Published online: 12 August 2024 DOI: 10.54254/2753-7080/7/2024085

An Investigation into the Occurrences of Metadiscourse in Moves in Dissertations of Applied Linguistics

Yiming Hu

Xinjiang University, No. 666 Shengli Road, Tianshan District, Urumqi, China

yimingxju@qq.com

Abstract. The present study tries to investigate the frequency of metadiscourse makers and moves and the occurrence of metadiscourse in certain moves in "discussion" section in dissertations of applied linguistics. The present study employs the corpus as the research method, using MAXQDA as research tool to conduct qualitative and quantitative analysis. The research finds that the most frequent use of metadiscourse are hedges and transitions, while the lowest is self-mentions, and the central moves are reporting the results and interpreting the results. The research refines the move structure after investigating the corpus. The most frequent occurrence of metadiscourse is hedges in interpreting the results, following the transitions in reporting the results. Self-mentions are the lowest occurrence in any moves.

Keywords: metadiscourse, move, applied linguistics, dissertation

1. Introduction

Discourse analysis encompasses a myriad of areas, including the exploration of discourse understanding, patterns, methodologies, and interdisciplinary subjects such as anthropology, philosophy, psychology, and artificial intelligence. Since the 1980s, academic writing, as a form of discourse, has garnered significant attention from linguistic researchers. Academic texts, serving as the culmination of a researcher's experiments and thoughts, transcend mere written communication to represent a dynamic negotiation between writer and reader. Theses and dissertations are sophisticated student-produced research genres that many graduate or post graduate students are required to complete before they are awarded the degrees. These texts represent "the longest and most challenging piece of assessed writing" that most graduate students will ever compose.[1] Consequently, the arrangement of academic texts and the rhetorical devices employed by writers have become pivotal research topics.

Genre analysis offers a structured pattern for academic writing, governing the composition of diverse essay sections and providing a framework that connects the writing act to a broader social context. This has established genre as "one of the most important and influential concepts in language education".[2] From a theoretical standpoint, every component of an academic paper, including the introduction, abstract, discussion, conclusion, acknowledgments, etc., has been investigated. Swales [3] introduced the CARS model, comprising three moves for the introduction section. Yang and Allison [4] synthesized previous research to analyse the "discussion" section of academic papers in applied linguistics, proposing seven language steps, while Kwan [5] delineated the move structure of the "literature review"

Metadiscourse has significantly influenced academic communities, particularly in applied linguistics since the 1980s. Metadiscourse is recognized as the interpersonal resource employed to organize discourse and express the writer's stance towards the content or the reader. It reflects the linguistic strategies used by authors to align their arguments with the needs and expectations of their target audience.[6] Metadiscourse is the commentary on a text made by its producer in the course of speaking or writing, revealing something of how communication involves the personalities, attitudes and assumptions of those who are communicating. William initially classified metadiscourse into three main parts. [7] Vande Kopple later differentiated metadiscourse into two primary categories. [8] Hyland argued for a more integrated approach, recognizing that metadiscourse classification draws from Halliday's language meta functions which possess their own integrity. He proposed a new classification method. [6]

While previous studies have explored the applications of metadiscourse in various contexts and genre analysis with specific part in academic writings, the two research areas of genre analysis and metadiscourse have not yet been integrated in any research. To address this gap, the present study aims to investigate the overall frequency, practical implementation, and distribution of metadiscourse across different move structures in dissertations of applied linguistics by using qualitative and quantitative methods

on a corpus-based analysis. Following the study's findings, a pedagogical discussion will be presented on how metadiscourse can be incorporated into EFL writing instruction.

Therefore, the two research questions guiding this study are as follows:

1. What frequency of metadiscourse and moves are found in dissertations of applied linguistics?
2. What features of metadiscourse among certain moves show in dissertations of applied linguistics?

2. Methodology

This chapter will primarily describe the process details of this study, including the building of corpus, theoretical basis and research tool.

The Corpus

The corpus comprises the "discussion" sections of 40 dissertations including 111009 words written in English by Chinese postgraduate students majoring in applied linguistics. The study selectively includes dissertations with an independent "discussion" section, as many do not have one, often being combined with other sections such as "results and discussion" or "findings and discussion."

Methods of Analysis

MAXQDA, a widely utilized professional software for qualitative data analysis, supports the analysis of various data types, including text, audio, video, and images. It provides a plethora of tools to assist researchers with data encoding, classification, retrieval, and visualization analysis. In this study, the researcher employs the version MAXQDA.24, as the primary tool for manually coding texts based on established theories and visualizing the outcomes.

For the corpus coding, the researcher adopts Hyland classification of metadiscourse and Yang and Allison's move structure for the "discussion" section. Although there are numerous taxonomies of metadiscourse [6][8][9], this study opts for Hyland's taxonomy (Table 1) due to its integration of Halliday's three metafunctions of language, making it a comprehensive and mature method widely accepted by subsequent researchers. Additionally, interactive metadiscourse within this taxonomy ensures discourse coherence, content fluency, and the reader's ability to interpret the discourse as intended by the author. Interpersonal metadiscourse reflects the author's personal stance and evaluation of the content, serving as the writer's voice within the text. It is essential to recognize that a paper requires rigorous logical argumentation, and the "discussion" section is pivotal for conveying research content to readers, necessitating clear information conveyance.

In choosing the move structure, the present study employs Yang and Allison's structure about "discussion", shown in Table 2. There are reasons about this choice. Firstly, the corpus for this study comes from the discussion section of an applied linguistics paper, and Yang and Allison's move analysis model is based on applied linguistics, making it more suitable for this study than other models. Secondly, they divided this analysis method into two dimensions: moves and steps, which can provide more detailed and convenient annotation analysis of discourse.

Table 1. Category of metadiscourse by Hyland

Interactive resources:	Help to guide reader through the text	
Category	Function	Examples
Transitions:	express relation between main clauses	in addition/but/thus/and
Frame markers:	refer to framework of text	finally/to conclude/my purpose here is to
Endophoric markers:	refer to information in other parts of the text	noted above/see Fig/in section
Evidentials:	refer to information from other texts	according to X/(Y1990)/Z states
Code glosses:	help readers grasp functions of ideational material	Namely/ e.g./ such as/ in other words
Interactional resources:	Involve the reader in the argument	
Category	Function	Examples
Hedges:	qualify writer's assertions	might/perhaps/possible/about
Boosters:	emphasize force or writer's certainty	in fact/definitely/it is clear that
Attitude markers:	express writer's attitude	unfortunately/I agree/surprisingly
Engagement markers:	refer to or build relationship with readers	consider/note that/you can see that
Self-mentions:	refer to author(s)	I/we/my/our

Table 2. Move Structure of "Discussion"

Moves	Information	Steps
Move 1:	Background information	
Move 2:	Reporting results	
Move 3:	Summarizing results	
Move 4:	Commenting on results	S1: Interpreting result S2: Comparing results with literature S3: Accounting for result S4: Evaluating results
Move 5:	Summarizing the study	
Move 6:	Evaluating the study	S1:Indicating limitations S2:Indicating significance S3:Evaluating methodology
Move 7:	Deductions from the research	S1: Making suggestions S2: Recommending further research S3: Drawing pedagogic implication

3. Results

In this section, we will present the results returned by the software MAXQDA, which allow us visualizing analysis, comparing the interactional and interactive discourse makers. In order to answer the research questions mentioned above, there are presented two kinds of results, including the frequency of metadiscourse and moves and the occurrences of metadiscourse in certain moves.

Table 3. Frequency of Metadiscourse in Corpus.

Category	Frequency	Percentage	per 1,000 words
Interactive			
Transitions	2548	51.6%	22.95
Frame markers	844	17.1%	7.60
Endophoric markers	507	10.3%	4.57
Evidentials	180	3.6%	1.62
Code glosses	859	17.4%	7.74
Total	4938	43.9%	44.48
Interactional			
Hedges	2385	37.7%	21.48
Boosters	1338	21.2%	12.05
Attitude markers	1826	28.9%	16.45
Engagement markers	606	9.6%	5.45
Self-mentions	163	2.6%	1.47
Total	**6318**	**56.1%**	**56.91**

Table 3 presents the general frequency of each metadiscourse category and its proportion of overall occurrences in the current study. The author also calculated the occurrences of a specific category per 1000 words across the entire corpus. Generally, the overall occurrence of interactive resources is slightly lower than that of interactional resources, contradicting Hyland's results [6] which indicated that writers used more interactive than interactional forms.

In the interactive resources, transitions represent the most frequent sub-category, constituting approximately 51.6% of all interactive uses. Transitions are commonly found in postgraduate dissertations, averaging about 22.95 instances per 1000 words. According to the compiled dictionary, the words "and", "also" and "therefore" are the most frequent in transition markers. The next most frequent sub-categories are code glosses and frame markers, with 859 and 844 occurrences, averaging 7.6 and 7.74 words per 1000 respectively, and accounting for 17.4% and 17.1% of the total. The most frequently used words within frame markers are "so", "first" and "second" while within code glosses, they are "or", "such as" and "like". The least used in interactive

resources are evidentials, with only 180 occurrences in the entire corpus, 1.62 words per 1000, and constituting only 3.6%. The most frequently used evidentials are “according to”, “state” and “cite”. It is an interesting finding that one dissertation contains no evidentials.

In the interactional resources,the occurrence of hedges accounts for 37.7%, with 2385 instances, just below transitions, which make up 51.6% of all metadiscourse markers, with 2548 instances. The most frequent words in hedges are “may”, “could” and “would”, employed to convey the writer’s caution and politeness. In contrast, self-mentions are the least used in interactional resources and overall metadiscourse use, with 163 instances, constituting only 2.3% of the total. The most frequent words in self-mentions, according to our dictionary, are “I”, “we” and “our”. Additionally, boosters and attitude markers account for about 28% of the total occurrences, with 1338 and 1826 instances, respectively.

Table 4. Frequency of Moves

Move structure	Frequency	Percentage in code	Percentage in whole texts	Per section
M1: Background information	81	6.28	5%	2.03
M2: Reporting results	410	31.81	19%	10.25
M3: Summarizing results	40	3.10	4%	1
M4: Commenting on results				
M4S1: Interpreting result	341	26.45	22%	8.53
M4S2: Comparing results with literature	179	13.89	9%	4.48
M4S3: Accounting for result	156	12.10	11%	3.9
M4S4: Evaluating results	1	0.08		0.03
M5: Summarizing the study	7	0.54	2%	0.18
M6: Evaluating the study				
M6S1: Indicating limitations	15	1.16	1%	0.38
M6S2: Indicating significance	22	1.71	1%	0.55
M6S3: Evaluating methodology	8	0.62	1%	0.2
M7: Deduction from the study				
M7S1: Making suggestions	7	0.54	1%	0.18
M7S2: Recommending further research	8	0.62	0%	0.2
M7S3: Drawing pedagogic implication	14	1.09	1%	0.35
Total(Validity)	1289	100.00	73%	322.25

*M refers to MOVE; S refers to STEP

Table 4 illustrates the general frequency of each move within the study. As depicted, the move that occurs most frequently is commenting on results, with 677 instances, accounting for 53% of all occurrences. This is followed by reporting results, which occurs 410 times, representing 32% of the total. And the least frequent move is Move 5, summarizing the study, which appears only 7 times in total, constituting a mere 1% of the occurrences. Move 1, the background information, is the third most frequent, occurring 81 times and accounting for 6% of the overall move frequency. It is noteworthy that Move 7, deduction from the study, only occurs 29 times, or 2% of the total. The steps within Move 7 include drawing pedagogic implications, which is significant in applied linguistics. Given that applied linguistics primarily focuses on language acquisition, unlike theoretical linguistics or literature, pedagogical implications should be emphasized in academic writings.

In the current study, a strategy of focusing on the frequency of steps for accurate analysis has been selected, particularly when some moves encompass various steps. According to this strategy, the most frequent moves (or steps) are reporting results, interpreting results, comparing results with literature, and accounting for results. Including Move 7, these five moves (or steps) should be considered indispensable in the discussion section of applied linguistics. Reporting and interpreting results often occur concurrently, with reporting results being regarded as the central move in academic writing discussions (Yang, 2003). As shown in Table 3, the most frequent use is in reporting results, with 410 instances, averaging 10.25 times per writing sample and constituting the largest proportion at 31.81%. Additionally, comparing results with literature (M4S2) and accounting for results (M4S3) are less frequent than the first two moves (or steps), with 179 instances of M4S2 and 156 of M4S3. Although these moves vary in frequency, they cover different areas. M4S1, interpreting the result, covers the largest area, accounting for 22% of the total, while Move 2 accounts for 19%.

Table 5. Occurrences of Metadiscourse in Moves

Metadiscourse	M1	M2	M3	M4S1	M4S2	M4S3	M4S4	M5	M6S1	M6S2	M6S3	M7S1	M7S2	M7S3
Interactive														
Code glosses	35	127	36	231	59	78	0	26	4	7	3	7	3	12
Endophoric markers	65	140	27	100	7	28	0	7	2	6	0	1	0	2
Evidentials	10	38	10	46	13	24	0	4	2	1	1	2	0	1
Frame markers	125	138	61	177	30	110	0	21	6	11	2	8	1	6
Transitions	74	476	97	586	198	294	1	34	23	42	23	32	10	22
Interactional														
Self-mentions	4	36	2	28	7	9	0	1	2	5	0	1	1	1
Hedges	64	376	81	676	183	325	0	23	13	36	26	24	6	28
Engagement markers	31	112	14	143	29	49	0	3	5	11	5	12	7	15
Boosters	39	374	43	318	166	94	0	15	15	14	8	9	3	11
Attitude markers	52	387	75	429	207	184	1	19	18	30	10	11	3	20

Table 5 indicates that the use of hedges is a critical strategy in academic writing, as it has the highest frequency of co-occurrence. Transitions follow, which are instrumental in establishing the framework of the "discussion" section, aiding in logical and coherent expression. Additionally, attitude markers, which convey the writer's judgment about their experiment, are indispensable for organizing the report. And the table shows that writers tend to minimize the use of self-mentions in their writing to avoid subjectivity; thus, self-mentions are the least utilized type of metadiscourse in academic writing.

As shown in Table 5, in Move 1 (Background Information), frame markers have the most frequent co-occurrences, with 125 instances, while self-mentions are the least common, occurring only 4 times. During the process of reporting results (Move 2), writers focus on using transitions to logically report their findings, with 476 instances, and their attitudes are also clearly expressed, with 387 instances. The use of hedges and boosters is similar, each occurring about 375 times. It is notable that in interpreting the results (Sub-move 1 of Move 4), writers tend to use hedges as a writing strategy to mitigate the force of their statements, with 676 instances, marking the highest frequency of all co-occurrences. The use of transitions is also significant in interpreting the results, with 586 instances.

4. Discussion

By the use of computer software MAXQDA, it is accessible to code and visualize the study results and makes corpus linguistics easily ever before. At the present study, we have employed the software MAXQDA to code the metadiscourse makers automatically and manually after a compiled dictionary established guided by the theory of Hyland [6][15], and then to code the move structures manually guided by the theory of Yang. The two research questions are answered by showing the tables statistically.

4.1. The Frequency of Metadiscourse and Move

In the current study, the use of interactive metadiscourse resources is slightly lower than that of interactional metadiscourse resources, a finding inconsistent with Hyland's research. Hyland's study indicated that interactional resources are more prevalent, suggesting that dissertation writers aim to express their findings to potential readers and narrow the gap with the audience, thereby enhancing the readability of academic writing. [6] The discrepancy between our results and Hyland's may stem from differences in research objectives. Hyland's research included doctoral dissertations, which tend to have a higher incidence of self-mentions and, consequently, a higher overall use of interactional resources. Another possible reason for the difference is the scope of the retrieval dictionary used. In the present study, we employed a set of retrieval items as comprehensive as possible, may leading to results that differ from Hyland's.

Specifically, within interactive resources, transitions and frame markers are frequently used in academic writing. This indicates that writers are capable of organizing the framework and coherence in their dissertations and pay attention to the relationships between different parts of their arguments. The high frequency of transitions aligns with numerous studies. [11][12] The results imply that postgraduates are adept at using essential transition words in their academic writing. However, it is suggested that they should also learn more complex vocabulary to ensure logical and coherent expression. Evidentials are the least frequently used in

interactive resources, a result consistent with Birhan's findings [13]. Additionally, since each evidential item can represent one review, the overall number of reviews may be limited compared to other markers that can be used more broadly. The low frequency of evidentials does not necessarily indicate a lack of engagement with other researches.

In interactional resources, hedges are the most frequently used, a finding that aligns with Hyland's study [6] and many others [14][15]. This underscores the critical importance of distinguishing fact from opinion in academic writing and the need for writers to evaluate their assertions in ways that are likely to be acceptable and persuasive to their examiners and supervisors. The infrequent use of self-mentions in interactional resources contradicts the results of Birhan [13], indicating that academic writers, especially postgraduates, tend to avoid subjective statements to appear more precise. While Amare suggests that self-mentions can facilitate communication between writer and reader, the present study argues that the explanation for the high use of self-mentions in Amare's study is overly general, as each metadiscourse item serves a communicative function.

4.2. Dispensable Moves

In the present study, we have identified five indispensable moves for the "discussion" section of applied linguistics: reporting results (M2), interpreting results (M4S1), accounting for results (M4S2), comparing results with literature (M4S3), and drawing pedagogic implications. Additionally, there are optional moves that are also important for structuring the "discussion" section, such as providing background information and indicating limitations. Reporting results (M2) is the most frequent and significant part of the "discussion" section, consistent with Yang's argument [4]. The subsequent move is interpreting results (M4S1), which involves explaining the implications or suggestions of the results. Drawing pedagogic implications is emphasized in applied linguistics but writers tend to avoid in the present study. It may be the pedagogical implication written in other sections like "conclusion". Pedagogic implications offer suggestions based on experimental results and should be encouraged for their significance in academic writing. M4S2 and M4S3 are necessary and crucial moves to emphasize, as they help writers explain their findings to potential readers. M4S2 provides support by comparing with or referencing other experimental results, while M4S3 offers reasons for the results, both contributing to the validity of the findings.

4.3. The Feature of Metadiscourse Makers in Move Structure

The second research question of this study investigates the presence of metadiscourse within the move structure of academic writing. Given that some moves may not appear in dissertations, this study focuses on analysing five indispensable moves and two optional ones.

Generally, the most frequently used interactive resources are transitions and hedges. Transitions are common in any context, with "and," "but," and "or" being the most prevalent words. The frequency of hedges in the interactional category demonstrates that writers tend to express their points with low assertion and mitigate subjectivity in academic writing. The use of boosters should be more apparent in academic writing, but this study found it less so.

Specifically, in M1, frame markers are the most frequent occurrences, suggesting that this move serves as a reminder and connector between sections, providing relevant information to prepare for the presentation of results. In M2, transitions are the most frequent, indicating that writers report their findings in a logical and coherent manner. Hedges, boosters, and attitude markers are also significant in this move, as writers must use evidence and examples to support their points while avoiding over assertion. In M4S1, hedges are employed to express the writers' deductions, with transitions following closely behind. This suggests that when conveying experimental information, writers should allow room for their deductions or conclusions to avoid arbitrary statements. M4S1 encompasses extensive information about the experiment, researchers' viewpoints, implications, and other elements, resulting in a higher occurrence of metadiscourse markers compared to other moves.

From an interactive perspective, transitions play the most crucial role in arranging the structure. In M4S2, the use of evidential markers should be emphasized since writers must compare their results with previous research. However, in this study, evidential markers in this move only occurred 13 times. The researcher suggests that writers should use evidential markers for clear expression of comparisons. In M4S3, writers tend to use hedges to state their assumptions about potential reasons for their results. In M7S3, particularly in applied linguistics, writers should recognize the importance of pedagogic implications, which are not commonly included in other disciplines. Engagement and attitude markers should be emphasized for making implications, despite the most frequent use of hedges and transitions.

5. Conclusion

The present study use corpus to conduct qualitative and quantitative analysis. The software MAXQDA is employed as corpus tool. This research paper has conducted an in-depth analysis of metadiscourse in the "discussion" section of dissertations within the field of applied linguistics. The study aimed to investigate the frequency and implementation of metadiscourse and move structures, as well as their interplay within academic writing. The study revealed that interactional metadiscourse resources were used slightly more frequently than interactive resources, contradicting previous findings by Hyland [6]. Transitions and hedges were the most frequently used interactive and interactional resources, respectively. Transitions contribute to the coherence and structure of

academic writing, while hedges are used to mitigate assertions and avoid subjectivity. Additionally, five indispensable moves were identified for the "discussion" section, including reporting results, interpreting results, accounting for results, comparing results with literature, and drawing pedagogic implications. And two optional moves—providing background information and indicating limitations—were recognized as important for structuring the "discussion" section. The study suggests that the identified moves should be employed in the "discussion" section of applied linguistics dissertations to enhance clarity and readability. The use of metadiscourse markers was encouraged for better expression and to foster a connection with the reader. The integration of genre analysis and metadiscourse provides novel insights into the structural and rhetorical aspects of academic writing in applied linguistics.

This study may inspire students to consciously use metadiscourse markers for better expression in their writing. Although students have shown they are capable in using transition, the variety of transition should be improved. In managing thesis, the indispensable moves refined in present study could be the modal for writing. However, there are limitations. The study's corpus includes only 40 dissertations, and there is no control group for different disciplines, limiting the results. The metadiscourse dictionary used is also limited, as it was not compiled as precise as possible, because some makers can serve more than one function. The statistical significance in this study is challenging to analyse due to technical issues and the lack of a control group. Future studies should be encouraged to include a control group and a larger corpus. Additionally, the manual coding process is intricate. While automatic coding for the "abstract" section has been developed by other researchers, there is a need to develop automatic software to identify moves in the "discussion" section, which need programming and modelling literacy, beyond the present study's capability.

References

[1] Thompson, P. (2013). Thesis and dissertation writing. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 283–299). Wiley-Blackwell.
[2] Hyland, K. (2004). *Genre and second language writing*. University of Michigan Press.
[3] Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.
[4] Yang, R., & Allison, D. (2003). Research articles in applied linguistics: Moving from results to conclusions. *English for Specific Purposes*, 22(4), 365–385.
[5] Kwan, B. S. (2006). The schematic structure of literature reviews in doctoral theses of applied linguistics. *English for Specific Purposes*, 25(1), 30–55.
[6] Hyland, K. (2004). Disciplinary interactions: Metadiscourse in L2 postgraduate writing. *Journal of Second Language Writing*, 13(2), 133–151.
[7] Williams, J. W. (1981). *Style: Ten lessons in clarity and grace*. Scott, Foresman.
[8] Vande Kopple, W. J. (1985). Some exploratory discourse on metadiscourse. *College Composition and Communication*, 36, 82–93.
[9] Crismore, A., Markkanen, R., & Steffensen, M. S. (1993). Metadiscourse in persuasive writing: A study of texts written by American and Finnish university students. *Written Communication*, 10(1), 39–71.
[10] Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. Continuum.
[11] Birhan, A. T. (2021). An exploration of metadiscourse usage in book review articles across three academic disciplines: A contrastive analysis of corpus-based research approach. *Scientometrics, 126*(4), 2885–2902.
[12] Azijah, D. P., & Gulö, I. (2020). Interpersonal metadiscourse markers in Jacinda Ardern's speech at Christchurch memorial. *Linguistics and Literature Journal*, 1(2), 70–77.
[13] Birhan, A. T. (2021). An exploration of metadiscourse usage in book review articles across three academic disciplines: A contrastive analysis of corpus-based research approach. *Scientometrics*, 126(4), 2885–2902.
[14] Abdi, R. (2011). Metadiscourse strategies in research articles: A study of the differences across subsections. *Teaching English as a Second Language Quarterly (Formerly Journal of Teaching Language Skills)*, 30(1), 1–16.
[15] Bax, S., Nakatsuhara, F., & Waller, D. (2019). Researching L2 writers' use of metadiscourse markers at intermediate and advanced levels. *System*, 83, 79–95.