

# A comparative genre analysis of journal articles and theses in discussion section

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## Abstract

**There has been growing interest in academic text; however, little empirical research has been conducted on the discussion section. This study presents a comparative genre analysis of the Discussion sections in journal articles and theses. While both formats aim to interpret and contextualize research findings, they differ significantly in their structural organization. This paper analyzes these differences by focusing on key rhetorical features, including the distribution of moves and steps, and the embedding of moves. Through a corpus-based approach, a range of journal articles and theses were examined. The findings indicate that journal articles tend to be more diversified in the organization of moves and steps, while theses are characterized by few moves that consist of discussions. Additionally, this study explores the role of academic conventions and the expectations of different academic communities in shaping the discourse in the Discussion section. The results provide insights into how genre conventions influence academic writing and offer practical implications for both novice and experienced researchers in adapting their writing to meet specific requirements.**

## Keywords

**Rhetorical moves Genre analysis discussion section.**

## 1. Introduction

Academic writing skills have become urgently needed worldwide due to globalization. Reflecting this, scientists at Chinese universities, under immense pressure to publish, commonly seek help from English language educators [1]. To address these issues, these studies explored the rhetorical moves and steps these units are used to realize in different RA part-genres, such as abstracts, introductions [2,3]. Among them, The discussion section of academic writing is integral to the process of contextualizing research findings and providing interpretations that contribute to the existing body of knowledge. It serves as a space for authors to reflect on the implications of their results, acknowledge the limitations of their study, and suggest directions for future research. Given its centrality to scholarly communication, the structure and rhetorical organization of the discussion section are crucial to understanding how researchers convey their insights.

However, little empirical research has been conducted on the discussion section. In addition, Journal articles and theses share the common goal of discussing research outcomes, yet they differ significantly in terms of audience, scope, and expectations. Journal articles are typically written for a specialized academic audience, necessitating brevity and precision. In contrast, theses are more expansive works, often written for academic examination purposes, with a broader scope and more detailed exploration of findings. These differences in purpose and context can influence the genre features of the discussion section, such as the distribution of rhetorical moves, the structure of argumentation, and the way in which information is presented.

For graduates, they need to master the writing of two types of academic paper. Therefore, this study seeks to conduct a comparative genre analysis of discussion sections in journal articles and theses to deepen the understanding of these two types of academic paper.

## 2. Literature review

### 2.1. Genre and move analysis

Within discourse analysis, genre is understood as a category of discourse shaped by its social context and rhetorical function. The central feature defining any genre is its communicative purpose [4, 5].

A prominent method for analyzing genres is move analysis. This approach specifically examines the rhetorical moves found within a genre. A move is defined as a distinct, purposeful segment of spoken or written discourse that fulfills a particular communicative function within the larger text or interaction [5, 6].

### 2.2. Move structure of academic paper discussion

The rhetorical structure of Discussion sections in Applied Linguistics RAs has been analyzed using various corpora. Peacock examined a multi-disciplinary corpus (including Applied Linguistics, Physics, Biology), revising Dudley-Evans' model to include moves such as Statement of Result and Limitation [8,9]. Separately, Yang and Allison established a framework specifically for Applied Linguistics [7]. Later, Liu and Buckingham tested this discipline-specific framework, confirming all moves except Summarizing the Study [10].

### 2.3. Theoretical framework and research methodology

The first stage of our research involved developing a comprehensive analytical framework to enable reliable move annotation within our corpora. Given the critical importance of move identification in the annotation process, precisely defining the term "move" was essential. To accomplish this initial objective, we analyzed the rhetorical structure of Discussion sections from 60 research articles (RAs). Our qualitative corpus underwent a two-level analysis: First, using Yang and Allison's classification of Moves and Steps as a foundational guide, we systematically identified these rhetorical units within the corpus [7].

### 2.4. Data collection and corpus compilation

This study utilized data from two self-compiled corpora: the Corpus of Journal Article Discussions (henceforth J) and the Corpus of Master's Thesis Discussions (M). Each corpus comprises 30 discussion sections sourced from articles published in major journals (for J) and theses from CNKI (henceforth M). A primary selection criterion was the presence of a distinct, independent Discussion section within each source text.

Table 1: Adapted from Yang and Allison's (2003)

Move	Moves Structure
M1	Background Information
M2	M2-Reporting Results
M3	M3-Summarizing Results
M4	M4-Commenting on Results
	S1 - Interpreting Results
	S2 - Comparing Results with Literature
	S3 - Accounting for Results
	S4 - Evaluating Results
M5	M5-Summarizing the Study

M6	M6-Evaluating the Study S1 - Indicating the Limitations S2 - Indicating the Significance/Advantage S3 - Evaluating Methodology
M7	M7-Deductions from the Research S1-Making Suggestions S2 - Recommending Further Research S3 - Drawing Pedagogic Implications

## 2.5. Existing gaps and the present study

There is little empirical research on discussion section. In order to address this research gap, we conducted a comparative genre analysis using two self-compiled corpora. The following two questions were attempted to be answered.

What is the overall distribution of moves across the two corpora?

What is the move embedding across the two corpora?

## 3. Results and analysis

### 3.1. The overall distribution of moves across the two corpora .

Table 2: Distribution of moves across the two corpora

Moves Steps	J(%)	T(%)
M1-Background Information	6.3%	5%
M2-Reporting Results	18.6%	14%
M3-Summarizing Results	2.6%	1%
M4-Commenting on Results	20%	0%
S1 - Interpreting Results	20%	25%
S2 - Comparing Results with Literature	22.6%	36%
S3 - Accounting for Results	2%	13%
S4 - Evaluating Results	1%	1%
M5-Summarizing the Study	1%	0%
M6-Evaluating the Study	3%	1%
S1 - Indicating the Limitations	3%	0%
S2 - Indicating the Significance/Advantage	2%	1%
S3 - Evaluating Methodology	0%	0%
M7-Deductions from the Research	2%	0%
S1-Making Suggestions	2%	0%
S2 - Recommending Further Research	2%	0%
S3 - Drawing Pedagogic Implications	1.3%	1%

### 3.2. Move embedding across Journal and Theses in Discussion section

Move embedding refers to the blending of moves into the same statement [9]. We identified 5 embedded moves in journal article discussion and theses. In the journal article, most fully embedded moves were composed of Move 2 (Reporting Results) and Step 1 (Interpreting Results). In the postgraduates discussions, most of the fully embedded moves also consisted of Move 2 and Move 3. Moreover, Move 2 and Move 4 Step 3 (Accounting for Results) were frequently embedded together in the discussions written by graduates. The Chi-square test

demonstrated statistically significant differences in the frequency of move embedding between the Corpus of journal Article discussions and the Corpus of theses discussions. This implies that move embedding occurs significantly less frequently in journal article discussions compared to those produced by graduates. It also suggests that graduates generate simpler or more straightforward sentence structures compared to journal articles. For example.

(1) Another intriguing finding was that human writers often used a more comprehensive move sequence pattern, at times including all five moves, whereas ChatGPT preferred less complicated and shorter move sequences, possibly omitting some moves or sub-moves. (M2-Reporting Results) This finding partially supports the assumption that the writing practices in different disciplines are influenced by disciplinary cultures, social contexts, recontextualization, the authors' partly language-dependent genre-specific knowledge and language-independent metacognitive genre awareness (S1 - Interpreting Results).

(2) Regarding the second research question, the quantitative and qualitative results show that both groups' explicit exposure to genre materials and the structured task design contributed to students' writing development with respect to the rhetorical structure of their proposal Introductions. Guided by the structured task design, the majority of students in both groups succeeded in appropriately using and sequencing the Introduction steps taught in the course, albeit with varying degrees of lexico-grammatical accuracy. Notably, a comparison across the two groups revealed no significant differences as regards the sequencing of steps, which was found to be highly effective for both groups (2.76–2.81 out of 3). (M2-Reporting Results). Given that these L2 writers had no prior experiences with writing research papers in English, this finding points to an important pedagogical implication: when novice academic writers start working on a new genre, they need explicit scaffolding to help them understand its rhetorical structure. Indeed, students' proposal Introductions showed that the course's explicit genre instruction and materials (e.g., multiple discipline-specific model texts, discovery and focus-on-form genre-based activities, a checklist suggesting which steps to include and how to sequence them) successfully provided the necessary support for them to decide which content to include and in what order (S1 - Interpreting Results).

#### 4. Discussion

This research focused primarily on comparing rhetorical moves within discussion sections from journal articles (J corpus) and master's theses (M corpus) to identify similarities and differences. One of the important findings revealed that the overall distribution of rhetorical moves differed significantly between the corpora. Move 1 (Background Information), Move 3 (Summarizing Results), and Move 5 (Summarizing the Study) exhibited markedly different frequencies. Conversely, Move 2 (Reporting Results) and Move 4 (Commenting on Results) showed no notable differences in frequency across the corpora. This suggests that both journal articles and the master theses demonstrate similarities when presenting research and summarizing results in review article abstracts, but might differ in presenting the background, describing the methodology, and discussing the results. Another interesting finding was that journal writers often used a more comprehensive move sequence pattern, at times including all seven moves, whereas master theses preferred less complicated and shorter move sequences, possibly omitting some moves or sub-moves.

#### 5. Conclusion and implications

This study annotated a corpus of 60 academic article discussions collected from journal and master writers, aiming to assess the similarities and differences between journal articles and master theses in the discussion section. Our results reveal significant differences in the types of rhetorical moves, and frequency of move embedding between discussions collected from

journal articles and those from master theses. This enhances our understanding of how discussion writing practices can be affected by the factors such as different academic types. The insights from this research contribute to understanding the genre in academic writing.

The present study has several limitations, the principal limitation being that we only examined a limited number of articles. Another limitation is the absence of relevant prior studies directly based on discussion section. This means that it is unlikely to take into account the reliability of our results. Future studies could cover much larger samples.

Our analyses suggest that we should treat differently for the writing of master theses and journal article in the discussion section, for it cannot be the same thing in the move structure of the genre. Specifically, Journal article contains more type moves than master theses, such as the sub-move, and shows more diversity in move patterns.

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