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TEACHING ENGLISH FOR ACADEMIC PURPOSES: EXPLORING RHETORICAL STRATEGIES OF INTERACTIVE METADISCOURSE IN THE INTRODUCTION OF SCOPUS-INDEXED RESEARCH ARTICLES

Pengajaran Bahasa Inggris untuk Tujuan Akademik (EAP): Eksplorasi Strategi Retoris Metadiskursus Interaktif dalam Bagian Pendahuluan Artikel Penelitian Terindeks Scopus

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Abstract
This study aims to investigate rhetorical strategies for employing interactive meta-discourse aspects in the introductions of highly cited Scopus-indexed research publications from two separate academic fields: applied linguistics and electrical engineering. The study analyzed thirty Scopus-indexed journal articles from each of the two fields. To achieve the research purpose, the researchers employ a descriptive quantitative design with comparative corpus analysis. This research used Hyland's (2005) taxonomy, which consists of five subtypes of interactive metadiscourse: transition markers, frame markers, endophoric markers, evidentials, and code glosses, as the theoretical analysis. The findings indicate that both disciplines employ these features to establish coherence and cohesion; notable disparities arise in their distribution and rhetorical roles. Applied linguistics articles demonstrate a greater utilization of evidential and coding glosses, indicative of their narrative and intertextual focus. In contrast, articles on electrical engineering prominently utilize transition and endophoric markers, which signify a procedural and experimental methodology. This study illustrates the importance of genre awareness and epistemic tradition in academic writing instruction across several fields.
Keywords: *interactive; introduction section; journal article; metadiscourse; Scopus-indexed*

Abstrak
Penelitian ini bertujuan untuk meneliti strategi retoris dalam menggunakan meta-wacana interaktif pada bagian pendahuluan artikel jurnal yang terindeks Scopus yang bersitasi tinggi di bidang linguistik terapan dan teknik elektro. Studi ini menganalisis tiga puluh artikel jurnal terindeks Scopus dari setiap bidang. Untuk mencapai tujuan penelitian, peneliti menggunakan desain kuantitatif deskriptif dengan menganalisis korpus secara komparatif. Penelitian ini menggunakan taksonomi Hyland (2005), yang terdiri dari lima subtipe metawacana interaktif: pemarkah transisi, pemarkah bingkai, pemarkah endoforik, pembuktian, dan gloss kode, sebagai pisau analisis. Temuan menunjukkan bahwa kedua disiplin ilmu tersebut menggunakan fitur ini untuk membangun koherensi dan kohesi secara bervariasi. Temuan perbedaan yang paling penting muncul dalam distribusi dan peran retoris mereka. Artikel linguistik terapan menunjukkan pemanfaatan yang lebih besar dari pemarkah pembuktian dan gloses kode, yang menunjukkan keduanya fokus terhadap naratif dan intertekstual mereka. Sementara itu, artikel teknik elektro secara mencolok menggunakan penanda transisi dan endoforik, yang menandakan metodologi prosedural dan eksperimental. Studi ini menggambarkan pentingnya kesadaran genre dan tradisi epistemik dalam pengajaran penulisan akademik di beberapa bidang.
Kata-kata kunci: interaktif; bagian pendahuluan; artikel jurnal; metawacana; terindeks Scopus

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INTRODUCTION

Academic writing takes an essential role in the dissemination of knowledge and the validation of scholarly contributions across several disciplines (Obeagu et al., 2023). It has specific characteristics to help scholars disseminate their works. The works that are mostly used for disseminating the research are articles (RAs). They occupy what Swales characterizes as the "center of a spider's web" of academic genres, fulfilling both communication and evaluative roles within research communities (Yavari & Kashani, 2013). Generally, for learners in English for Academic Purposes (EAP), proficiency in the interactive and interactional metadiscourse of research article writing is crucial, particularly as the global demand for publication in high-impact, Scopus-indexed journals escalates. The collaborative use of metadiscourse elements facilitates interaction between writers and readers (Gil & Bondi, 2021). Currently, scholars across the nation are demanding publication in high-impact journals. Writing in such contexts necessitates we need not only linguistic competence but also a deep familiarity with rhetorical methods that facilitate knowledge construction, argument management, and reader engagement (Booth Olson et al., 2023; Chen & Zhang, 2017; Khany et al., 2019; Raitskaya & Tikhonova, 2022).

To bridge into the goals, article writers need to understand metadiscourse. It takes a critical role for EAP learners or those who want to disseminate the works. Metadiscourse, drawing upon the founding contributions of scholars like Vande Kopple (1985), Crismore (1990), and Hyland (2005), is now broadly recognized as a collection of linguistic tools employed by writers to structure discourse and manage interpersonal dynamics with readers. Hyland (2005) characterizes metadiscourse as self-reflective expressions that enable writers to convey perspectives and direct readers' views. The use of interactive metadiscourse means building cohesion and coherence within the text. In other words, it organizes discourse, thereby facilitating the analysis of academic writings (Akoto & Afful, 2020). The organization of discourse is determined by factors that directly affect sentence production, such as epistemic aspects and sociocultural norms of the field (Prasetyanti et al., 2022). Epistemological difficulties pertain to the traits or conventions of a field, while sociocultural aspects relate to the social values or beliefs prevalent within a social group (Sorahi & Shabani, 2016).

A significant amount of research across several languages and fields underscores the importance of these traits in proficient academic writing. Comparative analyses of English and Chinese research articles demonstrate that sociocultural norms significantly affect writers' use of metadiscourse in their introductions (Kim & Lim, 2013). Introductions in applied linguistics, education, and engineering employ evaluative and interactive components differently, depending on disciplinary conventions and rhetorical aims. Moreover, various studies consistently demonstrate that the introductions of research articles are significantly rich in interactive metadiscourse due to their argumentative nature, the need to validate the study, contextualize its significance, and persuade readers of its relevance (Akoto & Afful, 2020).

These findings indicate a wider acknowledgment in EAP scholarship that rhetorical competence depends on comprehending the role of metadiscourse within academic and structural norms.

In their research, Al-Mudhaffari et al. (2024) discovered that L1 authors utilize hedges, boosters, attitude markers, and engagement markers with greater frequency and intent than L2 writers, who generally emphasize propositional content over interpersonal rhetorical functions. These disparities indicate not only linguistic limitations but also a restricted understanding of rhetorical norms in global academic discourse. In addition, studies on Malaysian applied linguistics scholars reveal that non-native authors extensively utilize hedges and eschew self-reference, leading to research claims that are less assertive and strategically positioned than those of native English authors (Azar et al., 2022). The trends indicate that whereas EAP education typically prioritizes grammar and structure, it may inadequately consider the rhetorical and interpersonal aspects essential for effective RA writing.

As Scopus-indexed journals set global standards for academic writing, it is increasingly essential to understand how skilled authors in these publications employ metadiscourse to meet demands for clarity, persuasion, and disciplinary coherence (Ahmed & Hussein, 2023). Although studies like Kawase's (2015) comparison of PhD thesis and RA introductions demonstrate genre-specific variations in metadiscourse usage, there is a paucity of research directly examining the co-occurrence of interactive and rhetorical methods in high-impact journal introductions.

A further gap pertains to the interplay between metadiscourse and rhetorical maneuvers in research article openers. Despite extensive research on metadiscourse, there is a paucity of studies that specifically investigate the role of interactive resources inside Swales' (2004) move structure. Kashiha & Marandi (2019) assert that interactive metadiscourse differs based on rhetorical maneuvers and disciplinary conventions, suggesting that authors intentionally utilize transitions, frame markers, and evidentials to navigate readers through the rationale of the introduction. However, EAP pedagogy frequently addresses introduction steps and metadiscourse in isolation rather than as interdependent systems.

This study seeks to analyze the rhetorical strategies of interactive metadiscourse elements utilized in the introductions of Scopus-indexed research articles. This study aims to elucidate the use of interactive metadiscourse in Scopus-indexed journal articles to analyze how authors employ this strategy to direct readers. This analysis is anticipated to provide pedagogically significant insights for EAP instructors aiming to assist students in fulfilling the rhetorical requirements of publishing in international journals. The findings seek to improve EAP education by offering a thorough understanding of rhetorical gestures and metadiscourse, thereby equipping learners with the ability to create coherent, persuasive, and internationally publishable research paper introductions.

METHODS

This study employed a descriptive quantitative design with comparative corpus analysis to evaluate thirty research articles' introduction sections in applied linguistics and thirty articles in the electrical engineering field. We collected sixty articles published in international journals indexed by Scopus, each boasting a high impact factor. The introductory section of each article served as the analytical unit for the entire study.

We endeavored to manually ascertain the overall count of interactive metadiscourse capabilities utilizing the AntConc 4.0 application. After obtaining the anticipated number of characteristics with the software, we proceeded to assess the significance of differences using statistical techniques, namely the independent t-test. Subsequently, we manually compute the feature results using Microsoft Excel to generate a graph that illustrates the interactive metadiscourse within the text. The subsequent stage involved ascertaining the aggregate count

of detected attributes. Hyland's (2005) taxonomy provided the analytical framework for classifying elements of interactive metadiscourse. The data was evaluated to determine the quantity of each feature, which was necessary to obtain the final result.

DISCUSSION

This study concentrated on investigating the rhetorical strategies implemented through the use of interactive metadiscourse as a strategy for directing readers in the introductions of Scopus-indexed research articles in the domains of applied linguistics and electrical engineering. Based on the research objectives, we organize the two results. The results indicate systemic disciplinary variations in emphasizing the significance of the study and writers' methods of guiding readers. The research sources include tokens that are derived from the use of interactive metadiscourse in the articles. The Applied Linguistics corpus has 3,503 tokens of interactive metadiscourse, whereas the Electrical Engineering corpus comprises 1,591 tokens, indicating that writers in linguistics employ explicit rhetorical signalling more frequently than those in engineering. The following is a detailed discussion of each finding.

Based on the data finding, our analysis of the interactive metadiscourse elements revealed their prevalence throughout the introduction part. The category of interactive metadiscourse outlined in Hyland's (2005) taxonomy includes transition markers, frame markers, endophoric markers, evidentials, and code glosses. We calculated the features by using an independent t-test (SPSS 20) to determine the level of significance of the differences. Table 1 is the result of the significance of differences between both disciplines.

Table 1. The result of an independent t-test on applied linguistics and electrical engineering

		Levene's Test for Equality of Variances		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Occurrence	Equal variances assumed	2.623	.108	.917	116	.361	33.54237	36.57483	-38.89869	105.98344
	Equal variances not assumed			.917	89.582	.362	33.54237	36.57483	-39.12454	106.20928

From a significance standpoint, the emergence of interactive features in both corpora yields insignificant results. The Independent Sample Test analysis in the "Equal variances assumed" section yielded a Sig. (2-tailed) value of 0.361, exceeding 0.05. Consequently, based on the decision-making employed in the independent sample test, it may be determined that the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected. Consequently, it can be inferred that there is no substantial disparity in the manifestation of interactive metadiscourse traits between the corpora of applied linguistics and electrical engineering articles. Table 1 also indicates that the "Mean Difference" value of 33.54237 represents the disparity in the average manifestation of interacting elements between the linguistics and electrical engineering corpora. It indicates that the obtained t-value is 0.917 as well. Additionally, this value is juxtaposed with the t-table, which indicates a value of 1.150, resulting in a t-value of 0.917.

Upon calculating the discrepancies between the two fields, we subsequently represented the data in the following graph to illustrate the proportion and distribution of each interactive metadiscourse feature. Figure 01 illustrates the prevalence levels of each feature, thus validating their utilization in the study publications.

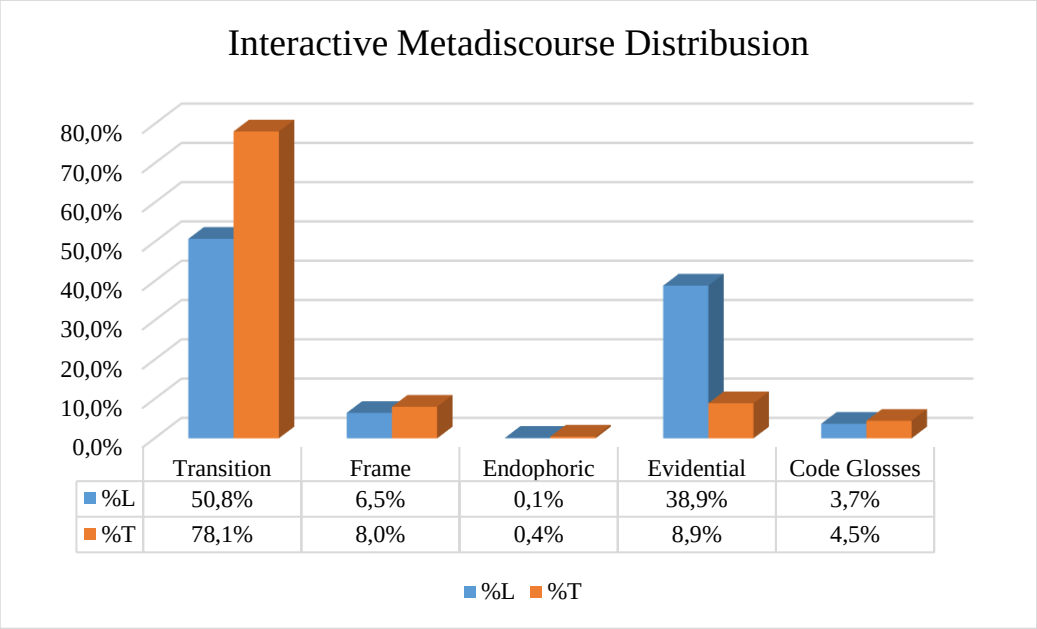

Figure 1. The Interactive Metadiscourse Distribution of Applied Linguistics and Electrical Engineering

Figure 01 indicates that the transition marker and evidential marker are the most predominant in the introduction section. It also illustrates the comprehensive dispersion of interactive metadiscourse in the introductions of applied linguistics and electrical engineering. The spread of interactive metadiscourse demonstrates diverse applications of the characteristic in each domain. The transition marker plays a vital role in the interaction between the two fields. Consequently, the evidential marker has a subordinate yet influential role. To conduct a comprehensive analysis, we shall present and examine the subsequent subtopic.

This study reveals distinct disciplinary differences in the utilization of interactive metadiscourse resources within the introductory parts of research articles in applied linguistics and electrical engineering. These results align with previous corpus-based studies that have highlighted the significant impact of disciplinary epistemologies on rhetorical decisions in academic writing (Biber & Gray, 2010; Hyland, 2005). In both corpora, transition markers were the predominant category; however, their distribution, functions, and favored subtypes varied in systematic and theoretically significant manners.

In explaining Figure 1, it is essential to illustrate the specific application of interactive metadiscourse in the two sectors. Table 2 elucidates the various qualities employed by the author to facilitate the reader's comprehension of the connections between phrases or ideas inside the paragraph or text.

Table 2. Data of Interactive Metadiscourse Frequency of Applied Linguistics and Electrical Engineering

Subtype	Function		Source	ApLing	%	El.Eng.	%
Transition Marker	Addition	1	and	1.424	40.7%	1.030	64.7%
		2	In addition,	19	0.5%	9	0.6%
		3	furthermore	14	0.4%	10	0.6%

		4	moreover	10	0.3%	12	0.8%
		5	by the way	0	0.0%	0	0.0%
				1.467	**42%**	**1.061**	**67%**
	Comparison	6	but	107	3.1%	45	2.8%
		7	however	79	2.3%	59	3.7%
		8	in contrast	20	0.6%	5	0.3%
		9	similarly	7	0.2%	2	0.1%
		10	on the other hand	6	0.2%	2	0.1%
		11	likewise	3	0.1%	1	0.1%
		12	in the same way	2	0.1%	0	0.0%
		13	equally	2	0.1%	0	0.0%
		14	correspondingly	0	0.0%	1	0.1%
		15	on the contrary	0	0.0%	0	0.0%
				226	**6.5%**	**115**	**7.2%**
	Consequence	16	thus	42	1.2%	31	1.9%
		17	therefore	28	0.8%	26	1.6%
		18	consequently	6	0.2%	6	0.4%
		19	nevertheless	6	0.2%	3	0.2%
		20	of course	2	0.1%	1	0.1%
		21	anyway	1	0.0%	0	0.0%
		22	admittedly	1	0.0%	0	0.0%
		23	in any case	0	0.0%	0	0.0%
		24	in conclusion	0	0.0%	0	0.0%
				86	**2%**	**67**	**4.2%**
				1.779	**51%**	**1.243**	**78%**
Frame Marker	Sequencers	25	first	107	3.1%	40	2.5%
		26	then	77	2.2%	40	2.5%
		27	now	17	0.5%	20	1.3%
		28	finally	15	0.4%	11	0.7%
		29	next	9	0.3%	13	0.8%
		30	at the same time	0	0.0%	4	0.3%
		31	a/b	0	0.0%	0	0.0%
		32	½	0	0.0%	0	0.0%
				225	**6.4%**	**128**	**8.0%**
	Topicalizer	33	well	0	0.0%	0	0.0%
		34	right	0	0.0%	0	0.0%
		35	let us return to	0	0.0%	0	0.0%
		36	I argue here	0	0.0%	0	0.0%
				0	0.0%	0	0.0%
	Announcers	37	there are several reasons why	0	0.0%	0	0.0%
		38	ok	0	0.0%	0	0.0%
		39	I argue here	0	0.0%	0	0.0%
		40	I hope to persuade	0	0.0%	0	0.0%
		41	the paper purposes	0	0.0%	0	0.0%
		42	my purpose is	0	0.0%	0	0.0%
				0	**0.0%**	**0**	**0.0%**
	Discourse-labels	43	in sum	1	0.0%	0	0.0%
		44	to summarize	1	0.0%	0	0.0%
		45	by the way of introduction	0	0.0%	0	0.0%
				2	**0.1%**	**0**	**0.0%**
				227	**6.5%**	**128**	**8.0%**
Endophoric Marker	Linear references	46	as noted above	3	0.1%	0	0.0%
	Nonlinear references	47	see fig.	2	0.1%	0	0.0%
		48	in section 2	0	0.0%	6	0.4%

		49	refer to the next section	0	0.0%	1	0.1%
				5	**0.14%**	**7**	**0.44%**
Evidential	Non-integral citation	50	…' (X, 2013)	1220	34.8%	117	7.4%
		51	e.g.	117	3.3%	17	1.1%
	Integral citation	52	according to	25	0.7%	8	0.5%
		53	z states	0	0.0%	0	0.0%
				1362	**38.9%**	**142**	**8.9%**
Code Gloses	Exemplifier	54	such as	96	2.7%	38	2.4%
		55	for example	25	0.7%	30	1.9%
	Reformulator	56	namely	5	0.1%	3	0.2%
		57	… previous research	4	0.1%	0	0.0%
		58	this is called	0	0.0%	0	0.0%
		59	in other word	0	0.0%	0	0.0%
				130	**3.7%**	**71**	**4.5%**
				3.503	**100%**	**1.591**	**100%**

The above table provides comprehensive information about the emergence of each attribute in applied linguistics and electrical engineering. To elucidate the preceding table regarding the emergence of interactive language features, we will address the following discussion:

Transition Markers: Central Resources in Both Disciplines

Transition markers serve as conjunctions or adverbial phrases that assist readers in understanding the pragmatic connections between the steps in an argument (Hyland, 2005). They constitute the predominant metadiscourse category, including 51% of all interaction features in applied linguistics and 78% in electrical engineering. This highlights their significance in creating coherence and logical connections in academic writing.

The most notable finding is the frequent presence of addition markers, particularly the coordinator "and," which appears 1,424 times (40.7%) in Linguistics and 1,030 times (64.7%) in Engineering. This pattern demonstrates that engineering authors predominantly utilize cumulative, additive organization, frequently enumerating components, delineating system processes, or providing sequential explanations. Conversely, linguistics authors employ "and" to integrate research findings, construct arguments, and link essential concepts in literature-based discourse (Kashiha & Marandi, 2019). Comparison markers (e.g., but, nonetheless) and consequence markers (e.g., thus, therefore) are present in both corpora, with a markedly greater frequency of consequence markers in Electrical Engineering. This indicates that engineering introductions primarily build causal or inferential connections, often associating issue statements with technical reasons or design rationales.

A significant finding pertains to the prevalence of additive transition markers, especially the coordinator "and," which constitutes 40.7% of all transition markers in applied linguistics and an even greater percentage (64.7%) in electrical engineering. This pattern aligns with prior research indicating that scientific and engineering writing often utilizes additive organization to enumerate components, outline system phases, or elucidate procedural logic (Hyland, 2005). The pronounced additive structure in engineering introductions exemplifies a genre that favors cumulative, sequential development, thereby underscoring the discipline's dedication to clarity, precision, and procedural transparency. Conversely, applied linguistics utilizes a more adaptable cohesive device that synthesizes data points, links conceptual units, and propels multi-faceted argumentative sequences. This illustrates the epistemic standard of the

profession, which involves the construction of knowledge by interpretive synthesis and dialogic interaction with existing scholarship (Biber & Gray, 2010).

The scrutiny of comparison and consequence markers further emphasizes disciplinary differentiation. Consequence markers, while present in both corpora, are significantly more prevalent in engineering, suggesting that writers often define problem-solution or cause-effect relationships to substantiate design choices or methodological judgments. This exemplifies a standard rhetorical framework in experimental sciences, where claims must be logically supported by technical rationales. In contrast, applied linguistics utilizes fewer consequence markers, demonstrating a speech style that typically establishes coherence through interpretive commentary, theoretical framing, and synthesis of research claims instead of causal linearity. This finding supports the previous research conducted by Wongsa (2024a).

Frame Markers: Guiding Readers Through Structure

Frame markers serve to sequence, label, predict, and transition arguments, so enhancing clarity for readers (Hyland, 2005). They represent 6.5% of interactive elements in linguistics and 8% in engineering. Sequencers such as "first," "then," and "finally" are common in this category, with 225 instances in linguistics and 128 in engineering. Their presence highlights how authors guide readers through the evolving narrative and clarify the structural reasoning of their introductions. The comparatively elevated proportional utilization in engineering may suggest the procedural attributes of technical writing, whereby clarity in technique, design rationale, and system development is essential (Wongsa et al., 2024b). Both corpora lack topicalizers and announcers, reflecting academic standards that discourage too subjective or conversational framing, especially in the introductions of formal research publications. Their slightly elevated proportional use in engineering highlights the procedural and systematic emphasis of hard-science writing, which often requires clear textual guidance for readers navigating methodological stages or system frameworks. The limited presence of topicalizers or announcers in both corpora aligns with conventional expectations for research article introductions, which typically avoid too subjective or conversational framing (Crismore et al., 1993).

Endophoric Markers: Supporting Internal Navigation

The use of endophoric is an expression to refer to other parts of the text (Hyland, 2005). Although they are few in number, endophoric signals are comparatively more common in engineering (0.44%) than in linguistics (0.14%). Engineering authors frequently reference sections, figures, or diagrams (link to Section 2; refer to Fig.), exemplifying the multimodal and systematically structured nature of technical writing. This suggests that electrical engineering, as a hard science, writing relies more on visual and structural frameworks, whereas in applied linguistics, as a soft science, writing is more dependent on narrative and conceptual coherence. Their use primarily signals references to figures, tables, equations, and subsections, highlighting the inherently multimodal nature of engineering discourse. These findings corroborate earlier claims that hard-science writing often distributes meaning across textual and non-textual channels (diagrams, schematics, and data visualizations), requiring authors to provide navigational aids within the document (Hyland, 2005; Wongsa et al., 2024b). In contrast, the lower frequency of endophoric markers in Applied Linguistics reflects a discourse style less reliant on visual scaffolding and more dependent on narrative coherence and conceptual exposition.

Evidentials: Strong Disciplinary Divergence

Evidentials serve to guide the readers' interpretation and establish an authorial command of the subject (Hyland, 2005). They demonstrate the most pronounced distinction between the

two domains. Applied Linguistics exhibits a significantly greater frequency of non-integral citations (34.8% of all interaction markers) in contrast to merely 7.4% in Engineering. This distinction highlights the crucial role of literature reviews and theoretical frameworks in the soft sciences, where critical thinking is developed through interaction with established knowledge. Integral citations are comparably low in all fields, however marginally higher in linguistics, thereby corroborating the idea that soft-science writing frequently emphasizes scholarly voices to construct interpretive assertions. This distribution reflects established depictions of soft-science disciplines, wherein argumentation is formulated through interaction with preceding studies and a pronounced focus on theoretical contextualization (Hyland, 2005; Pearson & Abdollahzadeh, 2023; Wongsa et al., 2024b). The marginally increased employment of integrated citations in applied linguistics further underscores its intertextual focus. Engineering demonstrates minimal dependence on evidence, aligning with conventions in the hard sciences, where methodological rigor, experimental verification, and logical problem-solving frequently overshadow dialogic academic discourse.

Code Glosses: Clarifying Technical and Conceptual Content

The last, code glosses function as features that supply additional information by rephrasing, explaining, and elaborating what has been written (Hyland, 2005). Both corpora have code glosses, with Engineering exhibiting a marginally greater proportional distribution (4.5%) than Linguistics (3.7%). Expressions like "such as" and "for example" illustrate sophisticated notions; yet, in engineering, they predominantly pertain to technical requirements and system components, whereas in linguistics, they exemplify theoretical frameworks or methodological principles. In engineering literature, code glosses generally elucidate technical elements, system functionality, or operational limitations. In applied linguistics, they primarily illustrate theoretical notions or methodological techniques (Wongsa et al., 2024a). This divergence once more illustrates differing epistemic priorities: the former emphasizes technical specificity, whereas the latter prioritizes conceptual clarity.

In conclusion, the discovery of all interacting metadiscourse reinforces that the components employed by the two fields were utilized in dynamic manners. The two fields exhibit distinct proportions of interactive metadiscourse usage in their introductory sections. The applied linguistic corpus predominantly employs transition markers and evidential markers. The author of the applied linguistics text use conjunctions and adverbs to facilitate readers' comprehension of the material. Furthermore, the applied linguistics author endeavors to present characteristics that signify evidence. In contrast, electrical engineering tends to employ transition markers more frequently in introductions, while utilizing interactive elements to demonstrate evidence less than applied linguistics. In contrast, other markers such as frame, endophoric, and code glosses are likely less significant than transition and evidential markers.

Pedagogical Implications for Teaching English for Academic Purposes (EAP)

The results of this study have direct implications for EAP instruction, particularly in teaching genre-based academic writing. EAP learners gain advantages from direct instruction on how interactive metadiscourse influences the communicative structure of research papers. Assisting students in identifying the roles of transitions, frame markers, and evidentials in introductions can enhance clarity and disciplinary suitability in their writing.

Due to the influence of disciplinary norms on metadiscourse usage, students in the humanities and social sciences should be instructed in citation methods, rhetorical synthesis, and critical engagement, reflecting the elevated evidentiary density observed in the Linguistics corpus. Vice versa, students of engineering and science had to be instructed in the utilization of additive transitions, sequencers, and endophoric indicators to establish linear procedural

coherence. This tailored method guarantees that EAP pedagogy corresponds with authentic disciplinary writing processes instead of generic templates.

This study's corpus-based evidence offers significant instructional resources for EAP classrooms. Presenting students with authentic examples (such as the prevalence of specific methodologies in engineering or extensive citation practices in linguistics) facilitates their internalization of the rhetorical conventions of their discipline. Corpus-informed writing training enhances awareness of genre conventions and fosters more confidence in discipline-specific writing.

CONCLUSION

To conclude this article, the introduction section in both applied linguistics and electrical engineering employs interactive metadiscourse in dynamic ways. Discipline principles and communicative conventions of the field profoundly influence interactive metadiscourse practices, as previously discussed. Electrical engineering embodies the epistemology of the hard sciences (objective, linear, empirical, and procedural), leading to increased utilization of additive transitions, sequencers, and endophoric indicators. In contrast, applied linguistics, as a branch of the soft sciences, emphasizes argumentative interpretation and academic discourse, as demonstrated by its significant dependence on evidence and rhetorically cohesive transitions. These findings corroborate prior studies while offering detailed evidence of the linguistic encoding of disciplinary cognition in research paper openers.

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