate linguistic conventions associated with their target disciplinary discourse communities. This process requires writers not only to be competent users of the target language (Belcher, 2007), i.e. write without grammatical or lexical errors (Uzuner, 2008), **but** also to construct a credible authorial presence in their RAs that is aligned with the identity of their disciplinary communities (Hyland, 2002).”

“**But** what is unique about politicians is purpose to which their speech is intended, which has specific effects on the form and content of speech. What is unique about Japanese politicians' speech is how this purpose interacts

with cultural norms and practices on the one hand, and with the specific linguistic resources of the Japanese language on the other, to generate a specific kind of addressivity.”

Expressions of contrastiveness in the learner corpus also reflect elements of criticality through the combination of linguistic devices such as the conjunction *but* and lexical verbs like *compare*, as seen in bundles such as “*but* at the same time” and “as **compared to** the.” However, in some instances, student writers tend to present comparisons in a more straightforward manner, resulting in outcomes that resemble summaries rather than critical evaluations.

Introducing contrasting elements

“The above-mentioned studies, like many studies of learner speech, used elicitation techniques in a controlled laboratory environment to obtain relatively short speech samples that could be examined in terms of a number of phonetic variables. The speech collected in this way generally by having the subject describe a series of pictures is spontaneous **but** at the same time somewhat artificial in that it is not an authentic communicative situation. Indeed, some of the laboratory studies deliberately created a situation where there was no interlocutor with whom the subjects could interact.”

“This simply brings to the understanding that prior knowledge and experience plays a role in the process of meaning-making. Eco says that: “is not true that work is created by author. Work creates work, text creates text, and all together talk to each other depending on intentions of their authors” (Omon et al. 2006 cited in Ceric V 2013).. This gets us to the understanding that not a single text is independent, **but** it is connected to other texts.”

Comparing and contrasting

“Schon (1983) emphasised that experienced people are more likely to practise Reflection-In-Action as **compared** to the novices. This is because the tacit knowledge or schemata and experiences they possess enable them to provide solutions to the problems encountered instantaneously or immediately.”

“**While** some researchers suggested that violence resulted from nurtured practice, some came up with theory that violence came from the patriarchal hold in society. In this case, Omar (2011: 8) mentioned that “masculinity and violence are more often conceptualized as symptomatic of gender socialization...as a result of being taught to be dominant and aggressive”.”

The examples above demonstrate that the Disclaim Markers Strategy plays a crucial role in conveying criticality when evaluating existing studies. Through the use of contrastive and concessive expressions, writers are able to highlight tensions in the literature, address unexpected findings, and acknowledge conflicting perspectives. Such expressions also help emphasize the strengths and limitations of prior research, while at the same time justifying the relevance and necessity of the current study. In this way, disclaim markers contribute directly to the development of balanced, critically engaged literature reviews.

The least frequent strategy identified was Self-Mentions. The ELRC recorded 8.56% of total occurrences, with a normalized frequency of 4.71 per 1,000 words, compared to only 1.53% and 0.72 per 1,000 words in the MLRC. Table 9 lists the most common self-mention items.

Table 9: Linguistic Devices Used by Expert and Student Writers in Self-Mentions Strategy

Expert Writers			Student Writers	
Self-Mentions	Freq.	Norm'd Freq.	Freq.	Norm'd Freq.
I	1,620	1.28	168	0.24
We	2,410	1.91	116	0.17
Our	1,133	0.90	113	0.16

Us	280	0.22	60	0.09
My	393	0.31	29	0.04
Me	94	0.07	16	0.02
Mine	2	0.00		
Researcher/s	26	0.02		
Ours	2	0.00		

Both expert and student writers employed pronouns such as ‘we’, ‘I’, ‘our’, and ‘us’. First-person pronouns were particularly frequent in the expert corpus, reflecting experts’ readiness to assume research roles and take responsibility for claims and actions (Hyland, 2002; Hyland & Jiang, 2018). Student writers, on the other hand, showed a preference for the first-person plural pronoun ‘we’, which creates an inclusive tone and fosters a sense of collaboration with readers. They also displayed a tendency to use the self-reference ‘the researcher’ to refer to themselves, with a normalized frequency of 0.17 per 1,000 words compared to only 0.02 in the expert corpus. The following examples illustrate how each group employed the Self-Mention Strategy to convey the purpose of their research.

Describing focus or purpose

“Before going on, I want to make it clear what I am and am not arguing: I am not arguing that a communicative illocutionary intention is unnecessary for the performance of a speech act, only that the speaker needn’t be the one with such an intention – sometimes another party is the one with this intention. I am also not arguing that groups cannot have such intentions (although there are reasons to worry about this given the reflexive character of communicative intentions).”

“Nonetheless, for this study, the researcher focused on two components which are communication apprehension and fear of negative evaluation. Communication apprehension refers to the nervousness when someone has to communicate with people while fear of negative evaluation denotes the anxiousness when other people evaluate or assess a person negatively. Thus, in this study, the **researcher** would like to determine the level of speaking anxiety in English as a Second Language (ESL) based on these two components.”

Another important function of the Self-Mention Strategy, evident in both expert and student writing, is to elaborate on arguments and opinions by introducing a personal perspective into the discussion of the reviewed topic. Expert writers often use the first-person pronoun I in expressions such as ‘I argue that the,’ while student writers more commonly rely on self-reference forms like ‘the researcher believes that.’ In both cases, these choices signal that the following statements represent the authors’ own interpretations or evaluations of the literature, thereby situating their claims within the broader academic conversation. This function is central to criticality, as it allows writers to demonstrate ownership of their arguments and to position their stance explicitly within ongoing debates. A further noteworthy use of the Self-Mention Strategy among experts is to acknowledge the limitations of knowledge, often through expressions such as ‘to the best of our knowledge’ or ‘to the best of our.’ By qualifying the certainty of their claims in this way, expert writers model a reflective and responsible stance, balancing confidence with acknowledgment of gaps or uncertainties. Student writers also employ self-referencing expressions for this purpose, though often in more formulaic ways, as illustrated in the following examples:

Presenting arguments/claims/opinions:

“In this paper, I argue that the rhetorical construction of objectivity is an important aspect to consider when dealing with interpersonality in academic writing. As many scholars have observed (Becher & Trowler, 2001; Hyland, 2000; Hyland & Tse, 2005; MacDonald, 1992) the decision to frame one’s arguments in a rather

objective and impersonal style is related to the epistemological beliefs of the disciplinary community which writers belong to.”

“Many other scholars in gender studies also discussed stereotype in language use. They have proven that women are most of the times represented metaphorically negative in different kinds of media such as advertisement and newspaper. (Bahiyah 2009; Imran and Ruzy Suzila 2009; Iraj 2013; Rezanova & Khlebnikova 2015). However, **the researcher** believes that stereotyping can lead towards negative construal of gender.”

Highlighting gaps or limitations:

“As we can see from the studies reviewed above, to the best of **our** knowledge, there has not been a published work relating to stance-taking in Malay research articles. Besides filling this gap in the literature, the need for undertaking the present study has, to a certain extent, been motivated by the following reasons (in addition to the pedagogically-motivated reason stated in the earlier part of this section).”

“Since most national schools in Malaysia are multicultural, **the researcher** believes that there should be a study that compares the VLSs used by ESL learners. The researcher must first identify the strategies used by each race, and then compare the strategies between the races. By doing so, not only the research will gain new knowledge, but also to the language teachers or trainers.”

The use of the Self-Mention Strategy has also been observed in other fields, such as dentistry, where Alyousef and Alotaibi (2019) found that self-mentions were employed in published research articles to state aims, outline procedures, and clarify purposes. The differing preferences between expert and student writers in this study may reflect varying levels of comfort with authorial identity. As Hyland (2020) notes, learners often hesitate to assert a personal identity in their writing, distancing themselves from their claims in an effort to appear objective and credible. In contrast, expert writers frequently use self-mentions to signal the current extent of their knowledge or understanding of a topic.

CONCLUSION

This study has examined how expert and student writers employ strategies and linguistic devices to express

criticality in literature review writing. The findings extend Hyland’s (2005) model by incorporating Disclaim Markers as a fifth strategy for expressing stance, thereby enriching the theoretical framework for understanding evaluative practices in academic texts.

Beyond theory, the study offers practical tools for teaching and learning. Educators can use the identified strategies and devices to help students develop the ability to synthesise arguments, highlight contrasts, and evaluate existing research. At the pedagogical level, the findings inform curriculum development by supporting the integration of targeted writing activities and promoting corpus-based pedagogy, which allows learners to engage with authentic examples of critical expression. More specifically, the results could support explicit training modules where students practice criticality through scaffolded writing tasks, genre-based analysis of expert texts, and targeted feedback. Teachers may also be encouraged to model expert strategies in their own classroom discourse and materials, enabling learners to expand their repertoire beyond hedging to more varied and effective forms of evaluative writing.

Future research could expand on these findings by exploring how the identified strategies are employed across different disciplines or levels of academic writing, or by examining the impact of explicit instruction in these strategies on students’ writing development. Another valuable direction would be to broaden the learner corpus by including postgraduate writers from different regions and disciplinary backgrounds. Such an expansion would enhance the generalizability of the findings, while also allowing for comparative insights into how contextual and disciplinary factors shape the expression of criticality. Together, these future directions would help clarify how far the identified strategies can be applied across different contexts and how they contribute to developing students’ critical academic writing skills.

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APPENDIX A

HEDGES			
A Certain	Expect	Note	Roughly Seem
About	Expectation	Noticeable	Seemingly
According To	Fairly	Observe	Seen As
Allegedly	Feel	Occasionally	Seldom)
Almost	Few	Offer	Several
Alternative	Frequent	Often	Should
Apparently	Frequently	Opinion	Should Not
Appear	Generally	Partially	Significant
Appendix 1	Given That	Partly	Significantly
Approximate	Greatly	Perceive	Slight
Approximately	Highly	Perhaps	Slightly
Approximation	Hope	Plausible	Small
Arguably	Hypothesize	Point	Some
Argue	Hypothetical	Posit	Sometimes
Argument	Hypothetically	Possibilities	Somewhat
Around	Idea	Possibility	Speculate
Assert	Implication	Possible	Strongly
Assertion	Imply	Possibly	Substantial
Assessment	Improbable	Potential	Substantially
Assume	In Accord With	Potentially	Suggest
Assumption	In General	Practically	Suggestion
Assumptions	Indicate	Prediction	Suppose
Attempt	Indication	Premise	Supposedly
Barely	Indicative	Presumably	Suspect
Belief	Interpret	Presume	Tend To
Believe	Interpretation	Primarily	Tendency
Can	Large	Primary	Tentatively
Chance	Largely	Probability	Theoretical
Claim	Likelihood	Probable	Theoretically
Closely	Little	Probably	Think

Common	Main	Proposal	Typical
Commonly	Mainly	Propose	Typically
Conceivable	Maintain	Prove	Uncommon
Conceivably	Major	Provided That	Unlikely
Conclude	Markedly	Quite	Usual
Conclusion	May	Rare	Usually
Consider	Maybe	Rarely	Vastly
Considerable	Might	Rather	View
Considerably	Modest	Reasonably	Virtually
Consistent	Modestly	Relative	Well-Known
Could	Mostly	Relatively	Widely
Doubt	Nearly	Remarkable	Will
Doubtless	Normally	Report	Would
Evaluate	Not Always	Reportedly	Would Not
Evaluation	Not Necessarily	Rough	
BOOSTERS			
Absolute	Definitely	Have To	Plainly
Absolutely	Demonstrate	Impossible	Precisely
Actually	Do	In Fact	Precision
Always	Does	Indeed	Predict
Apparent	Entirely	Indicate	Real
Assure	Essentially	Indisputably	Really
Assuredly	Establish	Inevitable	Reinforce
Basically	Evidence	Inevitably	Show
Can't	Evident	Intensively	Sure
Certain	Evidently	Know	Surely
Certainly	Exact	Must	Thorough
Certainty	Exactly	Necessarily	Thoroughly
Clear	Explicitly	Never	Total
Clearly	Extreme	No Doubt	Totally
Complete	Extremely	Obvious	True
Completely	Fact	Obviously	Truly

Confidence	Factually	Of Course	Undeniably
Confident	Find	Patently	Undoubtedly
Confirm	Fully	Perfect	Unquestionably
Couldn't	Fundamentally	Plain	Won't
Definite			
ATTITUDE MARKERS			
Agree	Disagree	Limitation	Remarkably
Agreed	Dramatic	Limited	Robust
Appropriate	Dramatically	Main	Significant
Appropriately	Essential	Major	Significantly
Best	Essentially	Meaningful	Specifically
Better	Expected	Missing	Striking
Broadly	Fortunately	Momentous	Strikingly
Challenges	Hardly	Necessary	Surprising
Complex	Hopefully	Neglect	Surprisingly
Comprehensive	Important	Noteworthy	Understandable
Concern	Importantly	Noticeably	Unexpected
Consistent	Impressive	Only	Unfortunate
Consistently	Inappropriate	Partially	Unfortunately
Constraint	Inappropriately	Potential	Unique
Correctly	Inevitably	Prefer	Unusual
Critical	Influential	Preferably	Useful
Critically	Interesting	Preferred	Usefully
Desirable	Interestingly	Problems	Validity
Developing	Issues	Question	Valuable
Difficult	Key	Remarkable	Widely
DISCLAIM MARKERS			
Alternatively	By Contrast	Nevertheless	Though
Although	Conversely	Nonetheless	Whereas
At The Same Time	However	On The Other Hand	While



But	In Contrast	Still	Yet
Alternatively		Nevertheless	
SELF-MENTIONS			
I	the author's	the writer's	the researcher
we	the writer	the author	the researcher's
our			