

A SYSTEMATIC REVIEW OF METADISOURSE MARKERS IMPLEMENTATION IN WRITTEN COMMUNICATION

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Abstract. The main objective of conducting this systematic review is to study the usage of metadiscourse markers in expository writing among ESL and EFL novice writers by reviewing pertinent aspects such as the types of metadiscourse markers used, the effect of language proficiency on metadiscourse usage and the types of language errors committed from the perspective of metadiscourse studies. To achieve the objective, the literature published in four different databases was reviewed. After applying a series of selection criteria, 26 empirical articles were selected including a total of 1696 novice writers in English writing with ages ranging from 15 to 59 years and the analysis of 17,777 essays. These students were evaluated with two categories of metadiscourse markers namely interactive and interactional as well as taking their language proficiency and language errors committed into consideration. The findings from this review show that (1) there are 86% (19 out of 22 articles) metadiscourse studies conducted on interactional markers as compared to interactive markers; (2) 43% (6 out of 14 articles) metadiscourse studies done on high proficiency students as compared to low and average proficiency students, and (3) 66% of the language errors commonly associated with undergraduate students are the misuse of metadiscourse markers (6 out of 9 articles). This systematic review would benefit future researchers in determining the research direction based on the gaps discovered from the previous study and language educators in catering their learners with different proficiencies of the proper use of metadiscourse markers. Additionally, this systematic review would give priority to aspects of metadiscourse that have received less attention, such as interactive metadiscourse markers, the use of metadiscourse markers by learners who are less proficient, and the necessity of a framework that focuses on the mistakes made when using metadiscourse markers rather than language in general.

Keywords: *systematic literature review, metadiscourse, interactive metadiscourse, markers*

Introduction

The term "metadiscourse" describes the language devices employed to structure a discourse as well as the author's perspective on the subject matter or the audience (Hyland and Tse, 2004). It has been expanded to include visual elements as design features to aid in navigating and understanding texts (Hyland, 2017). Moreover, metadiscourse is acknowledged as a crucial rhetorical component in the creation of any discourse (Abdi, 2002; as cited in Mat Zali et al., 2021). Another way to characterise it is as discourse about discourse, which alludes to the author's use of language to communicate with the readers in the book (Cuevas-Alonso and Miguez-Alvarez, 2021). In the same vein, metadiscourse is also seen as discourse about discourse, signaling the presence of an author in the text (AlJazrawi et al., 2021). By offering hints and cues that guide readers through texts and affect how they are received, metadiscourse aids writers in organising their content (Siu et al., 2024). It can also refer to the linguistic tools employed to structure a conversation or the author's perspective on the subject matter or

the audience (Farahani, 2020). Additionally, it is a linguistic tool that unites disparate textual elements, promotes dialogue, and helps viewers develop relationships (Pandey, 2020). By arranging the propositional content, establishing sequences, or citing the propositional material's source, it also addresses the comprehension of the ideational meaning and helps to structure the discourse (Hussein et al., 2019).

Since there have been several studies on argumentative writing, this review focuses on the writing genre of expository writing. Writing expository essays is a type of discourse in which ideas are communicated using facts, procedures, shared knowledge, cause-and-effect linkages, or arguments for positions (Hall-Mills and Wood, 2023). It is characterized by structured interpretation and explanatory reasoning about a topic (Hu and Saleem, 2023). Expository writing activities include writing to inform or persuade (Graham et al., 2023). Expository summaries tend to be shorter, less fluent (in spoken versions), more complex in terms of words per T-unit, and more prone to errors than narratives (Brimo et al., 2023). The linguistic challenges of expository reading in intermediate grades are unique, and students may have limited exposure to this type of text, leading to discomfort with expository text (Vermeiren and Brysbaert, 2024). Furthermore, students' expository writing abilities can be enhanced by the application of self-regulated approach development, especially those with attention deficit hyperactivity disorder (Trane and Willcutt, 2023).

ESL students encounter a wide range of linguistic, cognitive, and affective difficulties when writing expository essays. Studies have revealed a number of significant obstacles that ESL students face when writing explanatory essays. Among these difficulties include poor language skills, including syntax, grammar, and vocabulary, which might impair the writing's coherence and intelligibility (Fareed et al., 2016). Additionally, writing anxiety has been recognized as a significant barrier, impacting the confidence and fluency of ESL learners in expressing their ideas in writing (Fareed et al., 2016). The reliance on the first language (L1) and weak organizational structure further compounds the challenges faced by ESL learners, affecting the overall quality and effectiveness of their expository writing (Fareed et al., 2016). Furthermore, it has been shown that ESL learners frequently struggle with writing mechanics, identifying the main phrase, inappropriate word use, and grammatically incorrect sentence construction when writing expository essays (Maniam et al., 2023). Furthermore, limited academic word knowledge has been identified as a challenge, impacting the ability of ESL learners to articulate their ideas effectively in academic writing (Fisal and Said, 2023). The challenges also extend to the use of lexical collocations, where ESL undergraduates face difficulties in employing appropriate word combinations in their writing (Lateh et al., 2021). Additionally, the lack of motivation, self-confidence, and anxiety has been recognized as internal challenges that impede ESL learners' writing development (Paneerselvam and Mohamad, 2019). Moreover, ESL learners frequently struggle with the intricacy of accurately using linguistic, non-linguistic, and paralinguistic elements during communication, which may also have an effect on their writing skills (Madzlan et al., 2020). Indeed, the difficulties faced by ESL learners in expository writing are diverse and encompass linguistic, cognitive, and affective aspects, highlighting the complexity of developing proficiency in this skill.

Even though there has been a lot of research on metadiscourse in academic writing, there are still several topics that need to be investigated further. For example, the impact of task-based metadiscourse education on the calibre of writing (Almashour and Davies, 2023) and the underdeveloped aspect of stance markers in EFL writers' competence

(Veličković and Danilović-Jeremić, 2020) present avenues for future research. The study of metadiscourse in written discourse is not limited, as evidenced by the extensive research conducted in various academic and cultural contexts. The literature underscores the significance of metadiscourse in enhancing writing skills, promoting reader engagement, and shaping the rhetorical features of academic texts.

The study of metadiscourse in written discourse has been a subject of extensive research, with a focus on various aspects such as its role in academic writing, its influence on writing performance, and its use in different linguistic and cultural contexts. Previous research has looked at how academic writing metadiscourse should be reevaluated (Hyland and Tse, 2004), the interaction of readers through metadiscourse features in undergraduate academic writing (Hayatolain and Ganji, 2023), and the engagement of readers through metadiscourse features in opinion articles (Hooi et al., 2020). Furthermore, studies have examined interactive metadiscourse devices in academic works through cross-linguistic analysis (Ahmed et al., 2023), the instruction and evaluation of argumentative writing's metadiscoursal elements (Abdelrahim and Abdelrahim, 2019), and the use of metadiscourse in the academic writing of pre-university students (Zakaria and Malik, 2018).

Taking everything into consideration, the evidence in the literature appears to indicate that, although other factors like language proficiency and grammatical errors are also constant in the discussion of metadiscourse studies, the roles of metadiscourse markers are generalised across different types of writing genre. Besides, other systematic reviews conducted on other metadiscourse studies which are not based on the objectives which have been outlined by the authors such as students' voice in L2 English writing (Ahmed and Zhang, 2023), authorial voice in writing (Mhili, 2023), and metadiscourse in academic writing (Pearson and Abdollahzadeh, 2023) whereas the review was restricted to publications released up to 2021. Therefore, the purpose of this systematic review is to summarise, characterise, evaluate, and synthesise the evidence pertaining to metadiscourse studies conducted over the last five years (2018–2023) in relation to the following main topics: types of learners with varying language proficiency, common language errors made by inexperienced writers, and categories of metadiscourse markers.

Hence, this systematic review aims to answer the following research questions: (1) Which types of metadiscourse markers were addressed in the past studies of metadiscourse among undergraduate ESL learners? (2) Which levels of proficiency were addressed in the past studies of metadiscourse among undergraduate ESL learners? (3) Which types of language error were addressed in the past studies of metadiscourse among undergraduate ESL learners?

Materials and Methods

To address the research questions, a systematic review was carried out. It was implemented and modified based on the PRISMA 2020 guidelines that has indicated.

Eligibility criteria

The population considered in this review was the ESL undergraduate learners at university level. All the aspects pertinent to metadiscourse studies, especially in the context of formal written communication, were considered. For an article to be included, the theoretical framework used should be the one proposed by Hyland which

applied the broad approach. The articles that applied comparative analysis are not included in the review. The papers covered the usage of metadiscourse markers in broader linguistic contexts, such as the review's discussion of how ESL and EFL employ them. The primary outcome measure was the articles that studied the use of metadiscourse markers in expository writing. However, since there is a scarcity in the empirical studies of expository writing genre, hence the aspect of genre was not emphasized in this review and hence, other types of undergraduate writing namely argumentative and narrative essays as well as letter, complaint, and opinion essays were included in the systematic review. Eligible outcomes were broadly categorized in *Table 1*.

Table 1. *The inclusion and exclusion criteria.*

Inclusion Criteria	Exclusion Criteria
The published work is an empirical paper.	The published work is not an empirical paper (e.g., systematic review).
The empirical paper was published within the timeline of 2018-2023.	The empirical paper was published outside the timeline of 2018-2023.
The empirical paper discussed aspects related to metadiscourse (e.g., interactive or interactional metadiscourse).	The empirical paper did not discuss aspects related to metadiscourse (e.g., interactive or interactional metadiscourse).
The empirical paper discussed aspects related to metadiscourse which have been set in review objectives (e.g., types of metadiscourse markers, the use of metadiscourse markers among learners of different proficiency, and the common types of language errors.)	The empirical paper discussed metadiscourse topics which are not in line with the review objective (e.g., writing quality, teaching pedagogy, syntactic complexity, referential coherence, authorial voice, Google neural machine, translation, the use of metadiscourse markers in reading skills, etc.).
The empirical paper did not compare the language backgrounds of learners (e.g., native speakers versus non-native speakers).	The empirical paper compared the language backgrounds of learners (e.g., native speakers versus non-native speakers).
The empirical paper studied written discourse.	The empirical paper studied spoken, digital, or multimodal discourse.
The empirical paper studied the academic domain.	The empirical paper studied non-academic domains.
The empirical paper studied novice writers.	The empirical paper studied expert or professional writers.
The empirical paper was published in English.	The empirical paper was published in other languages apart from English.
The empirical paper did not discuss metadiscourse topics from a gender perspective.	The empirical paper discussed metadiscourse topics from a gender perspective.

Any indicator of the frequency with which metadiscourse markers were used could be included. Every study should have included evidence of the validity and reliability of the measurement employed to evaluate the usage of metadiscourse markers. The overall frequency that yields a composite measure for the interactive and interactional domains should be used to report the results.

Information sources

The selected databases for this review were Science Direct, Dimensions.ai, OATD.org, and Google Scholar. The publication time range was set from January 2018 to August 2023. The keywords used were “metadiscourse”, “interactive metadiscourse”, “interactional metadiscourse”, “expository writing”, “undergraduate”, “university students”, “ESL learner(s)”, “language proficiency”, “language error”, “misuse”, “underuse”, “overuse”, “interlingual error”, and “intralingual error”. A total of 917 sources were obtained.

Search strategy

The articles were searched via the four databases mentioned earlier. The database coverage was January 2018 to August 2023. Science Direct was searched on 2 August

2023, Dimensions.ai was searched on 3 August 2023, oad.org was searched on 4 August 2023, and Google Scholar was searched on 7 August 2023. Several key terms and a combination of the terms were used and shortlisted for better search results. The keywords used in the systematic searches were “metadiscourse”, “interactive metadiscourse”, “interactional metadiscourse”, “expository writing”, “undergraduate(s)”, “university student(s)”, “ESL learner(s)”, “language proficiency”, “language error”, “misuse”, “underuse”, “overuse”, “interlingual error(s)” and “intralingual error(s)”. Boolean operators such as AND and OR were also used together with the databases' available filtering functions. As a result, the relevant articles were able to be shortlisted. Quotation marks were also used to find the exact phrases.

Selection process

After the search process, titles and abstracts were reviewed following PRISMA 2020 guidelines to determine the study's relevance. Before screening, the number of records with duplicate information, such as the number of studies indexed in two or more databases, was calculated. Using search phrases and bibliography mining, 917 documents have been identified.

Data collection process

Only journals where most studies are written in L2 and focusing on MD publish the selected retrieved documents as papers. During the screening procedure, 52 records were eliminated since they had nothing to do with the emphasis on MD and L2 writers. 61 non-empirical studies, including book reviews, theses, and position papers, were disregarded. Despite including contextual search phrases, 81 studies were eliminated because they examined student writing in other L2s or L1 English rather than L2 English. Due to having different types of discourse (i.e. spoken, digital, and multimodal), 94 records were eliminated. 65 studies that omitted information on comparative students' linguistic backgrounds and 76 studies of non-academic domains were removed. Excluded from the analysis were empirical studies (N = 66) that focused on writing by expert or professional writers. Since they concentrated on the influence of gender on metadiscourse usage, 54 other empirical investigations were disregarded. These 74 studies focused on writing quality, writing evaluation, Coh-Metrix measurement, or students' use of information rather than MD. Although the term "MD" did appear in several studies, it was not their primary focus. The theoretical framework was a crucial factor in the exclusion criteria. The attention is given to L2 writers created using MD models. To be safe, 70 articles with empirical investigations that used other theoretical frameworks or techniques were excluded, whether they were combined with the MD model or taxonomy. Hyland and Tse (2004), and others are the key theoretical frameworks and techniques. 57 further empirical investigations were disregarded since they needed to consider metadiscoursal characteristics. To ensure an accurate and appropriate filtering result for this review, a further evaluation of the screened papers was carried out as part of the PRISMA procedure. 56 empirical studies were disregarded for using MD as a tangent to address their main issues, such as writing assessment, human rating, feedback, or teacher teaching, as illustrated in *Figure 1*. 51 studies were eliminated for adhering to the critical discourse analysis framework, one was eliminated for adhering to Bakhtin's dialogism, another was eliminated for adopting the concept of writer identity, consisting of autobiographical self, discoursal self, and authorial self,

and a further exclusion was made due to their disinterest in metadiscoursal properties. A second empirical study was also omitted since its data comprised writing from L2 English students and researchers in addition to the exclusion as mentioned earlier. In their analysis, the researchers did not, however, make a distinction between the two. Additionally, three studies were ignored for collecting data from English speakers, both native and non-native, without offering any explanation. 26 studies that met specific criteria after screening and filtering were included in this systematic review. After quality assessment has been conducted on the published works, 26 empirical papers (Table 2) have been selected to be reviewed further.

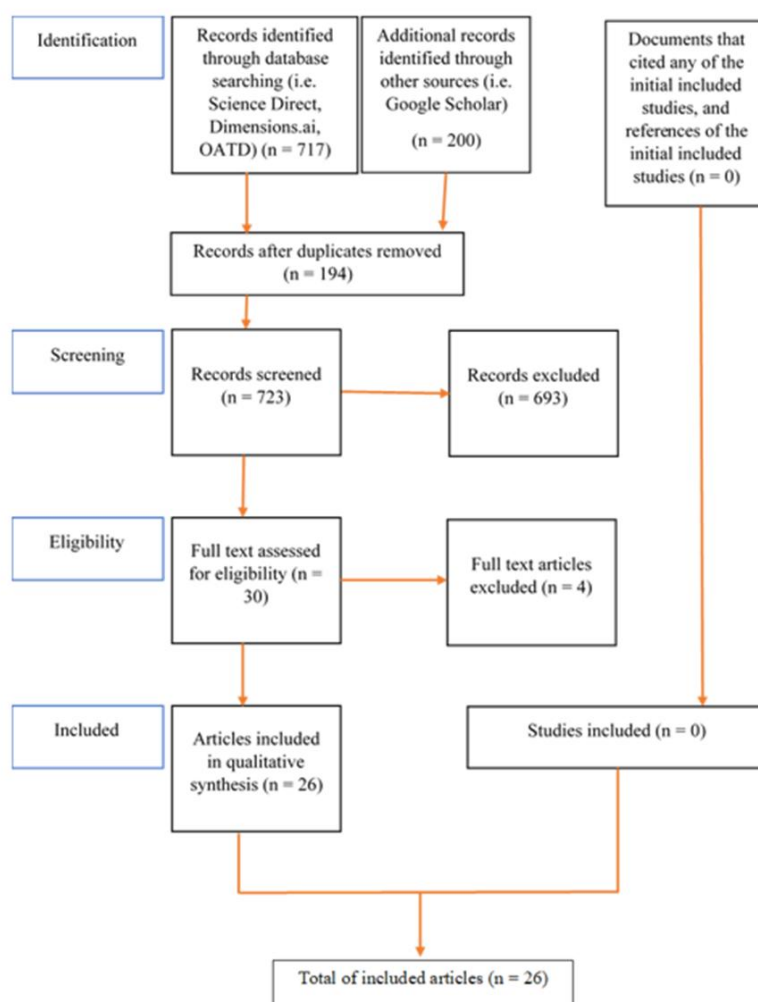


Figure 1. The PRISMA 2020 protocol that guided the SLR.

Table 2. Primary studies selected in this review.

ID	Authors	Year of Publication	Title	Databases
PS1	Lombardi	2022	Moral outrage or mere possibility? An exploration of epistemic versus deontic stance in reading-to-write argumentation.	Science Direct
PS2	Pyykönen	2023	Epistemic stance in written L2 English: The role of task type, L2 proficiency, and authorial style.	Science Direct
PS3	El-Dakhs	2020	Variation of metadiscourse in L2 writing: Focus on language proficiency	Science Direct

PS4	Carrió-Pastor	2021	and learning context. The assessment of metadiscourse devices in English as a foreign language.	Science Direct
PS5	Lindström and Lubinska	2022	Target-like and non-target-like conjunctive relations in L2 Swedish beginner writing.	Science Direct
PS6	Ndoricimpa	2019	Scaffolding ESL Tertiary Students' Challenges with Essay Genre: A Systemic Functional Linguistics Perspective.	Dimensions.ai
PS7	Mat Zali et al.	2022b	Essays by ESL Learners: Interactional Metadiscourse (MD) Analysis.	Dimensions.ai
PS8	Bax et al.	2019	Researching L2 writers' use of metadiscourse markers at intermediate and advanced levels.	Dimensions.ai
PS9	Yuksel and Kayanoz	2018	Dimension of Experience: Metadiscourse in the Texts of Novice Non-Native, Novice Native and Expert Native Speaker.	Dimensions.ai
PS10	Chung et al.	2023	The use of metadiscourse by secondary level Chinese learners of English in examination scripts: insights from a corpus-based study.	Dimensions.ai
PS11	Kapranov	2020	Self-mention in argumentative essays written by pre-service teachers of English.	Dimensions.ai
PS12	Ho and Li	2018	The use of metadiscourse and persuasion: An analysis of first year university students timed argumentative essays.	Dimensions.ai
PS13	Alrashidi	2022	The Effects of Data-Driven Learning on Intermediate Language Learners' Use of Metadiscourse Markers in Argumentative Essay Writing (A Quasi-Experimental Study).	Google Scholar
PS14	Pavlović and Đorđević	2020	The use of metadiscourse markers in essays written by ESP university students.	Google Scholar
PS15	Park and Oh	2018	Korean EFL Learners' Metadiscourse Use as an Index of L2 Writing Proficiency.	Google Scholar
PS16	Yoon and Kim	2022	The Use of Metadiscourse Markers in Mobile-Assisted Flipped Learning in L2 Writing.	Google Scholar
PS17	Yoon	2020	Interactions in EFL argumentative writing: effects of topic, L1 background, and L2 proficiency on interactional metadiscourse.	Google Scholar
PS18	Qin and Uccelli	2019	Metadiscourse: Variation across communicative contexts.	Google Scholar
PS19	Thomson	2021	Metadiscourse in Upper Secondary English Essays: Exploring Genres in L1 and L2 Educational Contexts	Google Scholar
PS20	Mohamed et al.	2021	The Use of Metadiscourse in Good Malaysian Undergraduate Persuasive Essays.	Google Scholar
PS21	McCarthy et al.	2021	Metadiscourse and Counterargument Integration in Student Argumentative Papers.	Google Scholar
PS22	Erarslan	2021	Correlation between Metadiscourse, Lexical Complexity, Readability and Writing Performance in EFL University Students' Research-based Essays.	Google Scholar
PS23	Mat Zali et al.	2022a	Interactional Metadiscourse Analysis of ESL Learners' Essays.	Google Scholar
PS24	Pasaribu et al.	2022	Interactive metadiscourse markers in Indonesian EFL students' academic writing.	Google Scholar
PS25	Fairooz	2023	Using macro-level metadiscourse coherence devices in written texts: A product perspective	Google Scholar
PS26	Kostareva and Utkina	2022	Metadiscourse use in argumentative	Google Scholar

Synthesis methods

Three categories were used to classify the research topic included in this review due to the fuzzy nature of the metadiscourse field under investigation: (1) the frequency of interactive and interactional markers used in expository writing, (2) the influence of language proficiency on the types of metadiscourse markers used in expository writing and (3) the common writing errors made in relation to the use of metadiscourse markers in expository writing. Thematic analysis was used to categorise these studies into themes generated from the research questions. The authors familiarize themselves with the articles by reading through the abstracts, findings, and discussion and taking initial notes. The codes were highlighted in the articles usually in phrases or sentences which include the codes. Next, the codes were combined into a single theme which was generated from the research questions. The themes were then reviewed to ensure the codes categorized earlier are useful and represent data accurately. For instance, there are several terms in metadiscourse studies that describe the same point such as logical markers or relational markers that are all related to transitions (referring to the first theme/research question).

Results and Discussion

Study characteristics

In a review examining the use of metadiscourse markers in expository writing, the authors included a table presenting for each included study the citation, the study design, country, sample size, setting as shown in *Table 3*. Data was collected based on research characteristics such as the report (i.e., author, year, and country), the type of written genre, the participants (i.e., undergraduates, university students or ESL learners from different language contexts such as ESL or EFL), the research design and features (i.e., sample size) and the analysis tools preferred by the researchers.

Table 3. *The study characteristics of prime studies selected in this review.*

A(Y)	SD	C	SSP	G	AT	IeM	IaM	LP	LE
PS1: Lombardi (2022)	Corpus	US	41 placement essays	Argumentative essay	MAXQDA (VERBI Software, 2019)		√		
PS2: Pyykonen (2023)	Corpus study with text-based approach (Ivaska, 2022)	Finland	591 Finnish L2 students	1773 essays (complaint, letter, opinion)	Manual analysis		√	√	
PS3: El-Dakhs (2020)	Corpus study	10 countries in Asia	60 native speakers of English, 60 Japanese learners (EFL) and 60 Hong Kong Learners (ESL).	180 argumentative essays	Manual analysis	√	√	√	√
PS4: Carrio-Pastor (2021)	Corpus analysis	Spain	360 language learners (tertiary)	360 essays (short and extemporaneous)	Automated text analyser (METOOL)	√	√	√	

			level)	ous writing task on a general topic)					
PS5: Lindstrom and Lubinska (2022)	Error analysis	Sweden	31 adult learners	124 texts on personal and biographica l recounts. Argumentat ive essay	Manual analysis	√		√	√
PS6: Ndoricimpa (2019)	Qualitati ve	India	67 postgraduates in the department of English	3 × 3 linguistic toolkits (Dreyfus et al., 2010)		√	√		√
PS7: Mat Zali et al. (2022)	Corpus	Malaysia	40 diploma students	Expository essays	Manual analysis		√		
PS8: Bax et al. (2019)	Text analysis	UK	900 Cambridge General English examination takers	900 exam scripts (descriptive , expository, and argumentati ve nature)	Text Inspector (Bax, 2012)			√	
PS9: Yuksel and Kayanoz (2018)	Corpus- based	Turkey	The exact number of second year university students is not stated.	316 essays	Concordance 3.3 program	√	√		
PS10: Chung et al. (2023)	Corpus based study	Hong Kong	The exact number of secondary school students is not stated.	120 advice giving texts (i.e., letters & reports)	The Computerised Language Analysis (CLAN) programme (MacWhinney, 2000).	√	√	√	
PS11: Kapranov (2020)	Corpus	Norway	Pre-service EFL teachers	Argumentat ive essays	WordSmith (Scott, 2008)		√		
PS12: Ho and Li (2018)	Mixed- methods analysis	Hong Kong	First-year Chinese ethnic university students	181 argumentati ve essays, a timed writing task	Manual analysis	√	√	√	√
PS13: Alrashidi (2022)	Corpus applicatio n in language pedagogy using experime ntal research	United Kingdom	49 intermediate (B1 & B2) language learners with different L1 background studies	Argumentat ive essay	Manual analysis			√	
PS14: Pavlović and Đorđević (2020)	Corpus	Serbia	The number of students involved in this study is not clearly stated.	100 essays on mechanical engineering topics.	Manual analysis	√	√		
PS15: Park and Oh (2018)	Corpus	South Korea	3286 high school graduates	6572 argumentati ve and narrative essays	WordSmith Tools 7.0 (Scott, 2016)	√	√	√	√
PS16: Yoon and Kim (2022)	Text analysis	South Korea	45 first-year students	45 sets of writing assignment s	Text Inspector (Bax et al., 2019)			√	
PS17: Yoon (2020)	Corpus	South Korea	993 college freshmen and	2386 timed argumentati	Authorial Voice Analyser	√	√	√	√

PS18: Qin and Uccelli (2019)	Corpus	US & UK	sophomores 352 EFL learners including 142 high schoolers, 155 undergraduates and 55 graduate students.	ve essays 1. Academic essays written for school principals. 2. Personal emails written to a close friend.	(AVA) (Yoon, 2017) The Computerised Language Analysis (CLAN) programme (MacWhinney, 2000)				√
PS19: Thomson (2021)	A corpus of non-fiction essays & textual analysis	Norway, Sweden & UK	Upper secondary pupils (pre-tertiary essay writing)	Political essays, literary essays, opinion pieces, linguistic investigations, and commentaries	#Lancsbox (Brezina et al., 2015)		√		√
PS20: Mohamed et al. (2021)	Interview with English teachers. Corpus Descriptive analysis – frequency	Malaysia	Undergraduates (second year university students)	195 persuasive essays (good essays)	WordSmith Tools Version 4	√		√	
PS21: McCarthy et al. (2021)	Corpus – counter argument (present an opposing viewpoint)	Corpus from Michigan, British, Ohio and Malaysia n learners		Argumentative essays	Manually checked – expert judge approach (establish inter-rater reliability)	√		√	√
PS22: Erarslan (2021)	Corpus	Turkey	Freshmen students in ELT departments	78 opinion paragraphs	Manual annotation and UAM Corpus Tool 3.3	√		√	√
PS23: Mat Zali et al. (2022)	Descriptive analysis	Malaysia	ESL learners from hard and soft science courses	40 expository essays	Manual analysis			√	
PS24: Pasaribu et al. (2022)	Comparative descriptive study Mixed method approach	Indonesia	40 students from different grades (e.g.: third semester and fifth semester)	40 expository essays (The importance of English mastery in the disrupted era of 4.0)	Manually processed, grouped, and evaluated.	√			
PS25: Fairouz (2022)	Content and descriptive analysis	Yemen	60 students	30 samples were selected randomly.	Manual analysis	√		√	
PS26: Kostareva and Utkina (2022)	Text analysis approach and formal error	Russia	139 Russian EFL learners	Argumentative essays 77 essays from 2 nd year	Manually searched	√		√	√

analysis	university students
	62 essays from 3 rd year university students

Note: A(Y)=Author (Year); SD=Study Design; C=Country; SSP=Sample Size & Participants; G=Genre; AT=Analysis Tool; IeM=Interactive Metadiscourse; IaM=Interactional Metadiscourse; LP=Language Proficiency; LE=Language Errors.

Synthesis of evidence

This section discusses how the data extracted from the primary studies will answer the research questions that guide this systematic review. Examining the three research objectives can yield a synthesised review of the literature on the frequent usage of metadiscourse markers, its link with language proficiency, and language faults.

The themes of primary studies

During the data extraction activity in results of individual studies section, the approaches presented in the primary studies demonstrate some patterns of similarity which can be classified into themes based on the research questions that have been set earlier. These studies were highlighted in this section so that richer answers can be generated to answer the research questions by considering them from the point of view of these themes. The themes identified are as follows:

Studies that discuss the frequency of metadiscourse types namely interactive and interactional. For interactive metadiscourse, this theme gathers PS3, PS4, PS5, PS6, PS9, PS10, PS12, PS14, PS15, PS17, PS20, PS21, PS22, PS24, PS25, and PS26. Meanwhile, the primary studies which can be categorized under interactional metadiscourse are PS1, PS2, PS3, PS4, PS6, PS7, PS9, PS10, PS11, PS12, PS14, PS15, PS17, PS19, PS20, PS21, PS22, PS23, PS25 and PS26. If interactive metadiscourse is utilised more, the language learner will be writer-centered; if reader-centered, the differences in the sorts of metadiscourse markers employed will decide this (if interactional metadiscourse is used more) (Pearson and Abdollahzadeh, 2023).

Studies discuss the relationship between the use of metadiscourse markers and language proficiencies. This second theme gathers PS2, PS3, PS4, PS5, PS8, PS10, PS12, PS13, PS15, PS16, PS17, PS18, PS19 and PS22. This theme explores the relationship between the use of metadiscourse markers and language proficiencies by looking at the preference of metadiscourse markers by students from low, average, and high proficiency levels.

Studies that discuss the relationship between the use of metadiscourse markers and language errors. The third theme gathers PS3, PS5, PS6, PS12, PS15, PS17, PS18, PS21, PS22, and PS26. The metadiscourse markers that have been overused, underused, or misused in various writing contexts—such as academic or informal writing—are covered in these studies.

There are four primary studies which consist of all four themes which are PS3, PS12, PS15 and PS17, and PS22. One thing that becomes evident after reading all of the chosen main studies is that the discussion of other topics, such as linguistic defects and proficiencies, is not inherently or distant from the use and preference of metadiscourse markers.

RQ1: Which are the types of markers which are frequently used by ESL learners in these primary studies?

The types of metadiscourse markers which are frequently used by language learners (regardless of language context such as ESL or EFL) in these primary studies from 2018 to August 2023 were analysed. It was found that 85% or 22 out of 26 articles have conducted their studies on this theme whether they are studying both interactive and interactional metadiscourse markers or either one of the types. Among those 22 articles, 14 empirical studies emphasized interactive metadiscourse while 19 of 22 articles emphasized interactional metadiscourse. Besides, 6 out of 22 articles utilized both metadiscourse markers in their study (*Figure 2*). *Table 4* revealed that 64% of empirical study examined the use of either or both kinds of markers, whereas 86% of empirical research investigated the use of interactional markers. This indicates that a greater emphasis was placed on interactional metadiscourse in most research than on interactive metadiscourse. This result suggests that opinions on the frequency of interactive and interactional metadiscourse elements are divided. The discrepancies in the results could be attributed to various factors such as cultural differences, disciplinary influences, and the specific genre of writing being analyzed. For instance, disciplinary and paradigmatic influences have been shown to impact the use of interactional metadiscourse in research articles (Qiu et al., 2024). Additionally, the genre of writing, such as electrical engineering laboratory reports, has been found to exhibit unequal distribution of metadiscourse features, with interactive resources being more commonly used than interactional resources (Veerappan et al., 2022).

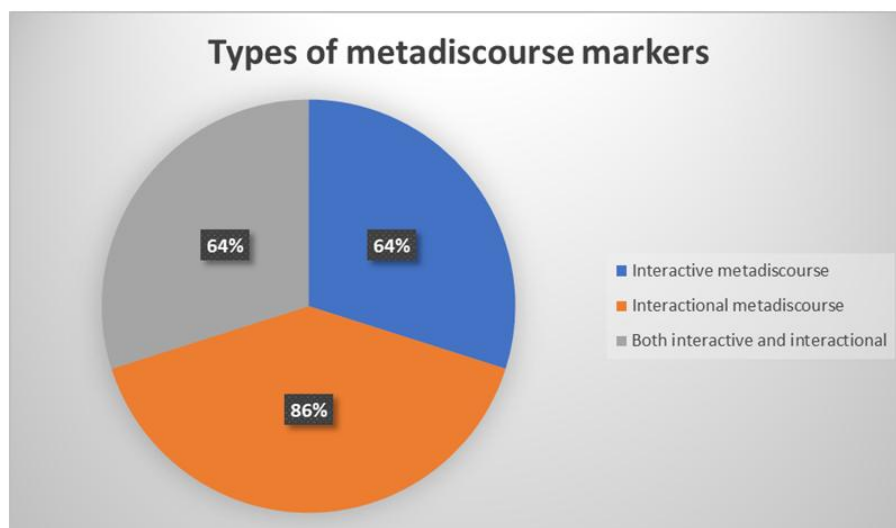


Figure 2. The percentage of previous studies conducted on the types of metadiscourse markers.

Table 4. The types of metadiscourse markers investigated in previous studies.

Variable	Prime Studies	N = 22	Percentage (%)
Interactive metadiscourse	PS3	14	64
	PS5		
	PS6		
	PS9		
	PS10		
	PS12		
	PS14		

	PS15		
	PS17		
	PS20		
	PS21		
	PS22		
	PS24		
	PS25		
	PS26		
Interactional metadiscourse	PS1	19	86
	PS2		
	PS3		
	PS6		
	PS7		
	PS9		
	PS10		
	PS11		
	PS12		
	PS14		
	PS12		
	PS17		
	PS19		
	PS20		
	PS21		
	PS22		
	PS23		
	PS25		
	PS26		
Both types of metadiscourse markers	PS3	14	64
	PS4		
	PS6		
	PS9		
	PS10		
	PS12		
	PS14		
	PS15		
	PS17		
	PS20		
	PS21		
	PS22		
	PS25		
	PS36		

The distinction between interactive and interactional metadiscourse lies in their functions, where interactive metadiscourse aims to engage the reader and interactional metadiscourse seeks to stimulate interaction between the writer and the reader (Yusob and Nikman, 2023). Several studies have delved into this comparison, yielding varying results. For instance, found that interactional metadiscourse features were preponderant compared to interactive metadiscourse features in both English native and Iranian writers' news writing (Farahani and Sabetifard, 2017). Conversely, it was discovered that Arab writers had a greater inclination for the deployment of interactive markers than interactional ones (Zakaria and Malik, 2018). Similarly, found that interactional metadiscourse markers were used nearly twice as often as interactive discourse markers across three disciplines (Ruonan and Al-Shaibani, 2022). On the other hand, it was highlighted that interactive metadiscourse was used more frequently compared to the interactional form in the abstract section of applied linguistics research articles (Ahmadi et al., 2021). Therefore, comparing the interactive and interactional metadiscourse elements in academic writing is a challenging and comprehensive field of research. The discrepancies in the findings from various research studies highlight the need for further investigation into the factors influencing the prevalence of these metadiscourse features in different contexts.

RQ2: What is the influence of language proficiency on the types of metadiscourse markers used by ESL learners in these primary studies?

For the selected primary studies under this second theme, it was found that 54% or 14 out of 26 articles have studied the relationship between the use of metadiscourse markers and language proficiency. Only one article (PS5) studied on low proficient writers (7%), 36% or 5 out of 14 articles studied on average proficient writers, 43% or 6 out of 14 articles focused on high proficient writers, and two articles (14%) focused on all three proficiency levels (*Figure 3*). The majority of research, as *Table 5* illustrates, focused on the preferences and usage of metadiscourse markers by extremely successful learners. This is due to the fact that metadiscourse research on high-proficiency learners predominates over those on average and lower-proficiency learners for a number of reasons. First off, studies have demonstrated that disparities in proficiency have a big impact on language acquisition and cooperative conversation. According to Huong and Phung's (2023) research, adult ESL learners who worked with partners who had lower proficiency levels than those who had greater proficiency levels scored higher on the post-test. It was also noted that there was greater negotiation of meaning and turn-taking when learners with varying levels of skill had defined responsibilities within a task (Spinelli, 2024). These findings suggest that studying high-proficiency learners may provide clearer insights into the impact of proficiency on collaborative language learning.

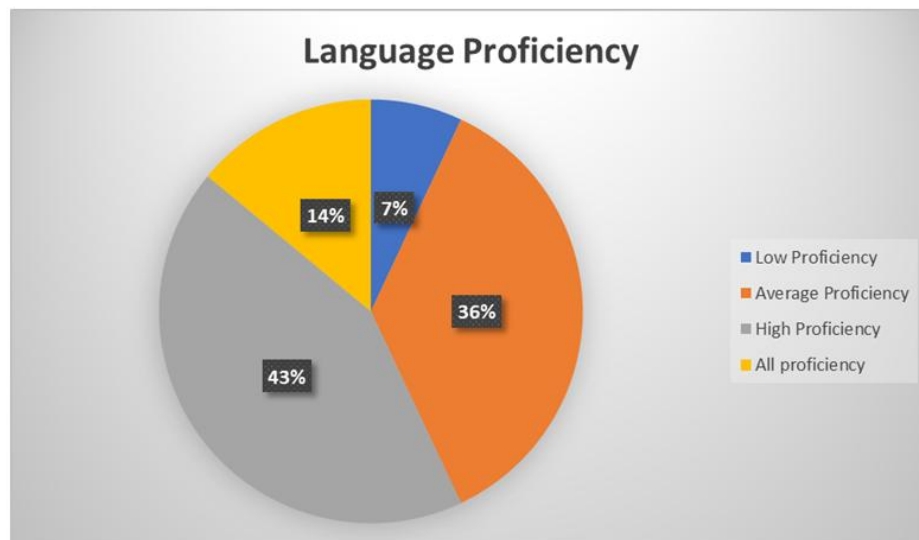


Figure 3. The percentage of previous studies conducted on the usage of metadiscourse markers among learners from different proficiencies.

Table 5. The level of language proficiency studied in previous studies.

Variable	Prime Studies	N = 14	Percentage (%)
Low proficiency level	PS5	1	7
Average proficiency level	PS2	5	36
	PS3		
	PS13		
	PS17		
	PS22		
High proficiency level	PS4	6	43
	PS8		
	PS10		
	PS12		
	PS16		

All three proficiency levels	PS19 PS15 PS18	2	14
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Furthermore, the linguistic correlates of second language (L2) comprehensibility and accentedness were found to vary by learners' proficiency levels (Uchihara et al., 2023). This indicates that proficiency levels play a crucial role in language production and communication. Furthermore, research indicates that learners with greater L2 competency find it easier to pick up new forms than learners with lesser ability (Serfaty and Serrano, 2022). These findings underscore the importance of considering proficiency levels in language learning research. Furthermore, it has been discovered that learners with varying skill levels employ metadiscourse signals differently. According to Bax et al. (2019), higher-level writers employed a substantially greater range of metadiscourse markers but used less of them overall. This suggests that the proficiency level of learners may influence their use of metadiscourse markers in academic writing.

While the existing research has primarily focused on high-proficiency learners, it is essential to acknowledge the impact of proficiency levels on language learning and academic writing. For language instructors and academics, knowing how proficiency affects collaborative communication, language production, and metadiscourse use can be very insightful. Future research should therefore focus on filling in this knowledge vacuum by examining the relationship between language learning proficiency and metadiscourse usage among learners of average and lower proficiency. In addition, more studies need to be conducted to learn more the types of metadiscourse markers used by low and average proficient learners as well so that the writing instructors can help weaker students to use more metadiscourse markers and from different varieties. Writing instructors should be reminded by Ho and Li (2018) that when creating a compelling work, it was not about the quantity or even the variety of metadiscourse resources available. Instead, it was: (1) the precise or imprecise selection of metadiscourse markers that indicate the intended relationship; (2) the right or wrong assessment of whether a statement requires a full or partial commitment when using metadiscourse markers; (3) the consistency or inconsistency in the positioning of and interaction with the reader; (4) the interaction between metadiscourse markers, particularly in a longer and more complex discussion; and (5) the various ways in which they reinforce (or do not reinforce) each other to make a text more or less persuasive.

Based on previous studies, it is important for future researchers to really set beforehand the definition of proficiency in helping them to match the proficiency with the writing produced by the learners whether they will employ metadiscourse markers skillfully and sufficiently. For instance, Bax et al. (2019) categorized B2, C1 and C2 of CEFR as high proficiency learners. El-Dakhs (2020) who focused on intermediate proficiency learners defined B1 as lower intermediate and B2 as higher intermediate proficiency learners. She also uses Vocabulary Size Test (VST) proposed by Nation and Beglar (2007) which categorises the writers into four groups as shown in *Table 6*.

Table 6. *Categories of writers based on Vocabulary Size Test (VST).*

CEFR	TOEFL Marks
A1	56 and below
A2	57 – 75
B1	76 – 86
B2	87 and above

RQ3: What are the common writing errors made in relation to the use of metadiscourse markers by ESL learners in these primary studies?

From 2018 to August 2023, nine primary studies were conducted on studying the error analysis on the metadiscourse markers used. *Figure 4* demonstrated the types of common language errors studied by previous studies. Out of nine primary studies, none was conducted on the underuse of a particular type of metadiscourse markers, four primary studies discussed on overuse of certain groups of metadiscourse markers (44%) while six primary studies were conducted on both underuse and overuse of metadiscourse markers (66%). *Table 7* shows that past research has mainly focused on both underuse and overuse of metadiscourse markers. In general, El-Dakhs (2020) stated that ESL writers sometimes underuse certain features (e.g., interactional markers or boosters) and at other times overuse other features (e.g., interactive markers and frame markers). The overuse of cohesive devices may not improve the cohesion and coherence of the text as semantic relations do not need to be made explicit (Kobayashi, 2016; as cited in El-Dakhs, 2020).

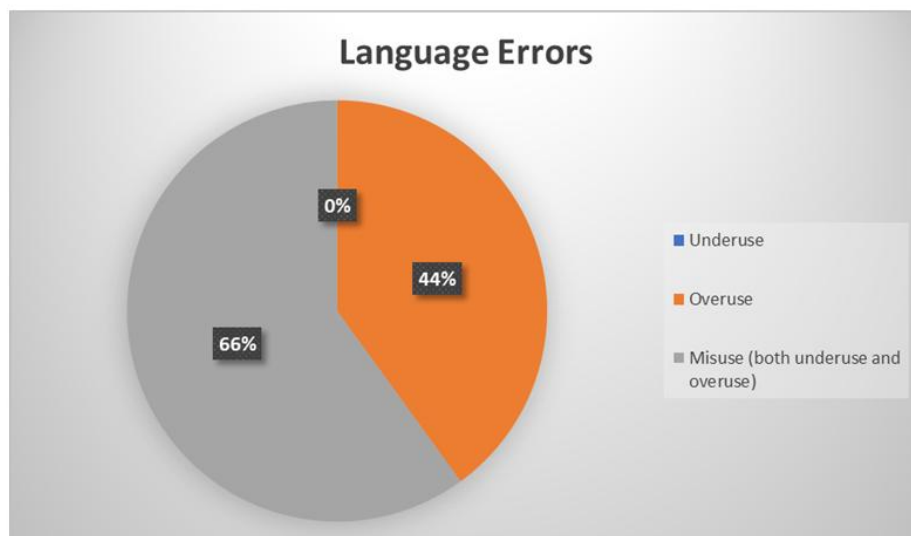


Figure 4. The percentage of previous studies conducted on the types of language errors committed in the use of metadiscourse markers.

Table 7. The types of language errors studied in previous studies.

Variable	Prime studies	N = 9	Percentage (%)
Underuse	-	0	0
Overuse	PS6 PS12 PS18 PS21	4	44
Both underuse and overuse (misuse)	PS3 PS5 PS15 PS17 PS21 PS26	6	66

Studies from the language context of EFL in Korea such as Park and Oh (2018) and Yoon (2020) demonstrated a similarity in terms of the metadiscourse markers that they underuse while having differences in the metadiscourse markers that they overuse. Both

EFL learners underuse hedges while learners in Park and Oh (2018) study have overused boosters and learners in Yoon (2020) study have overused reader/personal pronouns. Yoon (2020) explained that L2 learners tend to underuse hedging markers in writing as compared to their native speaker (NS) counterparts, potentially leading to more straightforward, stronger assertions. In this study, the reduced use of hedges was identified as a common feature of all L2 learner groups, pointing to the need to include hedging as a target trait in L2 writing instruction. On the other hand, the L2 groups' greater use of reader pronouns than the NS group can be interpreted as the outcome of their cultural backgrounds that value harmony with other members in a community and regard the obvious projection of the self as being rude or disrespectful. However, it should be noted that, while writers' use of reader pronouns plays important roles in establishing a common ground with readers, their overreliance on personal pronouns can still cause harm to the formality of academic writing. When observing any overuse of reader pronouns in L2 learner writing, writing instructors may need to try to have their students notice its potential drawbacks by, for example, providing them with the opportunity to compare their essays containing an excessive number of reader pronouns with model essays (e.g., those reformulated by the instructor) that contain an appropriate number of reader pronouns.

Conclusion

This systematic review contributes to the related body of metadiscourse studies by highlighting the current trends when it comes to the types of metadiscourse markers studied, the level of proficiency and the types of language error committed in written discourse. It aims to address the gap in previous studies by identifying the aspects of the study that are less explored by researchers in the period of publication that has been selected. 86 percent of the 22 research that examined the various forms of metadiscourse markers focused on interactional markers rather than interactive ones. The dominance of the interactional category is anticipated. However, the lack of attempts to include both metadiscourse types in one empirical paper seems to negate the importance of interactive metadiscourse which is more commonly practiced by students in their writing. There is only one study that particularly looks at low proficiency students' usage of metadiscourse markers. It is concerning that the majority of researchers are only interested in the use of metadiscourse markers among high proficiency learners, despite the fact that all students, regardless of language proficiency, should practise applying them in written discourse, especially by novice writers. Language educators or instructors should also pay attention to students with low language abilities because they need to find appropriate methods so that students with low language abilities do not fall behind in their writing performance.

Finally, from 26 prime studies selected, only 9 specifically address the types of language error committed by novice learners in ESL and EFL context. Though these prime studies are beneficial in outlining what really constitutes language error, they may not be accurately identifying the errors that are really related to the use of metadiscourse markers. There is no clear scope of meaning by previous researchers about what is meant by the use of metadiscourse markers that are underused or overused as there are many diverse opinions about it. Taking everything into account, this systematic review has highlighted the need to document all the three aspects of metadiscourse studies as

noted throughout the article which can guide other researchers who intend to evaluate the gaps that persisted in this field.

Pedagogical implications

Studying metadiscourse in expository writing has significant pedagogical implications for the teaching of compositions and academic writing. The research on metadiscourse has shown positive implications for teaching metadiscourse as an academic discipline (Alotaibi, 2018). It has been noted that metadiscourse is frequently presented piecemeal in English for Academic Purposes (EAP) and English as a Foreign Language (EFL) texts, and that courses on EAP sometimes fail to give metadiscourse enough attention since they only cover a small number of markers (Ngai and Singh, 2020). Moreover, metadiscourse provides information about a communicative setting and its members' perspectives, which can be useful for writing training (Myhill et al., 2022). Furthermore, the study of metadiscourse has significant applications for improving EFL students' metadiscourse proficiency in academic writing in the target language (Kostareva and Utkina, 2022).

Additionally, the results of a study on process-based writing showed that teachers who use it have a high level of confidence in their ability to teach writing as well as write, which has consequences for writing instruction (Kurniasih et al., 2020). The use of metadiscourse markers in expository writing has been found to have possible pedagogical implications (Ashofteh et al., 2020). Furthermore, the study of metadiscourse has been revealed to be a prominent characteristic of various types of academic text, covering school textbooks, university textbooks, doctoral dissertations, and pedagogical studies such as reading comprehension, listening comprehension, and writing (Almashour and Davies, 2023). Overall, there are significant pedagogical ramifications for the study of metadiscourse in expository writing that affect how composition and academic writing are taught. It provides perspectives of participants, communication situations, and the growth of pupils' writing proficiency. To improve students' writing abilities, it is crucial to include the results of metadiscourse research into writing education.

Limitations

This systematic review is restricted to studies published in journals by the three databases that were determined and also added to Google Scholar where the selected studies were limited to only 200 according to the recommendations of Pearson and Abdollahzadeh (2023). Although initially OATD.org was selected to gather as many publications as possible according to the keywords that had been set, but no publications from OATD.org were selected to be used as prime studies because those publications did not meet the inclusion criteria that had been set. Due to the exclusion and inclusion criteria, not all works published within the same scope were covered as some could have been published in other languages or indexed by other databases. Despite the limitation, the results from the review have provided a sufficient overview of all pertinent aspects in relation to metadiscourse studies.

Future researchers could examine other published works from other databases provided by their respective universities. Moreover, as the participants of interest for this review is limited to novice writers at tertiary level (regardless of their ages) and ESL or EFL contexts, the use of metadiscourse markers could benefit other novice

writers from even younger learning institutions like primary or secondary schools. This calls for researchers to study the difference between learning institutions on their use of metadiscourse markers especially in expository writing. Besides, it is noted that it is difficult to outline the types of language errors in relation to how metadiscourse markers are used because there is no unifying framework when metadiscourse markers are used incorrectly during the review process. Therefore, future studies could address this issue by stating the language error framework employed in the study under the theoretical framework section.

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Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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