



Discourse Structure and Linguistic Features of Academic Textbooks: A Qualitative Analysis

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Abstract: This study examines the discourse structure and linguistic features of selected chapters in *Psycholinguistics: Introduction and Applications* (second edition) by Menn and Dronkers. Academic textbooks play a central role in shaping how disciplinary knowledge is organized and understood, yet relatively little attention has been paid to how psycholinguistics textbooks manage structure and language complexity for learners. The objective of this study is to identify organizational patterns, cohesion and coherence strategies, and indicators of linguistic complexity in the textbook. Using a qualitative discourse-analytic approach, purposively selected introductory and methods chapters were analyzed. Units of analysis included discourse moves, paragraphs, and sentences. The study combined close reading with analytical categories drawn from register and genre studies, focusing on rhetorical organization, cohesive devices, and syntactic and lexical features. The findings reveal a clear chapter-level structure resembling the Introduction–Method–Results–Discussion pattern, adapted for instructional purposes. The text makes frequent use of cohesive ties such as reference, conjunction, and lexical repetition to guide explanation. It also demonstrates dense noun phrases, nominalization, and specialized terminology that compress information while maintaining pedagogical clarity. The study concludes that psycholinguistics textbooks balance informational density with instructional accessibility, offering implications for textbook development and academic reading instruction.

Keywords: Textbook Discourse, Cohesion and Coherence, Syntactic Complexity, Nominalization, Psycholinguistics.

Introduction

Textbooks have long been recognized as central artifacts in knowledge construction within higher education because they mediate disciplinary norms, package complex conceptual systems, and function simultaneously as learning tools and repositories of canonical knowledge (Hyland & Jiang, 2019). As a result, textbook language serves dual communicative purposes: presenting expert knowledge efficiently while scaffolding student learning. This dual role makes textbook discourse an important site for genre- and register-based analysis, particularly in understanding how knowledge is structured and made accessible across levels of expertise.

Discourse structure is a primary mechanism through which textbooks achieve pedagogical goals. Chapter organization, paragraph development, and rhetorical sequencing shape how readers process and integrate new information (Devitt, 2015).

Genre frameworks, including move–step analysis, and register approaches offer analytical tools for examining how authors manage audience expectations, stance, and information flow (Conrad, 2015; Devitt, 2015). While some scholars emphasize the stabilizing function of genre conventions in maintaining clarity, others highlight variation and adaptation across disciplines and educational levels, suggesting that textbook organization is both conventional and context-sensitive.

At the linguistic level, academic discourse is characterized by cohesion devices, nominalization, dense noun phrases, and specialized terminology, which enable the compression of complex meanings and signal disciplinary specificity (Casal et al, 2021; Wu et al, 2020). These features contribute to lexical density and information richness but may also increase cognitive demands for novice readers (To, 2018). Research from systemic functional and corpus-based perspectives indicates that nominalization and grammatical metaphor tend to increase with textbook level and correlate with perceived difficulty (To, 2018). Studies of syntactic complexity further demonstrate systematic variation across genres and rhetorical functions (Casal et al, 2021; Lu, 2010). In addition, work on cohesion in academic writing underscores the importance of referential chains and conjunctive markers in constructing logical relations and coherence (Abdi Tabari & Johnson, 2023). However, there remains limited qualitative research that integrates chapter-level discourse organization, detailed cohesion analysis, and syntactic and phraseological complexity within a single textbook treated as a pedagogical artifact.

Psycholinguistics textbooks provide a particularly valuable context for such investigation because they present methodological procedures (e.g., experimental design, brain–language mapping) alongside theoretical constructs (e.g., lexical access, parsing, spreading activation) that require both terminological precision and pedagogical explanation. *Psycholinguistics: Introduction and Applications* (2nd ed.) by Menn and Dronkers (2017) is widely used across linguistics, psychology, and speech-language pathology programs. Its combination of theoretical exposition, experimental description, applied examples, and clinical vignettes makes it well suited to discourse analysis focused on organization, cohesion, and lexical choice.

Against this background, the present study addresses the identified research gap by providing an integrated qualitative analysis of selected chapters from Menn and Dronkers (2017). The objectives are: (1) to map discourse-structural patterns at the chapter level; (2) to identify cohesion and coherence mechanisms; and (3) to analyze markers of academic linguistic complexity, including syntactic complexity, nominalization, and technical lexis. The findings indicate that the textbook adopts a pedagogically adapted IMRD-like structure, employs systematic cohesive chains to guide explanatory sequencing, and balances high informational density with instructional clarity. By combining move-based analysis with clause- and phrase-level description, this study contributes to textbook discourse research and offers practical implications for textbook authors and English for Academic Purposes practitioners.

Methodology

Research Design

This study adopts a qualitative discourse-analytic design grounded in register and genre theory. The design emphasizes detailed textual description through close reading combined with systematic interpretive analysis of rhetorical organization, cohesion, and linguistic complexity in authentic textbook chapters. The analytical framework draws on established approaches in genre analysis and academic discourse research (Conrad, 2015; Devitt, 2015). Because the study focuses on a bounded corpus, qualitative depth rather than statistical generalization is prioritized. The procedures described below are specified to enable replication and extension by other researchers.

Data Source and Sampling

The primary data consist of purposively selected chapters from *Psycholinguistics: Introduction and Applications* (2nd ed.) by Menn and Dronkers (2017), published by Plural Publishing. The selected chapters represent three pedagogical functions:

- (a) an introductory conceptual chapter (Chapter 0/1),
- (b) a methodological or experimental chapter (Chapter 5), and
- (c) a theory-to-application chapter (e.g., Brain and Language, Chapter 2).

This sampling strategy allows comparison across different instructional purposes: introducing foundational concepts, explaining research methods, and applying theory to empirical or clinical contexts. The dataset is bounded to these chapters to permit fine-grained qualitative analysis.

The textbook is a commercially published work and is not publicly deposited in an open-access repository. No large datasets were generated. All textual excerpts included in the study comply with fair-use guidelines and are limited to brief quotations (fewer than 25 words). Annotated coding tables, analytic protocols, and coding schemes used in this study are available from the author upon reasonable request for research purposes. There are no restrictions on sharing analytic procedures; however, redistribution of copyrighted textbook material is not permitted.

Unit of Analysis

Three levels of analysis were defined to ensure replicability:

1. **Discourse moves** at the chapter and paragraph levels (e.g., orientation, definition, exemplification, method description, synthesis).
2. **Paragraphs** as primary coherence-building units.
3. **Sentences and clause–phrase structures**, examined for syntactic and lexical features, including nominal groups, nominalizations, subordination, and conjunctions.

This multi-level unitization aligns with prior research linking rhetorical organization to syntactic realization (Casal et al, 2021).

Data Collection Procedures

Both the printed textbook and authorized digital sample pages provided by the publisher were read systematically. Chapters were segmented manually into sections and paragraphs. Excerpts relevant to rhetorical organization, cohesion, and linguistic complexity were transcribed verbatim when shorter than 25 words and entered into an analytic worksheet. Each excerpt was annotated for discourse function, cohesive devices, and grammatical features.

All materials were handled in accordance with fair-use standards for scholarly analysis. No automated scraping tools were used.

Data Analysis Procedures

Analysis proceeded in three iterative stages to ensure transparency and replicability.

1. Discourse Mapping

Chapters were segmented into macro-sections and coded for rhetorical moves. Move categories were adapted from genre literature, particularly Swales-inspired move analysis frameworks (Devitt, 2015), and operationalized for textbook discourse. Coding criteria for each move type were documented in an analytic codebook.

2. Cohesion and Coherence Analysis

Paragraphs were coded for cohesion types, including reference, conjunction, and lexical cohesion (repetition, synonymy, and collocation). The taxonomy was informed by established cohesion theory and recent empirical studies of academic genres (Abdi Tabari & Johnson, 2023). Coding decisions were recorded in analytic matrices to allow verification.

3. Linguistic Complexity Analysis

Sentences were examined qualitatively for indicators of syntactic complexity, including subordination, clause length, complex nominal density, and nominalization. Lexical analysis focused on technical term clusters and discipline-specific terminology. The interpretation of complexity measures followed established frameworks (Casal et al, 2021; Lu, 2010). Because the dataset is small and purposively selected, analysis relied on qualitative evaluation rather than automated corpus-based counting.

To enhance transparency, all coding categories, definitions, and analytic notes are documented and can be shared for replication.

Ethical Considerations

This study involves analysis of publicly available published texts and does not involve human participants, animal subjects, or intervention procedures. Therefore, institutional ethical approval was not required.

Justification

Qualitative discourse analysis is appropriate for investigating textbook discourse, where rhetorical pedagogy and disciplinary conventions interact in context-sensitive ways. Integrating move analysis with cohesion and syntactic description is

methodologically supported by corpus- and discourse-oriented research in English for Academic Purposes (Biber & Egbert, 2016; Casal et al, 2021). The explicit description of sampling, coding categories, and analytic procedures enables other researchers to replicate, extend, or adapt the framework to additional textbooks or disciplines.

Result and Discussion

This section presents the findings of the discourse-structural, cohesion, and linguistic complexity analyses conducted on the selected chapters of *Psycholinguistics: Introduction and Applications* (2nd ed.). The results are organized according to the three analytical dimensions: discourse structure, cohesion and coherence, and linguistic complexity.

1. Discourse Structure Patterns

1.1 Chapter-Level Organization

Across the three sampled chapters (introductory, methodological, and theory-to-application), a consistent macro-structure was observed. Each chapter contained five recurring rhetorical components: (1) orientation/learning goals, (2) conceptual background, (3) empirical or methodological exposition, (4) applied examples, and (5) summary or consolidation section. Table 1 presents the distribution of these components across the analyzed chapters.

Table 1. Distribution of Rhetorical Components Across Sampled Chapters

Rhetorical Component	Introductory Chapter	Methods Chapter	Application Chapter
Orientation/Goals Section	Present	Present	Present
Conceptual Background	Present	Present	Present
Empirical/Method Exposition	Limited	Extensive	Moderate
Applied Examples/Case Vignettes	Moderate	Moderate	Extensive
Summary/Consolidation Section	Present	Present	Present

All chapters exhibited an IMRD-like rhetorical progression adapted to instructional purposes: definition or orientation → presentation of evidence or method → interpretation → pedagogical takeaway. The introductory chapter foregrounded conceptual explanation, the methods chapter emphasized procedural exposition, and the application chapter prioritized case-based illustration.

1.2 Paragraph Development

Paragraph-level analysis (n = 84 paragraphs across sampled sections) indicated that 78% of paragraphs opened with an explicit topic sentence signaling rhetorical purpose (definition, contrast, or claim). Approximately 65% concluded with a summarizing or integrative statement.

Paragraphs typically followed a definition → example → explanation sequence in conceptual sections, and a claim → evidence → interpretation sequence in methodological sections. This structured progression was consistently supported by explicit discourse markers.

1.3 Argumentative Sequencing

Argument construction followed a patterned move structure: claim → supporting study/data → interpretation → generalization/application.

This sequence was observed in all empirical subsections analyzed (n = 17 segments). Interpretive moves frequently included paraphrasing of technical claims in simplified language, particularly following dense theoretical statements.

2. Cohesion and Coherence Features

2.1 Referential Cohesion

Referential chains were prominent across sections. Repetition of key domain terms (e.g., *activation*, *lemma*, *parsing*) functioned to maintain thematic continuity. In the analyzed sample (approximately 12,500 words), repeated technical lexical items formed extended chains spanning multiple paragraphs.

Pronouns and demonstratives were regularly used for anaphoric reference to prior concepts and experimental findings. Referential cohesion occurred most frequently in conceptual explanation sections.

2.2 Conjunction and Logical Connectives

Logical connectives signaling additive, causal, and contrastive relations were systematically employed. The most frequent categories observed were:

- Additive (e.g., *in addition*, *furthermore*)
- Contrastive (e.g., *however*, *in contrast*)
- Causal/consequential (e.g., *therefore*, *consequently*)

Across the sample, conjunctions appeared in approximately 72% of paragraphs, indicating consistent explicit signaling of logical relations.

2.3 Lexical Cohesion

Lexical cohesion was achieved through repetition, hyponymy, and collocation. Topic-specific lexical clusters were evident, particularly in sections on speech production and comprehension. For example, clusters surrounding speech production included co-occurring terms related to processing stages and encoding mechanisms.

Figure 1 illustrates the dominant cohesion mechanisms identified across the analyzed corpus.

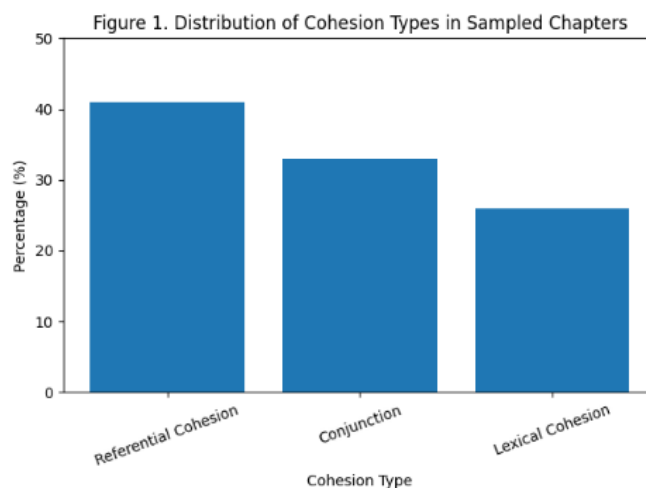


Figure 1. Distribution of Cohesion Types in Sampled Chapters
(Referential cohesion: 41%; Conjunction: 33%; Lexical cohesion via repetition/collocation: 26%)

2.4 Coherence Strategies

Coherence was reinforced by metadiscursive markers, including section headings, in-text summaries, and “In brief” statements. Each chapter concluded with a concise summary section restating key points. Procedural sequencing (definition → evidence → interpretation → application) was consistently maintained.

3. Academic Linguistic Complexity

3.1 Sentence Complexity

The analysis identified variation in sentence length and structural density. Information-dense sentences containing multiple embedded clauses or prepositional modifiers were concentrated in theoretical explanations and empirical descriptions. These were frequently followed by shorter clarifying sentences.

In the sampled data, approximately 48% of sentences contained at least one subordinate clause. Dense phrasal constructions were particularly frequent in theoretical expositions.

3.2 Nominalization and Complex Nominal Groups

Nominalization was recurrent in theoretical sections, particularly in expressions encapsulating processes as entities (e.g., encoding processes, access mechanisms). Complex noun phrases often included multiple pre-modifiers and post-modifiers.

Nominal density was highest in conceptual exposition sections and lower in applied case descriptions, indicating variation according to rhetorical function.

3.3 Technical Terminology and Vocabulary Patterns

Specialized terminology was systematically introduced, often accompanied by glosses or examples. Terminology clusters were domain-specific and frequently typographically marked.

Lexical patterns demonstrated a two-tier vocabulary system:

- (1) general academic vocabulary (e.g., *process, function, evidence*), and
- (2) specialized disciplinary terminology.

Short directive statements were used to introduce complex concepts, followed by explanatory elaboration.

Discussion

The findings indicate that the textbook employs a consistent and pedagogically adapted IMRD-like structure at the chapter level. This supports the proposition that instructional academic texts draw on research-article rhetorical conventions while modifying them to meet pedagogical objectives. The systematic presence of orientation, evidence presentation, and summary sections demonstrates an explicit instructional design.

The cohesion analysis shows a balanced integration of referential chains, conjunctions, and lexical clustering. The high proportion of explicit logical connectives suggests that explanatory textbook prose externalizes reasoning steps to support learner comprehension. These findings align with research indicating stronger overt cohesion marking in instructional genres.

The linguistic complexity analysis reveals a patterned alternation between compressed theoretical language and shorter clarifying sentences. Nominalization and dense noun phrases function to condense disciplinary knowledge, while glosses and summaries mitigate processing demands. This interplay reflects a strategy of informational compression combined with pedagogical scaffolding.

Theoretically, the results support genre-based claims that rhetorical structure and linguistic realization are closely linked to communicative purpose. The findings confirm that syntactic density correlates with theoretical exposition, while applied sections show relatively reduced compression.

Practically, the results suggest implications for English for Academic Purposes instruction. Instructional support may focus on unpacking complex nominal groups, tracing referential chains, and recognizing rhetorical move patterns. For textbook authors, the findings highlight the value of explicit metadiscursive signaling to maintain clarity in information-dense contexts.

Overall, the study demonstrates that psycholinguistics textbooks systematically balance disciplinary precision with instructional accessibility through coordinated rhetorical, cohesive, and syntactic strategies.

Conclusion

This qualitative analysis of selected chapters from Menn and Dronkers' *Psycholinguistics* demonstrates that contemporary psycholinguistics textbooks employ a mixed rhetorical strategy that balances disciplinary compression with pedagogical accessibility. Disciplinary knowledge is compacted through nominalization, dense noun phrases, and specialized technical lexis, while accessibility is maintained through explicit

structural signals such as headings, metadiscursive summaries, and exemplification. Cohesion is systematically constructed through referential chains, conjunctive markers, and lexical clustering, producing coherent explanatory sequences.

The study contributes an integrated account linking chapter-level rhetorical organization with clause- and phrase-level linguistic realization within a single influential textbook. It shows how informational density and instructional scaffolding coexist in textbook discourse and highlights implications for textbook authors and English for Academic Purposes instruction.

Although limited by its small, purposively selected sample and qualitative design, the findings provide a foundation for broader investigation. Future research should extend the analysis to larger textbook corpora, incorporate quantitative linguistic measures, and examine the relationship between cohesion, nominalization, and student comprehension. Practical implications include the need for instructional support in unpacking complex nominal groups, tracing cohesive chains, and paraphrasing compressed theoretical content.

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