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Metadiscourse (MD) Studies in Second Language (L2) Writings: A Systematic Review of Literature

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Abstract

Metadiscourse is one linguistic component that helps authors make their writing coherent and reader-friendly (MD). All authors write for their readers, and by honing their MD skills, they may successfully engage with them. It's crucial for writers to tie their readers to the propositional content in the engaging part. Some authors are more adept at predicting the interests and concentration spans of their readers. There has been an increase in research on MD analyses of academic papers among writers who write in a second language (L2). This systematic review study provided empirical research on MD analysis studies among writers who write in English as a Second Language (ESL) to identify and summarize the studies that are related to MD analysis of L2 writings. The articles are from Scopus, Web of Science (WOS) and Google Scholar from January 2018 until December 2022. It was found that 26 journal articles are eligible for the analysis. The result showed that the present studies had been identified its aims to review previous pertinent research in terms of research design, study types, conceptual framework, taxonomies, corpus characteristics and elicitation measures, analytical methods and reporting practices to be beneficial in assisting L2 writers to write coherently and effectively.

Keywords: Systematic Literature Review, Metadiscourse Studies, L2 Writing, ESL Writing

Introduction

An intriguing area of analysis known as metadiscourse (MD) is thought to be crucial for structuring and generating L2 writing. MD is a symbol for the idea that writing include more than merely expressing thoughts and conveying meaning. Instead, they encourage interaction between the authors and the readers of the text.. Harris first articulated MD as a technique of comprehending language in use that aids the author or speaker in directing the audience's understanding of a work in 1959 (cited in Hyland, 2005). Hyland (2004) on the other hand considers MD as "self-reflective language statements relating to the unfolding text, to the writer, and to the imagined readers of that text". It is found on the idea that writing is a form

of social and communicative interaction that, when done in academic settings, shows how writers present themselves to their readers. As a result, MD has advanced significantly, and it is now thought that individuals connected themselves to their discourse by using a variety of language phrases to transmit information and express their thoughts (Hyland, 2005).

The use of MD in L2 writing is widely practiced and it is even burgeoning. Some of past studies done by Mohamed *et al* (2021); Lee and Deakin (2016) have found the greater use of MD markers in written corpus which produced by good essays. This case may pinpoint to students' writing performance, in which using more MD markers in the writing may affect the ESL student's performance of writing. At the same time, these ESL students also inserted less communicative interactions in their writings (Lo et. al., 2020; Mohamed et.al., 2021) which the use of communicative interactions of MD such as self -mentions (*I, me, mine*) and engagement markers (*we, our*) shows lower percentage than organizational MD like hedges, transitional markers, boosters etc. According to the previous study by Ho & Li (2018); Lee & Deakin (2016), these problems may occur due to ESL writers in university are less experienced in academic writing. Besides that, ESL writers, especially undergraduates, tend to face problems in using MD markers in their writing. Many of them do not use the MD markers appropriately in their essay writing (Mohamed *et al.*, 2021). Since MD has never been directly taught as a subject to undergraduate students, it may contribute to the lack of awareness of MD functions in effective writing (Noor & Alam, 2017).

In the last 10 years, there has been increasing research on MD analysis studies of academic writings among Second Language (L2) writers (Hyland, 2001). A body of literature, particularly from the past studies by Hyland (2000, 2001 & 2002), using MD in L2 writings can also be valuable for a number of reasons, including: giving propositional information a context (Mohamed et al., 2021); boosting persuasiveness; enhancing understanding and recall (Ekawati and Rosyidah, 2022); promoting coherence and clearly relating issues to one another; and educating readers about the subjective interpretation of truth; indicating the writer's attitudes towards the reader and the text, and (Hyland, 2005). Hence, the use of MD plays a significant part in a student's life.

In that purpose, this research is inspired empirical research on MD analysis studies among English Second Language (ESL) writer. It is hoped that the study might benefit to the future researchers who are interested in MD use in L2 writings and MD analysis, may gain information and knowledge about the current practices, issues and implementation of MD in L2 writings.

Thus, to assess the contribution of MD to L2 English students' writing, the present study systematically reviews previous research in this field. The purposes of the study are to evaluate, identify and summarize the current studies and trends of MD done by the previous researchers from January 2018 until December 2022. Specifically, it aims to review previous pertinent research in terms of research design, study types, conceptual framework, taxonomies, corpus characteristics and elicitation measures, analytical methods and reporting practices.

This study aims to provide answers and insights the following research questions:

1. What trends of MD theoretical framework were adopted in the reviewed empirical studies?
2. What are the methodological characteristics of the current review of empirical studies of MD?

Method

Eligibility Criteria

Some theoretical frameworks of MD were proposed by different scholars (Vande Kopple, 1985; Crismore et al., 1993; Mauranen, 1993b; Dahl, 2004; Hyland, 56 2005a, 2005b Ädel, 2006, 2010; Ädel & Mauranen, 2010). These frameworks usually led to divergences among MD studies in L2 English writing in the past 58 decades. The present study adopted a comprehensive and accurate set of search terms, principled inclusion/exclusion criteria, and ancestral searching to search through the existing studies.

In conducting this systematic review, the researchers adhered to PRISMA standards (Page et al., 2020). To prevent irrelevant studies or ambiguous search results, the most crucial and essential step is to first construct an accurate set of search phrases to the fullest extent possible. Following that, finding pertinent studies in the databases will be thorough and efficient. The process began with a trial retrieval of 50 articles written in English from Web of Science (WoS) with “metadiscourse analysis” or “metadiscourse”, and “ESL essay” or “L2 writing” or “non-native writing” in the title, abstract and keywords. After analysing Author Keywords and Keywords Plus provided by WoS, then it will be quick and easy to identify relevant studies in the databases.

Information Sources and Search

The search terms were applied to the title, abstract and keyword fields of the chosen research indices in the databases: Web of Science (WoS) and Scopus. An additional search of Google Scholar was conducted to avoid omitting studies published in journals not indexed in the above databases. We limited the Google Scholar search to the first 100 hits for manageability during the procedure. Our search reviewed published research for 10 years (2018 – 2022).

Study Selection and Data Extraction Process

Following PRISMA procedures, after the completion of the searching process, titles and abstracts were screened to determine study relevance (see figure 1). The number of duplicated records, i.e., the number of studies indexed in two or more databases, was calculated before the screening. One hundred sixty-one documents were obtained using the search terms and ancestral citation searching. The chosen retrieved documents are published as journal articles only where most studies in MD and L2 writing. One hundred fifteen records were removed during the screening process because they were unrelated to the focus on MD and L2 writers. Seven non-empirical studies, which include book reviews, thesis and position papers, were excluded. Ten studies were removed because they investigated student writing in other L2s or L1 English rather than L2 English, despite the utilising of contextual search terms. One record was removed for being the wrong document type. One study of L3 English and four studies which did not specify the language backgrounds of the investigated students were excluded. Empirical studies which addressed writing by non-native English researchers and ESL adults and the ones which addressed the writing of textbooks, or students’ spoken presentations, were excluded (N = 32). Six other empirical studies were excluded as they addressed native English student writing. The focus of these six studies was not MD but interrater reliability, writing quality, writing assessment, Coh-Metrix measurement, or students’ use of information. The term MD did appear in these studies, but it was not employed as their main concern.

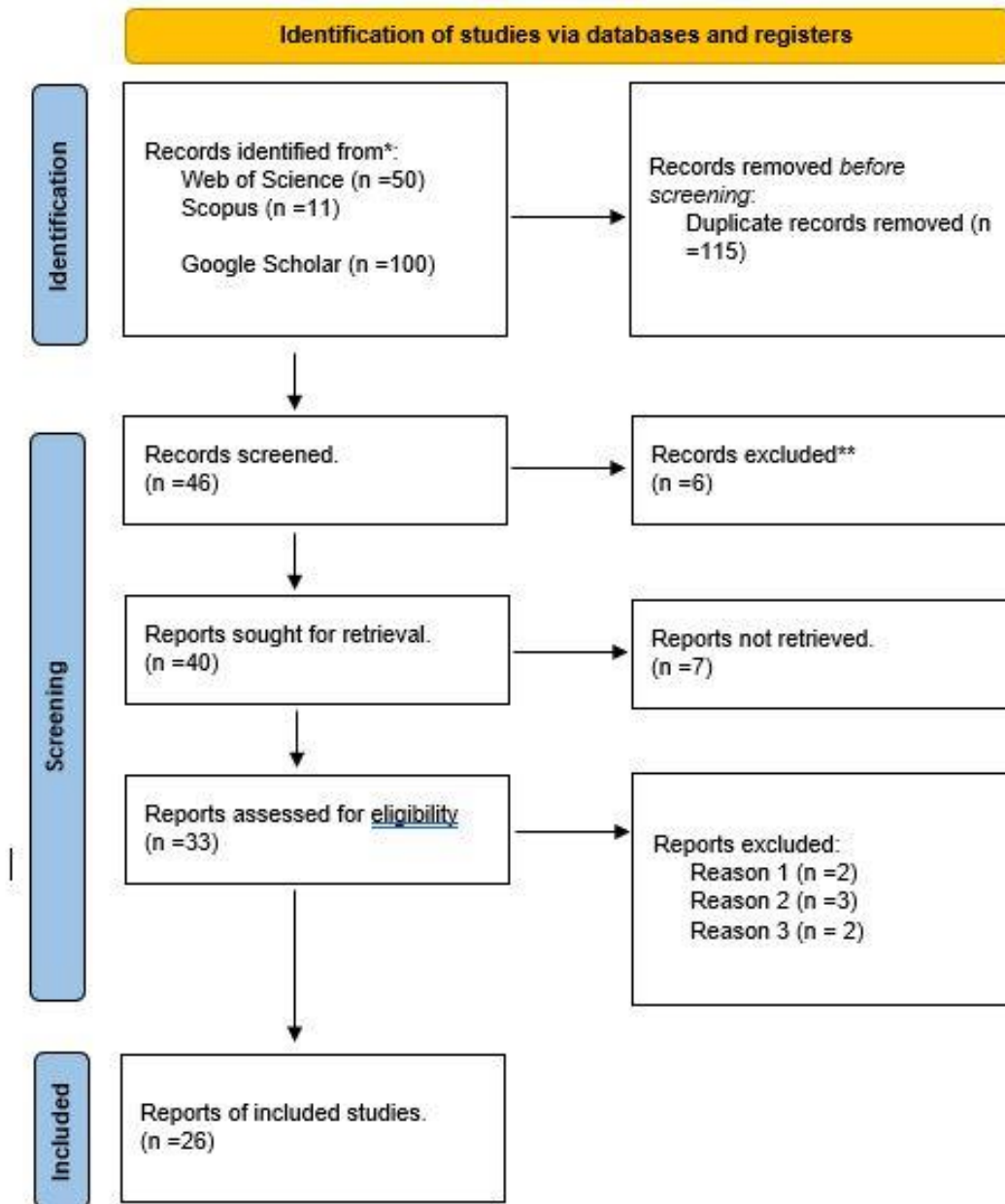


Figure 1. PRISMA Diagram

An important consideration for our exclusion criteria was the theoretical framework. Our focus on MD refers to L2 writers produced based on MD models. To be cautious, empirical studies that adopted other theoretical frameworks or approaches, whether mixed with the MD model/ taxonomy or not, were removed in the exclusion process (N = 26). The theoretical frameworks and approaches mainly include Hyland (2005); Hyland (2004); Hyland & Tse (2004) etc. Another seven empirical studies were excluded because they were conducted without consideration of metadiscoursal properties. A further assessment of the screened studies was performed in the PRISMA process to guarantee an accurate and eligible filtering result for this review. As shown in Fig. 1, six empirical studies were excluded because they used MD as an angle to address their primary concerns, such as writing assessment, human rating, feedback, or teacher’s instruction. One more study was removed for adopting employing Ivanic's (1998) concept of writer identity, consisting of autobiographical self,

discoursal self and authorial self, one was removed for following an analytical framework of Critical Discourse Analysis, another was removed for adopting Bakhtin's dialogism, and an additional exclusion was made due to their disinterest in metadiscoursal properties. In addition to the above exclusion, another empirical study was excluded because its data included writing by L2 English researchers and L2 English students. However, the researchers did not distinguish between the two in their analysis. Similarly, three studies were excluded for mixing data collected from native and non-native English speakers without explanation. As a result of the screening and filtering, 26 studies under selected criteria were included in this systematic review.

Data Coding and Analysis

The present review adopts quantitative data collection and analysis methods in the data coding process. It utilises a deductive analytical scheme to meticulously probe into the conceptual and methodological features of the filtered empirical studies. Following the examples set by the classic and widely used metadiscourse models (Crismore et al., 1993; Hyland, 2005a, 2005b; Ädel, 2006), other influential empirical studies in metadiscourse Ädel, (2010); Ädel & Mauranen (2010); Dahl (2004); Mauranen (1993b); Hyland & Milton (1997); Hyland & Tse (2004), and the examples of systematic reviews Ahmed & Zhang (2022) in MD, the deductive analytical scheme used in this study was developed inductively and recursively by identifying values, variables, and categories of research focus in respect of the above examples. The study focused on six categories in response to our research questions: research designs, data sources, conceptual considerations (RQ1), contexts, participants' language backgrounds, texts/corpora, and reporting practices (RQ2). Each category is analyzed through a set of variables. Variables such as the corpus size are open-ended. In contrast, other variables contain categorical values, such as MD framework and analytical software. The Procedure, Results, and Comment sections can all be found to identify most of the values. However, when the target study uses analytical tools, more than one corpus was compared, or the data were gathered from various participant groups, variables need to be interpreted. To ensure the accuracy of all the variables used in this review, the coding was cross-checked during the recoding process. Frequency counts and proportions will be used to present the results.

Results

Theoretical Frameworks

The forms and frequencies of MD markers were identified based on the analysis of the theoretical frameworks adopted by the reviewed studies regarding MD markers and their taxonomies. Although the majority of the examined studies used a modified framework or taxonomy and the terminology can be contradictory, this review specifically focused on MD.

Table 1

MD Taxonomy and Framework used in MD Studies on L2 Writing

Variable	Value	N=26	Percentage
Taxonomy/ Framework of MD	Bax et. al (2019)	1	3.85%
	Biber (2006)	1	3.85%
	Hyland (1998c)	1	3.85%
	Hyland (2004)	6	23.08%
	Hyland (2005)	14	53.85%
	Hyland (2010)	1	3.85%
	Hyland & Tse (2004)	1	3.85%
	Min et. al (2019)	1	3.85%
MD Markers	Interactive MD only	2	7.69%
	Interactional MD only	5	19.23%
	Both Types of MD (Interactive & Interactional)	7	26.92%
	Hedges only	5	19.23%
	Boosters only	4	15.38%
	Attitude Markers only	1	3.85%
	Frame Markers only	1	3.85%
	Stance & Engagement Marker only	1	3.85%

As can be seen from Table 1, Hyland's MD model or taxonomy Hyland (2005) appeared to be the most prominent adoption, used by 14 of the studies, followed by Hyland (2004) with 6 of the studies. Other less commonly used models or taxonomies were Hyland (2010); Hyland & Tse (2004); Hyland(1998c) and others. Besides this, it was found that when analysing the MD, some researchers would use more personalised terminology rather than a ready-made taxonomy list. For example, Yoon & Kim (2022) when analysing MD markers, their types and counts were investigated based on thirteen categories of MD markers identified by Bax et al (2019); Hyland (2004) which are announce goal, code gloss, endophoric, hedge, logical connective, relational marker, attitude marker, emphatic, label stage, person marker, sequencing, and topic shif.

For MD markers used, most of the studies utilized both type of MD with 26.92% (n=7). The empirical studies emphasized on interactional MD with 19.23%(n=5) than interactive MD with 7.69% (n=2). Many of the reviewed studies investigated more sub-types of interactional MD markers with 19.23% of them (n=5) investigated hedges markers, 15.38% (n=4) investigated boosters, followed with investigated attitude markers 3.85% (n=1), frame markers 3.85% (n=1) and 3.85% (n=1) stance and engagement markers.

Text, Corpora and Study Context

The adopted corpora and sub-corpora, collected texts, corpus size, language represented in corpora, and the study context in these corpus-based or corpus-assisted studies are shown in Table 2 below.

Table 2

Corpora Characteristics and Study Context of MD Studies on L2 Writing

Variable	Value	N=26	Percentage
Corpus Size	Quantity of Texts		
	1-10	2	7.69%
	11-30	4	15.38%
	30-50	8	30.77%
	51-100	4	15.38%
	101-200	3	11.54%
	201-500	4	15.38%
	500>	1	3.85%
Corpus timeframe (years)	1<	6	23.08%
	2-4	3	11.54%
	4>	0	0
	5>	0	0
	unreported	17	65.38%
Genres represented by corpora	Argumentative	6	23.08%
	Expository	2	7.69%
	Persuasive	2	7.69%
	Blog	2	7.69%
	Flipped Card	1	3.85%
	Student's academic writing	5	19.23%
	Sections of Research Articles selected for study aim		
	Full text	1	3.85%
	Abstract	0	0
	Introduction	5	19.23%
	Literature Review	1	3.85%
	Methodology	2	7.69%
	Result	0	0
	Discussion	2	7.69%
	Conclusion	3	11.54%
Disciplines of the Investigation of academic writing	English	8	30.77%
	Applied Linguistics	4	15.38%
	Education	3	11.54%
	Islamic Studies	1	3.85%
	Human/ social science	5	19.23%
	unreported	5	19.23%
Institutional setting	University	23	88.46%
	High school	2	7.69%
	unreported	1	3.85%

L2 Participants' Learning Program	Undergraduate	17	65.38%
	Ph.D.	2	7.69%
	EFL or ESL course	6	23.08%
	English Language Exam	1	3.85%

As shown in Table 2, most of reviewed studies used 30 to 50 texts in their study (30.77%), however, these studies mostly took not more than one year to conduct the study. In similar time, it was concerned that most of studies did not mention the corpus timeframe of the study. Besides that, 65.38% of the reviewed studies (n=17) investigated undergraduate students' writing. In comparison, 7.69% (n=2) investigated doctoral dissertations at the postgraduate level. Only two of the reviewed studies recruited participants from high school. Unfortunately, one study did not report its institutional setting. Due of accessibility, undergraduate students appeared to make up most participants in L2 English writing studies. Moreover, academic writing and argumentative writing were the two most popular genres in the sample of research, with 23.08% and 19.23%, respectively.

Reporting Practices

Based upon the analysis of research design and study types (see Tables 4 & 5), Table 3 represents the reporting practices and statistical analyses in the reviewed studies.

Table 3

Reporting sources of MD Studies on L2 Writing

Variable	Value	N=26	Percentage
Analytical Test	Descriptive statistics	16	61.54%
	Inferential statistics		
	Chi-square	3	11.54%
	ANOVA	2	7.69%
	Pearson correlation	1	3.85%
	T-Test (paired-samples/dependent)	1	3.85%
	Mann-Whitney U Test	1	3.85%
	Kruskal Wallis	1	3.85%
	Wilcoxon W	1	3.85%

The review of reporting practices revealed that most studies 61.54% reported descriptive statistics; the others were either case studies or qualitative studies. The inferential statistics were employed in the reviewed studies: 11.54% (n=3) used Chi square, and another 7.69% used ANOVA test, the percentage of which was higher than other statistical tests.

Methodological Characteristics

Methodological Concerns

MD investigations are not an exception to the rule that methodology in theoretical and applied linguistics is "concerned with the link between theory and data" (Ender et al., 2012:2). The idea of MD and its research methods have its roots in pragmatics, which is the study of language in use, language and its context, the relationship between context and linguistic meaning, and communication among speakers of certain languages (Kopple, 1985; Hyland,

2005a). According to Vande Kopple (1985:83–85), MD is based on written discourse and is primarily concerned with how readers can understand the structure and connections of a text, how they can accurately understand the author's meaning, how writers can express themselves clearly, or what writers think of particular propositions. As a result, MD is typically appropriate for using a qualitative method. Moreover, using MD lexical words is thought to be a sign of pragmatic writing proficiency in L2 students (Hyland & Milton, 1997: 184). Concordance analysis is a crucial qualitative technique utilized in this research to analyze MD markers or patterns because of the pragmatic and discursal legacy of MD studies and the technology used in current linguistics (Hyland 2005a: 198). A mixed-method study is additionally crucial because qualitative analysis is frequently carried out after data collection and annotation. Interviews are also required in some circumstances to provide explanations from the perspective of people other than researchers, as Hyland (2005a) noted. Hence, in MD investigations, a triangulation of corpus data with interviews or feedback is frequently used.

Turning to research design characteristics (Figure 2 & Table 1), this study looked at the general research design method and the approaches adopted in the reviewed studies. However, the analysis found that among the examined empirical studies of MD and L2 English writing, more than half of the studies adopted a quantitative method. Figure 2 further shows that the choice of method was split across quantitative (76.92%), qualitative (3.85%), and mixed methods studies (19.23%). However, this study's findings suggested that the widespread use of mixed approaches could not reflect evolving MD tendencies that consider numerous methodologies as fruitful and integrated (Hiver et al., 2021).

Table 4

Research Methodology and Approaches used in MD Studies on L2 Writing

Variable	Value	N=26	Percentage
Method	Quantitative	20	76.92%
	Qualitative	1	3.85%
	Mixed Method (Quantitative & Qualitative)	5	19.23%
Approach	Cross Contextual	2	7.69%
	Cross Gender	2	7.69%
	Cross Cultural Analysis		
	Textual Organizational Features	1	3.85%
	Longitudinal	1	3.85%
	Correlation Research	1	3.85%
	Corpus based analysis	3	11.54%
	Document analysis	1	3.85%
	Authorial voice	1	3.85%

	Sentence-Initial Metadiscourse Element (SI-ME)	1	3.85%
	unreported	13	50.00%

Some studies in the pool (N=26) adopted one approach only to investigate students' use of MD. For instance, Thabet (2018) has conducted a cross-cultural corpus study of the use of hedging markers and dogmatism in postgraduate writing of native and non-native Speakers of English. Furthermore, Rahmat et. al has used cross gender approach in their study to differentiate the use of MD based on gender in online blog. Unfortunately, there are (N=13) 50% of empirical studies did mention their study approach.

Data Sources and Corpus Tools

Table 5 shows the details of the tools used in data retrieval and how they were used. The review found a prominent adoption (46.15%) of the studies (n=16) created a specialised corpus for their study aim. 53.85% of the studies (n=16) used existing large-size corpora and had better representativeness to draw on research questions related to groups of language users in a broader sense. For example, Yoon (2021); Bax et al (2015), used the International Corpus Network of Asian Learners of English (ICNALE); both were deemed suitable corpora for their study aim. Another example that should be mentioned in this review is Takač & Ivezić (2019) using corpus which were obtained from LOCNESS (cf. Granger, 1993), a corpus of native English essays made up of British and American students' argumentative essays.

Table 5

Data Sources and corpus Tools used in MD Studies on L2 Writing

Variable	Value	N=26	Percentage
Data Sources	Corpora Data		
	Using existing corpora	12	46.15%
	Creating a specific Corpus for study	16	53.85%
Corpus Software	Antconc	9	34.62%
	MetaPak	1	3.85%
	Text Inspector	2	7.69%
	No corpus tool used	12	46.15%
	Unreported	2	7.69%

Most reviewed studies used one of the corpus software tools, among which the most popular tool was AntConc, utilised by 34.62% of the studies (n=9). 7.69% of the studies (n=2) used Text Inspector and MetaPak (n=1) with 3.85%. Unsurprisingly, 46.15% of the reviewed studies (n=12) did not use software tools because they investigated the small size of texts and manual annotation, or coding was acceptable in terms of efficiency. However, another 7.69% of the reviewed studies (n=2) did not report the use of software tools in the annotating procedure. One problem with how the MD markers were annotated or coded, either by software tools or manually, was found in our review. Most studies in the pool adopted a predetermined taxonomy or a modified taxonomy based on previous literature to annotate MD markers.

Conclusion and Suggestions for Future Research

This study set out to better understand the research design, quality and reporting practices employed in MD studies of L2 writings. This systematic review responded to how MD used in L2 writings could be investigated by analysing 26 empirical studies in this field.

Two main strengths and three weaknesses were identified in this review. The taxonomy or model of MD used in the reviewed studies was the Hyland's (2005) interpersonal model which is described as a "more theoretically robust and analytically reliable model of metadiscourse" (Hyland, 2005a: 37). So far, it has been widely embraced by several studies (Ariannejad et. Al., 2019; Alkathlan, 2019; Lotfi et. Al., 2019; Zali et al., 2019; Zali et al., 2020; Shafqat et al., 2020; Rahmat et al., 2020; Zahro et al., 2021; Lo et al., 2021; Ekawati and Rosyidah, 2022; Goltaji and Hooshmand, 2022). Methodological triangulation is the first strength of our review. Studies of MD proved that triangulating interviews, questionnaires, or feedback can provide supportive evidence to corpus data. The other strength is the famous trend of utilisation and development of corpus tool used was AntConc. However, three weaknesses were found in our review. Some studies were found to be weak in their methodological practices, report of corpus data sources, and did not report the approach used in their study.

Some recommendations for future research on MD investigations of L2 writings are made in light of the findings. The results imply that key methodological practises, such as the dependability of reporting tools, annotation, and coding, should be improved to better serve research. While using an experimental design, the research will yield more reliable results if participants are assigned at random. To give the whole context of the research and persuade readers with interpretability and reliability, it is also necessary to improve the thoroughness of reporting corpus design and corpus data. Consequently, by performing experimental research using MD, the researchers can closely see the effectiveness of inserting MD in L2 writings. In addition, a lack of longitudinal studies found in the study review suggests the need for more diachronic research design in this field. Furthermore, evaluative writing might be an interesting alternative to argumentative, persuasive, or expository writing in ESL writings since these types of writing are typically grouped together as one. Evaluative essays, however, are more sophisticated. A sort of writing called evaluative writing is used to assess something using a set of standards.

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Appendix A

List of Search Items

1. Web of Science

Metadiscourse Analysis (Title) OR Metadiscourse (Title) AND L2 writing (Title) OR ESL essay (Title) OR non-native writing (Title) and Article (Document Types) and English (Languages)

2. Scopus

TITLE-ABS-KEY (("metadiscourse analysis" OR "metadiscourse") AND ("L2 writing" OR "non-native writing" OR "ESL essay")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English"))

3. Google Scholar

("metadiscourse analysis" OR "metadiscourse") AND ("ESL writing" OR "non-native writing" OR "L2 essay" OR "ESL essay")