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Research Paper

Exploring retrospective/prospective patterns in MICUSP: A comparative study of English as a first language and English as an additional language

Mohammad Jalali

Department of English Language and Literature, Faculty of Letters and Humanities, Shahid Chamran University of Ahvaz, Iran

jalalimohammad1990@gmail.com

Alireza Jalilifar* 

Department of English Language and Literature, Faculty of Letters and Humanities, Shahid Chamran University of Ahvaz, Iran

a.jalilifar@scu.ac.ir

Fatemeh Ahmadasab

Department of English Language and Literature, Faculty of Letters and Humanities, Shahid Chamran University of Ahvaz, Iran

f.ahmadasab@scu.ac.ir

Arus-Hita Jorge

Universidad Complutense de Madrid, Spain

jarus@ucm.es

Abstract

Metadiscourse plays a prominent role in academic discourse, functioning as a key rhetorical feature that impacts a writer's ability to effectively persuade readers of the trustworthiness and appropriateness of their arguments. Retrospective and prospective categories, together with other metadiscourse resources, serve to organise ideas, construct discourse, and promote textuality. Despite the limited research on the use of retrospective and prospective metadiscourse in academic papers, this study sought to enhance our empirical knowledge of their employment by investigating the functions of these categories in the academic writing of English as a First Language (EFL) and English as an Additional Language (EAL) students. Utilising a corpus of diverse genres, the study employed a corpus-driven qualitative content analysis methodology, as well as quantitative measures to reveal how EFL and EAL students employ prospective and retrospective devices in academic writing. The results indicated that both EFL and EAL students used a diverse array of linguistic features to express their ideas in academic prose, with the prospective categories being the most commonly used. The implications of these findings could be relevant for writing instructors and curriculum developers seeking to design effective pedagogical interventions.

Keywords: Academic Writing; Metadiscourse; Prospective Categories; Retrospective Categories; MICUSP; Genre.

1. Introduction

Over the last two decades, the internationalisation process of educational institutions triggered the expansion of English-medium agendas (Dafouz, 2020), leading to a surge in the number of universities in non-Anglophone countries offering post-secondary education in English (Swales and Feak, 2012). To be admitted to these universities effective academic writing in English and academic achievement thus become a vital requisite (Hyland, 2013), establishing a close

*Corresponding author



and interwoven link between academic writing and educational progress. As a corollary of this evolution, the assignments given to students in tertiary education are increasingly required to be written in English, and this calls for effective instruction of academic writing and capitalising on rhetorical construction for negotiating social relations. This explains the significance of metadiscourse markers such as prospective and retrospective categories.

While many studies have significantly advanced our understanding of various linguistic facets of academic writing, particularly its textuality (e.g., Casal and Yoon, 2023; Zhang and Cheung, 2023), certain other features also promote textuality in academic writing by connecting different text parts. These devices are called retrospective and prospective metadiscourse categories.

Despite the prevalence of research on textuality and metadiscourse, it still warrants further investigation, particularly in exploring how retrospective and prospective devices can improve the coherence and effectiveness of academic writing. Thus, this study aims to scrutinise the role of these categories in advanced students' texts across various genres using the Michigan Corpus of Upper-Level Student Papers (MICUSP). In light of the pronounced importance of prospective and retrospective categories in facilitating textuality, the present research seeks to examine the functions of these categories in the academic writing of English as First Language (EFL) and proficient English as Additional Language (EAL) students, encompassing a considerable corpus derived from varied genres in MICUSP, namely, essays, reports, proposals, and critiques. The following research question will guide this inquiry:

How do EFL and EAL advanced-level writers establish meaning-making processes through retrospective/prospective metadiscourse use across various written academic genres? What are the dominant retrospective/prospective categories?

2. Literature review

The early scholarly works on metadiscourse began with Tadros (1981) who developed a model of metadiscourse analysis under the banner of 'predictive categories. Tadros (1981) first applied the framework to investigate the metadiscourse patterns in an economic textbook. Then, he tested the generalisability of the framework to realise whether or not it enjoys proper theoretical-analytical toolkit to examine other corpora such as law textbooks (Tadros, 1989). Though few studies have employed Tadros' predictive framework in their analyses (e.g., Thomas, 1995), the research on predictive categories ceased in the 1990s, and other frameworks have been established to guide writers and speakers in navigating their audience through a text for better comprehension (e.g., Ädel, 2006; Crismore et al., 1993; Hyland, 2005; Vande Kopple, 1985). Drawing on the established metadiscourse frameworks such as those put forth by Hyland (2005), we posit that retrospective categories are comprised of any materials that direct readers to antecedent information within or beyond the given text. This is while prospective categories include any materials that guide readers towards the forthcoming information within or beyond a text.

Given these points, various academic genres, including textbooks, research articles, essays, theses/dissertations, reports, and diverse academic disciplines, have been the subject of investigation concerning the functions of retrospective and prospective categories. In the existing literature, these categories have been investigated under endophoric markers, reminders, attributors, evidentials, and sequencers, to name a few. These markers lead researchers to use different taxonomies to extract them from their respective data sets. In what follows, we review some studies that examine the use of these categories in academic genres.

In a scholarly inquiry, Alyousef (2015) noted a dearth of research exploring the use of metadiscourse markers (MMs) in management reports that incorporate tables and graphs. To address this gap, Alyousef (2015) examined the frequency of MMs in three multimodal management reports prepared by ten Master's-level students. His findings revealed that interactive and interactional markers appeared frequently in orthographic texts, while implicit interactive features were lacking. Conversely, implicit interactional characteristics were observed frequently in the tables and graphs. Upon closer inspection, Alyousef (2015) discovered that endophorics and evidentials appeared less frequently in the corpus than other MMs.

In a study, El-Dakhs (2020) examined the relationship between different language proficiency levels and three learning contexts (i.e., native, second and foreign). Generally, her participants exploited a minimum number of endophorics and evidentials compared to code glosses and frame markers. This may reflect the effect of the essay prompt, as learners were not required to support their arguments with evidence. Further, it guided the participants to express their own opinions rather than regurgitate what others have said.

In the literature, some studies have proposed that different genders tend to employ language features differently to express themselves (e.g., Pasaribu, 2017; Seyyedrezaie & Vahedi, 2017). In a recent study, Alqahtani and Abdelhalim (2020) investigated the gender differences in the exploitation of interactive MMs in a corpus of English as a foreign language academic essays. Their findings indicated that males employed more endophoric markers than females, both genders had an equal number of evidential markers, and finally, females exploited more frame markers than males. Despite the paramount significance of both retrospective and prospective elements in attaining textuality, several limitations can be discerned in prior studies pertaining to these devices. Primarily, previous investigations display a restricted scope in



extrapolating retrospective and prospective categories based on their relevant data. In other words, they have adopted certain categories from established taxonomies, such as the ones proposed by Crismore et al. (1993) or Hyland (2005), and imposed them on their corpus. For instance, Bogdanović (2015) and Burneikaite (2009) solely examined endophoric markers, disregarding other MMs, such as evidentials or frame markers, which direct readers to information located elsewhere in the text. Furthermore, Dehkordi and Allami (2012), Jafarigohar and Kheiri (2017), and Yang (2014) exclusively concentrated on evidentiality, dismissing other retrospective and prospective categories.

A secondary concern with prior examinations of retrospective and prospective categories pertains to their inadequate sampling sizes. Inquiries conducted by Bogdanović (2015) and Jafarigohar and Kheiri (2017) scrutinised only three and twenty ESP textbooks and research articles, respectively. The pivotal drawback of such diminutive studies is their propensity to compromise the accurate interpretation and extrapolation of findings (Hackshaw, 2008).

Thirdly, typically, in contrast to the limited scope of studies, most metadiscourse surveys have adopted the entire taxonomy and analysed the behaviour of the whole classes of the metadiscourse (e.g., Jalilifar et al., 2018b; Qin and Uccelli, 2019). However, Bogdanović (2015) and later Bax et al. (2019) assert that it is imperative to conduct a separate analysis of each individual metadiscourse item.

Fourthly, very few, if any, studies to date have investigated retrospective and prospective categories in a fully-fledged way within different genres. Prior research has primarily focused on one specific genre. For instance, Burneikaite (2009) investigated endophorics within linguistics master's theses in English L1 and L2, or Yang (2014) focused on evidentiality in applied linguistics research articles (RAs).

Fifthly, retrospective and prospective categories in academic genres like proposals and critiques are yet to be examined, while research articles as the dominant communicators (Montgomery, 1996) have received the most attention in this regard (e.g., Khedri & Critsis, 2018; Li & Xu, 2020). Moreover, in the literature, most studies have been done with published academic genres (e.g., textbooks, RAs, book reviews) rather than unpublished ones (e.g., critiques, reports, proposals).

3. Methodology

3.1. Corpus

The present study undertook a comprehensive investigation of four academic genres extracted from MICUSP. These genres comprise a total of 658 manuscripts, including argumentative essays, critiques, proposals, and reports in which 542 texts have been written by EFL students and 116 manuscripts by EAL students. MICUSP has previously been investigated for a range of academic discourse topics, such as attended/unattended this (e.g., Rustipa, 2015; Wulff et al., 2012), citation practices (e.g., Ädel and Römer, 2012; Swales, 2014), imperatives (e.g., Neiderhiser et al., 2016; Swales and Post, 2018), interactional metadiscourse categories (e.g., Aull, 2019; Yoon and Römer, 2020), phraseological patterns (e.g., Ädel and Römer, 2012; Garner, 2013; O'Donnell et al., 2013), multidimensional analysis of disciplines (e.g., Hardy and Friginal, 2016; Hardy and Römer, 2013), and lexico-grammatical features (e.g., Crossley et al., 2017), among others. Table 1 presents the preliminary information about the studied genres.

Table 1. Preliminary information about genres

Genres	No. of papers		No. of tokens		Average length of papers	
	EFL	EAL	EFL	EAL	EFL	EAL
Reports	307 (46.7 %)	57(8.7 %)	1,115,882	205,161	3634.79	3599.31
Essays	155(23.6 %)	31(4.7 %)	538,929	84,870	3476.96	2737.74
Critiques	48(7.3 %)	13(2 %)	145,041	36,490	3021.68	2806.92
Proposals	32(4.9 %)	15(2.3 %)	146,129	58,541	4566.53	3902.73
Total	658 (100 %)		2,331,043		3,468.33	

3.2. Instrument

The present study employed the latest version of AntConc, version 4.2.3, which is freely available for download on the developer's website at <https://www.laurenceanthony.net/software/antconc/>. Of particular utility in the ample capacity of AntConc is the concordancer which affords an extensive range of analytical options in the study of corpora (McEnery and Hardie, 2012). With its ability to swiftly search for specific words and patterns, the concordancer generates a comprehensive listing of all relevant occurrences along with accompanying contextual cues. As such, it fosters the expeditious identification and comparison of keywords, collocations, and divergent corpora (Jalilifar, 2014).

3.3. Analytical procedure

By making previous/subsequent materials salient to the readers and directing them towards established theories, empirical evidence, rigorous methodologies, and research findings, retrospective and prospective categories facilitate comprehension of the author's intended meanings and strengthen arguments to persuade readers of the validity of claims. Consequently, employing these categories with precision empowers novice writers to achieve textuality and effectively convince readers to accept their perspectives.



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Due to the paucity of research regarding the employment of the retrospective and prospective classifications, this study aims to add to the existing literature by examining the retrospective and prospective facets of metadiscourse markers. To this end, the study adopts a corpus-induced qualitative content analysis approach, providing a research methodology for subjectively interpreting textual content through the methodical process of coding and identifying various themes or patterns (Hsieh and Shannon, 2005). Qualitative content analysis aims at responding to questions like 'what,' 'why,' and 'how' wherein common patterns in the data are explored (Heikkilä and Ekman, 2003). In contrast to other qualitative approaches, such as grounded theory that necessitate "a high degree of interpretation and transformation of data" (Cho and Lee, 2014, p. 7), this methodology involves scrutinising qualitative descriptive studies that are data-driven and there exists no imperative to communicate the data in any terms other than their original forms (Sandelowski, 2000). The analytical procedure for qualitative content analysis encompasses the selection of the unit of analysis, demonstration of categorisation, and elucidation of themes derived from the selected categories (Cho and Lee, 2014).

To conduct the present study, it was decided that quantitative measures would usefully supplement and extend the qualitative analysis. In so doing, two coding phases were employed:

Phase I:

The researchers employed a rigorous line-by-line examination of the data to facilitate the conceptualisation of ideas. Initially, we conducted a pilot study in which the first researcher, as the main coder, randomly selected a sample comprising 20% of the data from each genre and manually coded retrospective and prospective categories. This methodological approach is not uncommon in current literature, as other studies such as Ädel and Römer (2012) have also utilised manual coding by closely examining 26% of the entire MICUSP corpus or Yoon and Römer (2020), following the approach of Lu (2010) and Polio and Yoon (2018), who hand-coded 20 MICUSP papers. Furthermore, in addition to the intra-coder analysis, an inter-coder phase was implemented in this investigation to "bring different perspectives and awareness to the data analysis process" (Drisko and Maschi, 2015, p. 75).

The second coder, who was a PhD candidate in applied linguistics, coded the same 20% of the data separately for the categories. Thereafter, to estimate the reliability of the researchers' codification, an inter-coder agreement percentage was run, yielding a percentage of approximately 80%. To reconcile any observed discrepancies and achieve a coherent consensus, the coders consulted an experienced researcher. Following consultations, the coders re-analysed the data and arrived at a higher inter-coder agreement percentage of 92%.

In this phase, the coders classified the data into two overarching retrospective and prospective categories. The following explication illustrates the coders' categorisation of the respective texts. First, an overview of the prospective metadiscourse categories is presented:

(1) In conclusion, I believe that this lesson has accomplished the goals laid out for it according to the content-based method. (EFL Proposals)

In the present instance, the initial italicised phrase, 'in conclusion,' effectively serves to prime the reader for the synthesis of the forthcoming material. To fully apprehend these materials, the reader will need to peruse the ensuing text. The succeeding italicised phrase, 'believe that,' provides further insight into the author's stance regarding a particular phenomenon, thereby engendering a reader's need to examine the entire corpus of text for more comprehensive elucidation.

The next example intends to show how the writers guide the readers by directing their attention to the antecedent content within the discourse:

(2) From Rousseau's argument about the nature of man, outlined above, we can proceed to delineate his model of the individual and supra-individual realms. (EAL Critiques)

In the given example, the author employs a linguistic mechanism aimed at reminding the audience of the content previously covered in the discourse. This strategic employment of linguistic cues serves to guide the reader towards the earlier section, thereby aiding in the consolidation and integration of key concepts and ideas.

Following the categorisation of data into retrospective and prospective devices, the entire dataset was extracted from MICUSP in text (txt) format. Eventually, the whole text-format files were loaded in the latest version of AntConc (2023) to facilitate the identification of related tokens. Subsequently, the main coder went on to execute the remainder of the coding process, which shall be explicated below.

Phase II:

In light of the particular functions ascertained, firstly the coder assigned each function with a unique code in the related texts to facilitate their categorisation. The following table showcases the different functions of prospective and retrospective categories.



Secondly, in the focused coding, the initial codes were selectively compared, sorted, synthesised, integrated, revised, and grouped into more inclusive categories (Charmaz, 2014). For instance, in Table 2, moreover and therefore express relations between main clauses and are grouped to form a ‘Transitions’ superordinate category; or, suggesting that expresses an evaluative language and makes an ‘Evaluative that clause’. On the other hand, "Slavin & Madden, 2001, p. 5" and "according to Portes and Rumbaut (1996)" refer to prior research and make ‘Attributors’, "and as the one described above" along with "the" ... "mentioned earlier" remind the earlier text materials and create ‘Reminders’. This codification phase culminated in the generation of two frameworks for prospective and retrospective categories, respectively. Table 3 outlines the prospective/retrospective metadiscourse categories.

Thirdly, following the framework developed for retrospective and prospective categories based on the data, the main researcher extracted their corresponding tokens from the entire data set within each genre.

Fourth, the raw and mean frequencies of the categories were computed, and the data were normalised to ensure the comparability of results. Following Hyland and Jiang (2018), for normalising the data, the mean frequencies in this study were computed per 10,000 words to address the research query.

Fifth, the entire dataset was studied quantitatively for possible interlanguage differences among different genres regarding retrospective and prospective categories.

Ultimately, the selected papers (658) underwent a rigorous qualitative analysis to identify how EFL and EAL writers exploit different structural patterns of retrospective and prospective categories.

Table 2. Functions of prospective/retrospective categories

Prospective Categories	Function
In other words,	reformulating the given information
suggesting that	Interpreting someone’s claim
Moreover	Adding more information
such as	Providing examples
Therefore	Concluding
The purpose of ... is	Presenting the aim of something
See the table below	Directing
The study describes	Reporting something
Retrospective Categories	Functions
(Slavin & Madden, 2001, p. 5)	Providing evidence
as the one described above	Referring to earlier material
which does not affect the mixing angle [3].	Justifying the author’s ideas
the ... mentioned earlier	Reminding previous information
according to Portes and Rumbaut (1996)	Supporting his/her ideas

Table 3. Types and functions of prospective/retrospective categories

Prospective categories	Functions	Examples
Transitions	Express relations between main clauses	Furthermore; However; Then; Overall
Code glosses	Elaborate propositional meanings	i.e.; Put another way; To be more precise; such as
Evaluative that clauses	Explore the evaluative potential of that-constructions	suggest* that; It is thought that; Lead* to the conclusion that; It is surprising that
Reporting verbs	Indicate the discourse that is being quoted or paraphrased; report or refer to another writer’s work	Promote*; Believe*; Hypothesize*
Frame markers	Refer to discourse acts, sequences or stages	Another ... is; Subsequently; What I hope is that
Announcements	Announce upcoming materials	In the next brief section...; will be discussed below; As follows
Comparative clauses	Express a comparison	greater than; Unlike *, *; As well as
Directives	Order to perform something; order to bear something in mind	Consider; It should be emphasized that; It is important to
Retrospective categories	Function	Examples
Attributors	Refer to prior research; give support/source of information	Marx argued that; Chomsky (1965) writes
Reminders	Refer to earlier text material	As stated in the previous section; the aforementioned...; As mentioned earlier



Results

Table 4 delineates the mean frequencies of MMs within the academic texts composed by EFL and EAL writers. The total frequency of metadiscursive elements amounted to 570.1 instances for EFL manuscripts and 644.3 cases for EAL compositions per 10,000 words, with an average of one occurrence in every 17 words and one device in every 15 words for the EFL and EAL cohorts, respectively. These findings underscore the relevance of MMs in academic writing across different linguistic populations.

Table 4 indicates that all literary genres exhibit a comparable trend in the deployment of prospective and retrospective MMs. Prospective metadiscourse hosts eight subcategories, including transitions, reporting verbs, frame markers, code glosses, evaluative-that clauses, directives, comparative clauses, and announcements. In contrast, retrospective metadiscourse consists solely of attributors and reminders. The study found that transitions were the most prevalent MMs, followed by frame markers, reporting verbs, evaluative-that clauses, and code glosses. Announcements, directives, and comparative clauses are relatively less frequently deployed. As for retrospective MMs, attributors are utilised almost four times more often than the reminders. Overall, the research concluded that EFL and EAL academic writers predominantly exploited prospective MMs.

Specifically, each EFL genre was juxtaposed with its EAL counterpart through the administration of a series of independent-samples t-tests to identify any statistically significant differences between the two cohorts. According to Table 5, the outcomes of independent-samples t-tests indicated that while certain noteworthy distinctions manifested within the MD subcategories of EFL and EAL Reports and Essays, in general, no palpable divergences were discovered for Reports and Essays. Nevertheless, the remaining two genres, namely Critiques and Proposals, were shown to exhibit substantial variations.

Table 4. Mean frequencies of prospective and retrospective MMs in genres per 10,000 words

MD	Genres							
	Reports		Essays		Critiques		Proposals	
	EFL	EAL	EFL	EAL	EFL	EAL	EFL	EAL
Transitions	198.3 (34.1%)	185.4 (30%)	218.8 (38.2%)	222.9 (36.8%)	191.5 (30.7%)	236.2 (29.6%)	147.8 (29.3%)	149.8 (26.8%)
Reporting verbs	99.6 (17.1%)	102.1 (16.5%)	128.3 (22.4%)	106.8 (17.6%)	116.7 (18.7%)	153.7 (19.2%)	95.2 (18.9%)	91.3 (16.3%)
Frame markers	105.9 (18.2%)	146.5 (23.7%)	85.1 (14.9%)	132.3 (21.8%)	83.7 (13.4%)	172.9 (21.6%)	112.7 (22.3%)	173.3 (31%)
Code glosses	41.6 (7.1%)	43.1 (7%)	42.4 (7.4%)	32.9 (5.4%)	49.8 (8%)	60.5 (7.6%)	34.1 (6.8%)	32.4 (5.8%)
Evaluative-that clauses	60.1 (10.3%)	42.6 (6.9%)	51.8 (9%)	52.6 (8.7%)	91.9 (14.7%)	86.0 (10.7%)	38.6 (7.6%)	29.8 (5.3%)
Directives	6.5 (1.1%)	6.9 (1.1%)	8.5 (1.5%)	7.3 (1.2%)	9.7 (1.6%)	5.4 (.6%)	9.7 (1.9%)	9.9 (1.7%)
Comparative clauses	3.9 (.67%)	5.7 (.92%)	6.0 (1%)	8.3 (1.4%)	9.1 (1.5%)	16.4 (2%)	6.5 (1.3%)	4.9 (.8%)
Announcements	3.8 (.65%)	6.4 (1%)	2.5 (.4%)	4.9 (.8%)	8.6 (1.4%)	4.6 (.5%)	8.2 (1.6%)	9.5 (1.7%)
P categories	519.7 (89.4%)	538.7 (87.2%)	543.4 (95%)	568 (93.7%)	561 (89%)	735.7 (92.3%)	452.8 (89.7%)	500.9 (89.9%)
Attributors	52.5 (9%)	67.1 (10.9%)	23.0 (4%)	28.9 (4.8%)	50.8 (8.1%)	41.1 (5.1%)	44.2 (8.8%)	47.3 (8.4%)
Reminders	9.4 (1.6%)	11.2 (1.8%)	6.0 (1%)	9.0 (1.5%)	12.3 (2%)	20.0 (2.5%)	8.0 (1.6%)	9.0 (1.6%)
R categories	61.9 (10.6%)	78.3 (12.7%)	29.0 (5%)	37.9 (6.3%)	63.1 (10.1%)	61.1 (7.7%)	52.2 (10.3%)	56.3 (10.1%)
Total	581.6 (100%)	617.6 (100%)	572.4 (100%)	605.9 (100%)	624.1 (100%)	796.8 (100%)	505 (100%)	557.2 (100%)



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Table 5. The results of the t-test between genres

MD	Genres			
	Reports	Essays	Critiques	Proposals
	EFL vs. EAL	EFL vs. EAL	EFL vs. EAL	EFL vs. EAL
Transitions	.00	.28	.11	.22
Reporting verbs	.37	.00	.00	.45
Frame markers	.00	.00	.00	.00
Code glosses	.02	.03	.00	.00
Evaluative- <i>that</i> clauses	.00	.07	.00	.00
Directives	.76	.42	.01	.89
Comparative clauses	.00	.00	.00	.00
Announcements	.00	.00	.00	.01
P categories	.35	.21	.00	.00
Attributors	.00	.00	.00	.00
Reminders	.00	.00	.00	.04
R categories	.00	.65	.00	.33
Total	.40	.38	.00	.00

Statistically significant at $p \leq 0.05$

Discussion

Among the array of prospective markers, transitions, reporting verbs, and frame markers are consistently utilised with high frequency, regardless of the particular genre under consideration. Collectively, these markers comprise a substantial 69.5 % of total textual markers. Moreover, the frequency of evaluative that-clauses is notable, specifically in relation to critiques. In contrast, when it comes to retrospective categories, attributors take over, regardless of the genre being examined. In the subsequent paragraphs, each category will be addressed, with a focus on its particular functions within academic genres.

3.3. Transitions

Transitional elements in textual discourse denote the interconnectivity and organisational structure of text parts (Vande Kopple, 2002). These linguistic units effectively convey the internal sequence of the discourse while elucidating relations between distinct textual segments, thus rendering the discourse coherent and optimally comprehensible (Hyland, 2022).

As shown in Table 4, the use of transitions far outnumbered the use of other MMs in both the EFL and EAL groups. Transitions accounted for 33.2 percent of the total metadiscourse resources in the EFL and 30.8 percent in the EAL learner group, respectively. This corroborates the findings of previous studies (e.g., Huh and Lee, 2016; Kim and Lee, 2014), showing that the higher proportion of transition devices was one of the common strategies used to “manage the information flow” (Hyland, 2004, p.138) in academic texts.

Of genres, only EFL Reports employed more transitions than EAL Reports. The other EAL genres outperformed their EFL counterparts. According to Ghadyani and Tahririan (2015), the extensive utilisation of text connectors in EFL Reports is indicative of the Anglo-American writers’ inclination to produce a text that is more coherent. This tendency can be viewed as a characteristic of writer-responsible rhetoric, whereby the English writer endeavours to provide the reader with pertinent details within the text so as to facilitate the comprehension of the logic which binds the discourse together. This is while in EAL texts, these markers may be weak, thus necessitating the reader to be responsible for establishing the relationships between various segments of a discourse.

On the other hand, however, prior research (e.g., El-Dakhs, 2020; Park and Oh, 2018) has posited that excessive reliance on textual devices among EAL learners is indicative of a shallow understanding of logical structures and a lack of proficiency in employing these devices, thereby leading to the production of artificial and mechanical texts (Zamel, 1983). Therefore, the mastery of the linguistic system has a reciprocal relationship with reduced dependence on textuality (see El-Dakhs, 2020; Park and Oh, 2018).

Functionally, transitions express relations between main clauses by adding, contrasting, causing, and sequencing the information in the text. Table 6 reveals that additive transitions stood in the first rank, while sequential markers were the least used transitional devices.

It is imperative to note that the unique features of descriptive Reports and the relatively limited linguistic resources of EAL learners to position themselves within their respective fields of inquiry, precipitated a heightened and more pronounced dependence on textual categories, as noted by El-Dakhs (2020).



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Table 6. Mean frequencies of transitions in genres per 10,000 words

MD	Genres							
	Reports		Essays		Critiques		Proposals	
	EFL	EAL	EFL	EAL	EFL	EAL	EFL	EAL
Transitions	198.3	185.4	218.8	222.9	191.5	236.2	147.8	149.8
	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)
additive	85	80.3	87.3	88.3	91.6	89.9	71.3	75.3
	(42.9%)	(43.3%)	(39.9%)	(39.6%)	(47.8%)	(38.1%)	(48.2%)	(50.3%)
adversative	59.5	45.9	73.9	79.5	71.5	70.2	36.3	30.6
	(30%)	(24.8%)	(33.8%)	(35.7%)	(37.3%)	(29.7%)	(24.6%)	(20.4%)
Causal	52.1	56.7	56.4	52.8	25.7	71.8	38.7	42.5
	(26.3)	(30.6%)	(25.8%)	(23.7%)	(13.4%)	(30.4%)	(26.2%)	(28.4%)
sequential	1.8	2.5	1.2	2.4	2.8	4.4	1.4	1.4
	(1%)	(1.3%)	(.5%)	(1.1%)	(1.5%)	(1.9%)	(.9%)	(.9%)

3.4. Reporting verbs

Reporting verbs were generally employed as an essential part of citation in academic writing to provide strong arguments, review previous research, and express academics’ ideas (Barghamadi, 2021). These verbs allow writers to convey the kind of activity reported and to demonstrate the attitude writers have towards others’ claims. Thus, the lexical and syntactic decisions regarding the choice of reporting verbs can emerge from these rhetorical expectations (Thomas and Hawes, 1994). Besides, in the current research, we concentrated on the power of these verbs to send readers to the upcoming information in the text. Below, you can find the functions and examples of reporting verbs, in light of Hyland (2002) framework:

1. Research acts: These markers represent experimental activities or actions in the real world. They generally occur either in statements of findings or procedures.

(3) Estate Board promoted a manifesto of racial segregation and any did not agree to abide by this discriminatory ideology were blacklisted and lost many of their critical business contacts (Plotkin 1997). (EFL Reports)

2. Cognition Acts: They are concern with the researcher’s mental processes.

(4) Participants will also review a draft of the study to 1) check for truthfulness, 2) ensure that they are represented in a way they are comfortable with, and 3) double-check that their confidentiality is retained. (EFL Proposals)

3. Discourse Acts: These acts involve linguistic activities and focus on the verbal expression of cognitive or research activities.

(5) In Durkheim’s thought, the entity best suited for this role to liberate the individual personalities from the secondary groups and to provide a certain range of individual development (62) is the State. Durkheim also explains how the State expands its functions. He states, the state must "enter into [individuals'] lives, [and] supervise ... the way they operate. (EAL Critiques)

Table 7 demonstrates that in Reports and Proposals, *research acts* featured more prominently than discourse acts. Conversely, discourse acts attained the highest rank, while research acts occupied the second position in Essays and Critiques. It is worth noting that all four genres demonstrated minimal utilisation of cognitive acts in reporting.

Table 7. Mean frequencies of reporting verbs in genres per 10,000 words

MD	Genres							
	Reports		Essays		Critiques		Proposals	
	EFL	EAL	EFL	EAL	EFL	EAL	EFL	EAL
Reporting verbs	99.6	102.1	128.3	106.8	116.7	153.7	95.2	91.4
	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)
Research acts	42.3	41.6	41.7	35.2	45.4	59.7	43.7	47
	(42.5%)	(40.7%)	(32.5%)	(33%)	(38.9%)	(38.8%)	(45.9%)	(51.4%)
Cognition acts	20.1	19.9	31	27.6	25.7	30.4	15.8	12
	(20.2%)	(19.5%)	(24.2%)	(25.8%)	(22%)	(19.8%)	(16.6%)	(13.1%)
Discourse acts	37.2	40.6	55.7	44.1	45.6	63.6	35.7	32.4
	(37.3%)	(39.8%)	(43.4%)	(41.3%)	(39.1%)	(41.4%)	(37.5%)	(35.5%)



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Generally, in the study, EFL Essays and EAL Critiques used significantly more of these elements than their counterparts. Regarding the pre-eminence of reporting verbs in the EFL Essays, it warrants noting that reporting represents a crucial aspect of academic writing, which assumes a pivotal role in the creation and presentation of innovative scientific knowledge. In this vein, it is imperative for an author to articulate a proposition with the "maximum interpersonal and persuasive effect" (Hyland and Milton, 1997, p. 147). Nevertheless, EAL Essays have shown a propensity for utilising less assertive instruments than their EFL counterparts (McEnery and Kifle, 2002). This incongruence in writing practices between EFL and EAL students may arise due to several factors, such as the pedagogical methods employed in teaching academic writing, inadequate development of the lexicon, a lack of disciplinary and genre-related familiarity, the impact of L1 usage, and sociocultural orientations within academic communities (e.g., Bloch, 2009; Hyland, 2007; Liu and Zhou, 2014; Luzón, 2015; Mansourizadeh and Ahmad, 2011; Rowley-Jolivet and Carter-Thomas, 2014; Thompson and Ye, 1991). These aspects may allude to certain challenges that EAL writers encounter in relation to the practice of reporting.

The prevalence of reporting verbs in texts produced by EAL Critiques can be attributed to sociocultural factors. While the use of such verbs has posed a considerable challenge to EAL writers (Hyland, 2007), cognitive psychologists have indicated that the shift to writing in English, as opposed to their first language, triggers an inherent cultural predisposition among students to adopt English rhetorical patterns (Hong et al., 2003; Park and Oh, 2018). Furthermore, the duration of stay and academic pursuits at the University of Michigan has provided a conducive environment for proficient EAL writers to gain mastery of the nuances of MMs in a manner that aligns with the practices of the Anglophone community (Kim, 2009).

3.5. Frame markers

Frame markers reflect the authors' efforts to organise their discourse so as to facilitate readers' comprehension and establish the internal coherence of argumentation. Thus, writers must present their topics, structure their arguments, and indicate their logical connections in ways that their audience would find familiar and persuasive (Hyland and Zou, 2020). In the study, we discovered that advanced-level academic writers used frame markers for the following functions:

1. Introducing: these markers introduce a phenomenon i.e., a method, approach, device, tool, etc.

(6) Another approach is to consider the impact of a particular emotion on cognitive processing in general. (EFL Reports)

2. Sequencing: This refers to the sequencing ideational meanings

(7) The game has four stages. In stage one, the firm observes the worker's type and makes a take it or leave wage offer. In stage two, ... (EAL Proposals)

3. Presenting the aim of the study (aim markers)

(8) This paper is a very thoughtful attempt at measuring the parameters related to policy and to the economic questions raised by the authors. (EFL Critiques)

4. Enumerating: This pertains to labelling discourse stages

(9) To test the hypothesis, we propose the following specific aims: Aim 1: To test the role of Oct4 and Sox7 together for mice endoderm specification. Aim 1a... (EAL Proposals)

5. Reasoning: It is concerned with giving and providing reasons

(10) Legislators have tried to carve out legal protection for fetal life. Traditionally, legislators have determined that a "compelling state interest" existed to protect fetal life. One reason for the belief that fetal life is a "state interest" evolves from the concept of fetuses as "proto-persons." Due to this status lawmakers feel fetuses should have some rights. (EFL Essays)

6. Conditioning: This expresses hypothetical situations and potential consequences

(11) This application is what ultimately breaks the idea of autonomy and turns it into a myth. If there has to be trade with others, then self-reliance is gone, and with it often goes the pride of men. (EFL Essay)

Table (8) provides mean frequencies of frame markers in different genres per 10,000 words, distinguishing between EFL and EAL genres. The table shows that different genres exhibit differential frequencies of frame markers, and that EFL and EAL students have different patterns of frame marker use. EAL students seem to be more likely to use frame markers consistently across genres, as they exhibit higher overall frequencies than EFL students in all genres. The frequent existence of these elements can be attributed to the writers' awareness of an actively participating audience to interrelate text components to construct a cohesive and coherent argument that aligns with the target reader's probable knowledge, interests, rhetorical expectations, and processing abilities (Farahani and Kazemian, 2021; Hyland and Zou, 2020).



Thus, the greater reliance of EAL writers on frame markers suggests that they possess the required ability to sequence text components suitably to achieve their intended argumentative objective.

Table 8. Mean frequencies of frame markers in genres per 10,000 words

MD	Genres							
	Reports		Essays		Critiques		Proposals	
	EFL	EAL	EFL	EAL	EFL	EAL	EFL	EAL
Frame markers	105.9 (100%)	146.5 (100%)	85.1 (100%)	132.3 (100%)	83.7 (100%)	172.9 (100%)	112.7 (100%)	173.3 (100%)
Introducing	11.9 (11.2%)	9 (6.1%)	8.1 (9.5%)	18.3 (13.8%)	2 (2.4%)	20.6 (11.9)	8.5 (7.5%)	16.7 (9.6%)
Sequencing	22.8 (21.5%)	23.7 (16.2%)	12 (14.1%)	26.4 (20%)	19 (22.7%)	29.9 (17.3%)	16.6 (14.7%)	41 (23.7%)
aim	7.9 (7.5%)	43.9 (30%)	20.1 (23.6%)	18.9 (14.3%)	21.1 (25.2%)	18.1 (10.5%)	30.6 (27.2%)	26.5 (15.3%)
Enumerating	22.4 (21.2%)	29.7 (20.3%)	9.1 (10.7%)	24.5 (18.5%)	21.9 (26.2%)	25.5 (14.7%)	16.4 (14.6%)	27.7 (16%)
Reasoning	11.4 (10.8%)	10.7 (7.3%)	12.4 (14.6%)	6.8 (5.1%)	10.3 (12.3%)	32.9 (19%)	5 (4.4%)	13.3 (7.7%)
Conditioning	15.4 (14.5%)	14.5 (9.9%)	4.8 (5.6%)	18 (13.6%)	2.1 (2.5%)	17.3 (10%)	15.8 (14%)	22.9 (13.2%)

The highest frequency of frame markers is found in EAL Proposals (173.3 per 10,000 words) and the lowest in EFL Critiques (83.7 per 10,000 words). From a rhetorical perspective, Proposals involve the formulation of a query that warrants comprehensive scrutiny to cultivate an understanding of a specific subject matter (Römer and O'Donnell, 2011). Proposals entail the delineation of projected findings, elucidation of the underlying rationale for data collection and verification, and critical analysis of relevant literature (Yin, 2016). According to Myers (1990), each sentence within a proposal serves a persuasive function, employing classical rhetorical appeals that encompass ethical, pathetic, and logical modes of argumentation. The purpose of such appeals is to effectively demonstrate one's capacity to produce engaging and relevant research findings capable of attracting the interest of fellow scholars while simultaneously substantiating the correctness of one's assertions.

Given the inherent nature of Proposals, the present study posits that it is incumbent upon writers to strategically include materials that are not only well-crafted and engaging but also compelling (Arsyad, 2013). Alongside the other three EAL genres examined, EAL Proposals specifically centre on *framing markers* as a significant category for the explicit marking of rhetorical units. This, in turn, serves to facilitate reader comprehension and retention (Hyland, 2005). As such, writers are encouraged to utilise specific textual segments to transparently convey the trajectory of their arguments and their intended course of action.

Below, the function and the usage of each *frame marker* in different genres will be discussed:

Introducing markers are linguistic devices that serve as signposts or signals to introduce new topics or sections of text in academic writing. They are important tools for organising information and guiding readers' attention to what is coming next. Introducing markers allow writers to establish the scope, focus, and relevance of their topic, and to provide a roadmap for the structure and development of their argument. In the corpus, introducing markers are more frequent in EAL Essays, Critiques and Proposals than in EFL ones, indicating that EAL students are better at signalling the beginning of new topics and sections of text. Moreover, by using introducing markers, EAL writers can help readers orient themselves to the topic and understand the logic and significance of the information being presented. Therefore, introducing markers are an essential part of effective academic writing, helping to improve organisation, clarity, and coherence in written communication.

Sequencing markers are used in academic texts to show the chronological or logical order in which events, arguments, or ideas are presented. They help readers understand the relationship between different parts of the text and make the overall text more cohesive and coherent. By using sequencing markers, writers of academic texts can guide readers through complex arguments or analyses, and help them follow the progression of the text. Overall, sequencing markers play an important role in structuring and organising academic texts, and help writers to convey complex ideas in a more easily understandable way to the reader. In this inquiry, Sequencing markers are relatively evenly distributed across all genres, but are more frequent in EAL Proposals. This is particularly important in this genre, where data and findings need to be presented in a clear and logical order to support the argument or theory.

Aim markers present the main objective or purpose of the writing. They serve as a signal to the reader about what to expect in the text and provide a clear focus to the content that follows. This is especially important in academic writing, where the purpose of the text can be complex or multi-layered. By introducing the aim/s of a paper, writers can ensure



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that readers understand the focus of the text and can follow the argument more easily, and engage with the content and understand the writer’s argument. In the study, aim markers are particularly common in EAL Reports, suggesting that because of the nature of this genre, the students felt more necessary to present and report the aim of their study.

Enumerating markers are used to present a group of ideas, arguments, examples, or items in a structured and easy-to-follow way. They help to organise and clarify complex information and can make writing more concise and clearer. In our study, enumerating markers are rather common in all EFL and EAL genres, but less common in EFL Essays. It is reasonable to assume that EFL writers, being more familiar with the conventions and structures of academic writing, may rely less on enumerating markers than EAL counterparts who are still developing their academic writing skills. EFL academics may have internalised the organisational principles and logical progressions that underlie academic writing genres, and therefore do not need to use enumerating markers as frequently to communicate their ideas. As can be traced from Table 8, they use more implicit markers, such as transitions, to signal numbering their argument.

Reasoning markers are, by far, more common in EAL Critiques. These tools help writers to present their arguments in a logical and coherent way. Reasoning involves using evidence to support an argument, drawing conclusions based on that evidence, and presenting those conclusions in a clear and convincing way. In Critiques, reasoning is particularly important because the goal is often to persuade readers to accept a particular viewpoint or claim. By presenting sound reasoning, writers can demonstrate the validity of their argument and convince readers of its merits. Reasoning can also help to anticipate potential objections to the argument and address them in a thorough and thoughtful way. Overall, reasoning is an essential component of this genre as it enables writers to present arguments that are well-supported, logical, and persuasive.

Conditional clauses are more frequent in EAL Proposals. These metadiscourse categories are often used in academic texts to express hypothetical situations and their potential consequences. They allow writers to present alternative scenarios that may or may not occur, and to discuss the likely outcomes based on different conditions. This can be useful in Proposals as it allows writers to explore the potential implications of their arguments and to anticipate objections or counterarguments that may arise. By using conditional clauses, EAL writers can demonstrate their critical thinking skills, show that they have considered multiple perspectives, and provide a nuanced analysis of the topic at hand.

Overall, the table suggests that frame marker use varies depending on genre and student population, which in turn reflects differing demands and competences in academic writing. EAL students seem to use more frame markers than EFL students, indicating that they may have better control over the organisation and coherence of their writing.

3.6. Evaluative-that clauses in Critiques

In light of Hyland and Jiang’s (2018) revised scheme, we identified five functions of *that-clauses* in Critiques. Table 9, below, demonstrated that EFL Critiques exhibited a pronounced predilection for *that-structure* as an evaluative device for communicating their attitudes and ideas in written discourse. Such results corroborate extant scholarly works affirming the propensity of EFL writers to adopt a more straightforward style of argumentation, and to express their viewpoints more assertively, when compared to their EAL counterparts (cf. El-Dakhs, 2020; Yang and Cahill, 2008).

Table 9. Mean frequencies of evaluative-that in genres per 10,000 words

MD	Genre	
	Critiques	
	EFL	EAL
Evaluative-that clause	91.9 (100%)	86.0 (100%)
Interpretation of author’s claim	31.4 (34.2%)	32.6 (37.9%)
Interpretation of previous study	36.3 (39.5%)	39.7 (46.2%)
Interpretation of author’s goals	1.7 (1.8%)	.8 (.9%)
Interpretation of methods, models, theories...	21 (22.9%)	12.3 (14.3%)
Common/accepted knowledge	1.6 (1.7%)	.5 (.6%)

Regarding the patterns in which *that-structure* appears, both EFL and EAL Critiques showed a similar trend. In this study, previous research (see example 12) is frequently evaluated followed by *author’s own claims* (cf. example 13), and interpretation of methods, models, theories, etc (see example 14).



(12) Symptoms of depression may have different meanings in different contexts. In her article, Landrine argues that a behavior has to be "discovered empirically by analyzing the context", and the behavior can only be named in the context in which it occurs. (EAL Critiques)

(13) This contradiction confuses the reader as to the actual role of terror by a totalitarian government once in power. Although intuitively it seems as if violence would be decreased once the movement attained power, we know that historically this was not the case. (EFL Critiques)

(14) Behaviorists tried to explain this by stating that the change in the environment affects the probability of the occurrence of certain behavior, but it is unclear what factors determine this probability (maybe personality, contexts, etc). (EAL Critiques)

Given the specialised nature of Critiques, it was anticipated that the incorporation of that-clauses would be prevalent as a reflection of one of the principle communicative functions of this genre, which involves scrutinising a particular phenomenon and providing recommendations for its improvement (Devira and Westin, 2021). In other words, EFL scholars are required to contextualise their arguments in a manner that maximises persuasiveness to potential readers, demonstrating a considerable level of professionalism by adopting an appropriate stance towards their audience, along with a cogent attitude towards their arguments (Hyland, 2011). As the capacity to construct, defend, justify and substantiate claims on a given topic is regarded as a crucial attribute underlying proficient academic prose, evaluative-that construction represents a potent rhetorical tool for foregrounding the evaluation of writers (Abbasi et al., 2021). Given the argumentative and evaluative tenor of Critiques, it is propitious for EFL writers to deploy evaluative that-structures rather frequently.

The other two functions of that-structure i.e., interpretation of author's goals and common/accepted knowledge were less visible in Critiques. A possible reason for the fewer incidence of these two functions in Critiques is that this genre offers either a positive or negative appraisal of a particular topic or idea. This means that instead of focusing on the assessor's goals, it emphasises the critique or criticism of the phenomenon under scrutiny. Also, Critiques challenge existing beliefs or norms, which can lead to less existence of commonly accepted knowledge.

3.7. Attributors

As can be seen in Table 4, Reports, Proposals, and Critiques revealed a greater dependence on intertextual evidence than Essays. Two important observations can be made regarding the less use of attributors in Essays: the length and nature of the Essays.

Among genres, EFL Essays stood in the third rank, and EAL Essays had the least average number of words (cf. Table 1). As their length is relatively shorter than the other three genres, they require less use of attributors to evince evidential backing. A similar finding was noted in previous studies (e.g., El-Dakhs, 2018, 2020).

Rhetorically, Essays do not require participants to substantiate their opinions with much evidence (El-Dakhs, 2020). This led the writers to express their own opinions, rather than referring to attributors to support their ideas.

Noteworthy, the findings indicated that all EAL genres, with the exception of Critiques, employ a significantly larger number of attributors than their EFL counterparts. It is well-established in the literature that including citations in academic writing is of utmost importance (e.g., Goodarzi and Gholami, 2017; Petrić, 2012). The enhanced usage of attributors by EAL writers can not only enhance the overall documentation of their work but also augment its credibility by providing additional support and justification. This, in turn, positions them within their disciplinary community in a more convincing and persuasive manner (Hyland, 2012).

Given the increased dependency of EFL critiques on attributions, it is possible to attribute such a trend to the distinct features of this particular genre and cultural considerations. English, as a language, is fundamentally analytic; thus, when composing persuasive texts such as critiques, American students are frequently taught to rely on authoritative sources to convey the credibility of their claims. In essence, the act of attributing concepts to sources is linked to the notion of intellectual proprietorship, competitiveness, and individualism, each of which represents fundamental attributes within American cultural norms (Crismore et al., 1993).

Accordingly, it can be argued that in congruence with prior investigations (e.g., Mur-Dueñas, 2011; Noorian and Biria, 2010), which revealed a greater dependence on intertextual evidence among Anglophone scholars in validating and interpreting research outcomes, EFL Critiques consistently evinced attributional backing when putting forth novel conclusions and illuminating associations between their discourse and extant literature, more so than their EAL counterparts.



4. Concluding remarks

In conclusion, the findings of this study suggest that both EFL and EAL students use a range of linguistic features to express their ideas in academic writing, with the prospective categories being the most frequently used. The differences in the use of specific categories of language features may reflect the students' linguistic and cultural backgrounds and their level of language proficiency. It is vital for educators to understand these differences and provide targeted instruction to support their students' academic writing development.

The results also highlight the importance of transitions, reporting verbs, and frame markers as key elements of coherence and cohesion in academic writing across different genres. They also suggest that EFL and EAL writers may have different preferences and strategies in using these MMs, which could be influenced by their linguistic and cultural backgrounds. The findings of this study could be useful for writing instructors and curriculum developers in designing effective pedagogical interventions that address the specific needs of different groups of learners. For instance, EAL writers may benefit from more explicit instruction and practice on using evaluative structures, while EFL writers may need more support in using frame markers. Further research is needed to explore the reasons behind these differences and their implications for language learning and teaching.

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