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MACROPHENOMENON: PATTERNS OF INTERACTIVE CLAUSE EXPANSION IN THE METHODOLOGY SECTION OF APPLIED LINGUISTICS RESEARCH ARTICLES

Abstract

Experienced writers employ heterogeneous structures in their composition of research articles to align with the purpose of the writing and the audience (Jagaiah et al., 2020). This heterogeneity, however, is not unsystematic. This study uses a Systemic Functional Linguistic view of the tactic and logico-semantic systems to reveal the interactive information structure of clause expansion. The corpus of the present study consisted of 160 methodology sections of empirical articles from four top-tier applied linguistics ISI journals published from 2016 to 2022 in two-year regular intervals. By conducting quantitative and qualitative analyses on the data, we obtained valuable perspectives on the interactive function of diverse clause types, namely clause simplex and paratactic and hypotactic clause complexes in the analyzed corpus. The theoretical implications of these empirical findings underscore the inherent nature of language as a dynamic system wherein the authors' informed decision on the clause type is registered through the descriptive, reactive, proactive, narrative, and accentuating information structure in the ongoing discourse.

Key words

clause expansion, interactive information structure, interactional information, logico-semantic system, tactic system.

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1. INTRODUCTION

Writing is considered a form of interaction between writer and reader wherein the writer enacts the role of both participants (Hoey, 2001; Thompson, 2001; Widdowson, 1984). This interactivity can become a more challenging struggle when high literacy standards are demanded, specifically in a language other than one's own. Furthermore, when the genre falls under the scope of 'academic' discourse, this places an extra educational burden for aspiring writers. Moreover, according to Jagaiah et al. (2020, p. 1), "the strategic use of diverse sentence structures to involve the reader in the text must be added to the complexity of the writing process." To facilitate the reading of research articles, experienced writers use heterogeneous structures in relation to the purpose of writing and the audience (Jagaiah et al., 2020). This heterogeneity, however, is not unsystematic. In the perspective of Systemic Functional Linguistics (SFL), the meaning of a text is developed by choices that are made by the interactants situated within a particular context (Halliday, 1978).

Thompson (2001) indicates that, through written texts, writers attempt to construct unanimity and alignment with anticipated readers, and introduces *interactional* and *interactive* types of reader-writer interaction. According to Thompson (2001, p. 59), **interactional** strategies "are aspects that aim to involve readers in the argument or ethos of the text." This notion has been alternatively denoted as attitude (Halliday, 1994), stance (Hyland, 1999), evaluation (Hunston & Thompson, 2000), appraisal (White, 2002), metadiscourse (Hyland & Tse, 2004), and engagement (Martin & White, 2005). This collaboration highlights the significance of the dialogic nature of language use (Bakhtin, 1986). Writers must, therefore, reflect their awareness of the non-present audience while structuring the information in the text through expressing personal feelings, attitudes, value judgements, or assessments to accomplish interactional strategies in their text, and scholarly authors have consistently garnered evidence on the interactional information structure in the texts.

The occurrence of interactional metadiscourse in research articles (Hyland, 2005a, 2008a, 2008b; Hyland & Jiang, 2018; Kanoksilapatham, 2005; McGrath & Kuteeva, 2012), project reports (Hyland, 2005b), research article abstracts (Gillaerts & Van de Velde, 2010), research article introductions (Jalilifar et al., 2012; Khany & Tazik, 2010; Khedri & Kritsis, 2018), research article discussions (Abbassi Montazeri et al., 2021; Soodmand Afshar et al., 2018), textbooks (Marković, 2013), dissertations (Bruce, 2018; Chan, 2015), and student writing (Aull, 2019; Lancaster, 2016; Uccelli et al., 2013) has engendered a substantial volume of scholarly research.

However, besides proper audience relationships, achievement in academic writing is also contingent upon using clear and **interactive** information structure (Hyland, 2002). Halliday (1967, p. 199) coined the term "Theme" for the information structure of the clause and defined it as "the relation of what is being said to what has gone before in the discourse, and its internal organization into an act of

communication," and Thompson (2001, p. 59) defines interactive strategies as "the management of the flow of information that serves to guide readers through the content of the text." According to Sinclair (1993, p. 7), the interactive apparatus of the information is the function of "the logical operators that progressively determine the status of a previous sentence in relation to the current one." For example, the inclusion of textual clues such as '*because*' or '*in order to*' in a written text aims to address the anticipated queries or reactions that readers may have while reading the text. The decisions that authors make to order the information within the clause and to organize the flow of information represent their authority in controlling the readers' information processing pattern. According to Villares (2023, p. 282), "it is essential to understand how writers help the reader approach science." With this in mind, the present study aims to analyze the choices that writers make to involve readers interactively in the methodology section of Research Articles (RA) in applied linguistics. This SFL-based genre-oriented study is, therefore, taken to retrieve an effective interactive information structure pattern of clause expansion and to recognize the systemic choices of tactic and logico-semantic clause relations to create coherent information and engage readers interactively in the methodology section of four top-tier applied linguistics RAs.

The authors of top-tier applied linguistics RAs are specialists in language and linguistics, and have already acquired a high level of language knowledge through years of exposure to and investigation of the issues pertaining to applied linguistics, and their manuscripts have been proofread by critical pre-publication readers who "specialize in overhauling NNS manuscripts to bring them into line with the linguistic and genre conventions of English speaking discourse communities" (Burrough-Boenisch, 2003, p. 223). Therefore, genre-oriented study becomes particularly fruitful if conducted on credible journals, and SFL-based analysis can assist emerging academic writers in choosing simple, paratactic and hypotactic clauses appropriately to register logical relations in their research articles and may boost their academic discourse for international publications as well. This study, therefore, addresses the following research question:

> RQ: How do the taxis and lexico-grammatical systems of clause expansion contribute to the interactive information structure in the methodology section of the selected research articles in applied linguistics?

2. TAXIS AND LOGICO-SEMANTIC RELATIONS IN SFL

The relationship of one clause to the next, and each sentence to the next, contributing to the overall structuring of the discourse in context, depends on the semantic sequence of figures which are realized by a series of clause complexes that are logically connected. According to Halliday and Matthiessen (2004, p. 373), "two basic systems determine how one clause is related to another: Taxis and Logico-semantic relation." In structuring information in clauses, construing cohesion and

coherence can be seen as a function of taxis and logico-semantic systems in stretches of discourse (Ngongo, 2018).

The taxis system is concerned with linking one clause with another clause through an equal (paratactic) and unequal (hypotactic) status. According to Halliday and Matthiessen (2004, p. 384), in parataxis (identified by Arabic numbers 1, 2, 3,…) the initiating and the continuing elements are free, and this paratactic relation between elements is "symmetrical and transitive." In hypotaxis (indicated by Greek letters α, β, γ), however, the dominant element is free but the dependent element is not, and the hypotactic relation is "non-symmetrical and non-transitive."

Alongside the taxis system, clauses are associated with each other through two basic logico-semantic relations of "expansion and projection" (Halliday & Matthiessen, 2004, p. 377) as well, and are concerned with identifying the type of meaning relations between linked clauses. In expansion, which is the focus of the present study, additional information is provided through three processes: elaboration, extension and enhancement (Halliday & Matthiessen, 2004, p. 377). First, in elaboration nexuses (codified by =), one clause elaborates on the meaning of another by restating it in other words, exemplifying, commenting, or specifying it in greater detail; each of those elaboration subtypes is equivalent to the meanings of Latin locutions '*e.g.*', '*i.e.*', and '*viz.*'. Second, in extension nexuses (codified by +), one clause expands the meaning of another through addition (*and*), giving an exception (*but*), or offering an alternative (*or*). Third, in enhancement nexuses (codified by ×), one clause expands the meaning of another in terms of time, place, manner, cause, and condition (*then*, *yet*, *so*).

In configuring the logical relations of expansion between clauses, authors can alternate between paratactic or hypotactic clauses to manage a coherent dialogue in research papers. Figure 1 below maps out the alternative choices of systematic clause complexing to expand clauses in the text.

Some scholarly inquiries on research articles have been conducted to explore the choices of taxis and logico-semantic systems that professional scholars actually make to transfer comprehensive meaning when writing academically. In examining Halliday's framework of clause complexing in research article abstracts (RAAs), Baklouti (2011) carried out a cross-disciplinary analysis of the taxis system and structural choices above the clause in hard and soft discipline RAs. The author analyzed the effect of genre features and disciplinary differences, first between the clause simplex and the clause complex, and then between parataxis and hypotaxis in RAAs. Their study provided statistical evidence for the preference of the clause simplex in hard discipline abstracts and clause complexes in soft discipline abstracts. Leong (2021) similarly researched the distribution of clauses and inter-clausal relationships in Science and Humanity RAs. In line with Baklouti (2011), the results of their study collectively reflected an inclination for "a simpler clause structure in hard-science writing compared to the humanities which opt for "a more diverse and complex arrangement of clauses" (Leong, 2021, p. 155).

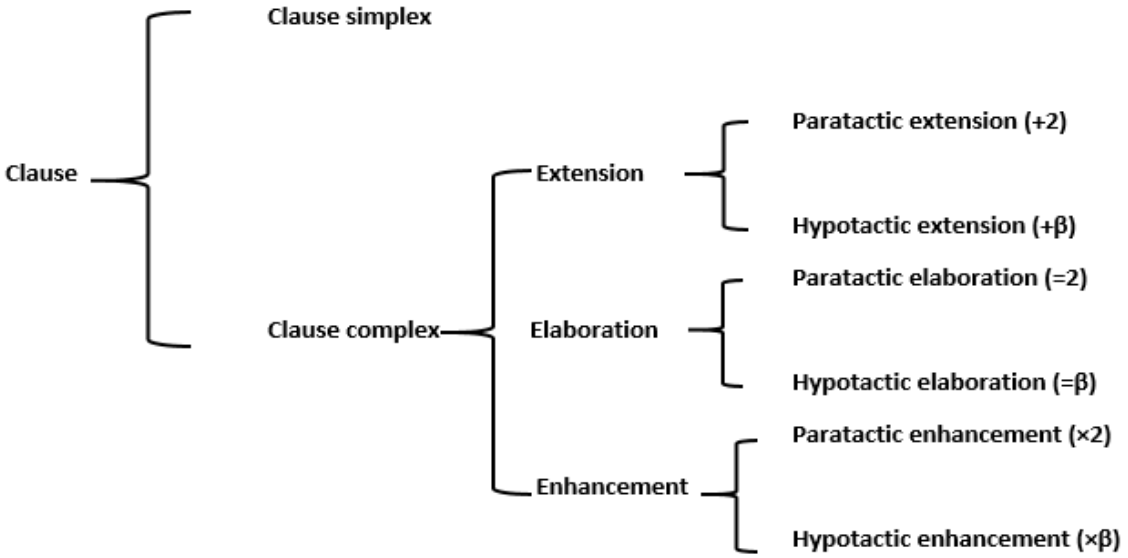


Figure 1. The systems of clause complexing in expansion

In considering the logico-semantic relations between complex clauses, Leong (2021, p. 137) refers to discipline-specific variations in certain tactic and logico-semantic clause complexes. For example, their results point to a more extensive use of paratactic extensions and hypotactic elaborations in Science RAs, and extensive use of paratactic elaborations in Humanities RAs. However, in the case of clause complexes (i.e., sentences of more than one clause), the quantitative data of Baklouti's study (2011, p. 503) on RAAs demonstrated that "hypotaxis is more probable than parataxis regardless of discipline." The author relates the high probability of hypotaxis over parataxis in RAAs to "the requirements and the communicative purposes of the genre of RAAs in terms of compactness and persuasion, which confirms the conclusion that genre affects the probability of structural choices" (Baklouti, 2011, p. 521). Our study hypothesizes that the choice between simplex and complex clauses and the alternation between paratactic and hypotactic complexes is also strategic and information-oriented, and besides linguistic features, cognitive factors might also strategically influence the information structure in a text. Therefore, our investigation endeavors to highlight the interactive facet inherent in the utilization of simplex and complex clauses and paratactic and hypotactic clause complexes in applied linguistics RAs to present reader-oriented information for non-present audiences.

By pinpointing the systemic application of simplex and complex clauses and the restrictions that clauses impose on authors in selecting simple, paratactic, or hypotactic clauses, we can detect different linguistic styles and also how academic writers relate clauses to manage the process of structuring the information interactively in the text for non-present readers. Examining heterogeneous devices employed by academic authors can uncover the typological categories involved in the

interactive structuring of information in the natural discourse. This, in turn, may help novice academic writers to fulfill the generic conventions of academic style and enhance their ability in academic writing. This study is, therefore, significant to assist novice writers and academic writing teachers in understanding the linguistic and cognitive functions of simplex, paratactic and hypotactic clause relations employed by veteran academic writers and the contexts in which they are used.

3. METHOD

3.1. Corpus collection

Overall, the corpus of the present study consists of empirical articles published in top-tier applied linguistics ISI journals. Submissions in these refereed journals are evaluated through a "rigorous peer-review process" (Zhang, 2020, p. 5) by disciplinary experts prior to publication. Three main selection criteria were evaluated to uphold the relevance and suitability of the journals for the study. These criteria included the impact factor, the scope, and their accessibility to the researchers of the study. Initially, the list of journals in language and linguistics in the Journal Citation Report 2022 was narrowed down to those in quartile 1 of ISI-indexed journals that solely focused on applied linguistics. This was done by carefully assessing the scope of journals on their respective websites, and only those that demonstrated an exclusive focus on applied linguistics were included. An assessment of the availability of the journals in online databases was also conducted to ensure that the chosen journals were conveniently accessible to the researchers. An assessment was also undertaken to verify the impact factor of the journals ensuring that the selected journals represented a significant threshold of impact factor throughout the examined timeframe. Based on these evaluations, the list of journals was narrowed down to the compilation presented in Table 1, encompassing information about the selected journals and their average impact factor within the timeframe spanning from 2016 to 2022.

JOURNAL NAME	PUBLISHER	ISSUES PER YEAR	AVERAGE IF (2016-2022)
Modern Language Journal	Wiley	4	3.60
Applied Linguistics	Oxford	6	4.16
Journal of Second Language Writing	Elsevier	4	4.17
System	Elsevier	8	3.49

Table 1. The list of journals selected for the study

To initiate the process of extracting scholarly articles from the selected journals, the electronic versions of selected RAs from different issues of the target journals published from 2016 to 2022 in two-year regular intervals were randomly downloaded from online databases. Two main criteria were manually checked in the full-text version of selected articles to include reliable and representative articles in the corpus. The first criterion was the presence of a distinct heading for the method description such as "Methodology" or "Method" in the articles. The second criterion entailed confirming the empirical nature of the study by referring to the definition of empirical research adopted in this study. According to Swain (2006), empirical knowledge is created by observing phenomena and drawing inferences from the collected data and, as McNamara (2006) indicates, is characterized as providing evidence for or against the legitimacy of inferences. One hundred sixty methodology sections from different issues of each journal were finally filtered by the selection criteria to be included in the resulting dataset. In relation to both the *Journal of Second Language Writing* and *Applied Linguistics*, as we encountered a shortage of articles meeting our predetermined criteria in the year 2018, we included two articles sourced from the year 2017 as supplementary materials to address the gap. Table 2 provides pertinent information about the compiled set of articles.

JOURNAL NAME	N OF ARTICLES				N OF WORDS IN METHODS	N OF CLAUSE NEXUS IN METHODS
	2016	*2018*	*2020*	*2022*		
Modern Language Journal	10	10	10	10	72,031	2,960
Journal of Second Language Writing	10	10	10	10	64,790	2,882
System	10	10	10	10	59,600	2,585
Applied Linguistics	10	10	10	10	61,483	2,690
TOTAL	160				257,904	11,117

Table 2. Dataset overview

3.2. Corpus coding

To investigate the research question, the coding of the corpus was conducted in two distinct stages. In the first stage, the selected articles were converted into a Word document format. To facilitate subsequent analysis, the methodology section of each article was copied and pasted into Sentence Breaker Software (tools.00ir.com). This tool is programmed to split clause nexus using triple lines (|||) and to assign numerical identifiers to each clause nexus using angle brackets (<n>), consistent with the conventions of SFL clause analysis. The tool also provides the number of clause nexus in each document. Since the breaker character is period (.) in this tool, some manual verifications are required to obtain an accurate number of clause

nexus in the text. For example, any dots found within abbreviations such as "i.e.", "e.g.", "etc." or "et al." or within numerical values such as "0.5" must be removed prior to analysis. Notably, this analysis disregarded supplementary content such as headings, titles, captions, descriptions within figures/tables, equations, excerpts, and footnotes as they were deemed irrelevant to the research question. Additionally, verbatim quotations were also excluded from the analysis, because they were not authored by the researchers. The screenshot below (Figure 2) demonstrates the function of this tool, using the methodology section of an article from the corpus.

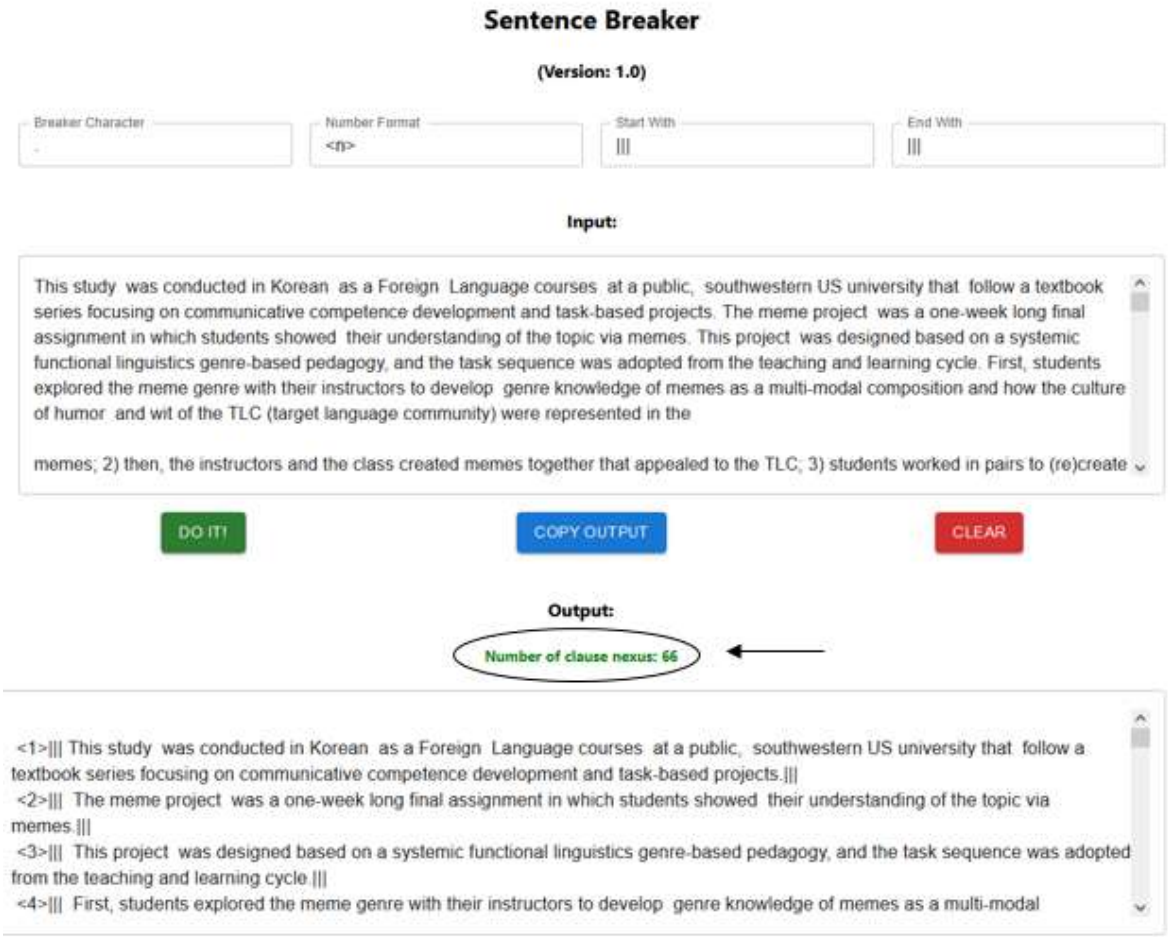


Figure 2. Sentence splitter program input and output (JSLW-2022-4)

In the subsequent stage of coding, Halliday and Matthiessen's (2004) SFL theory was employed as an analytical framework to describe how clauses contribute to the interactive information structure in the text from the standpoints of taxis and logico-semantic systems. To uncover the interactive structure of information, an exhaustive analysis was undertaken on every individual clause nexus, which was then codified as a simplex or complex clause. All clauses were, subsequently,

analyzed for the ideational patterns of taxis and the logico-semantic systems of expansion to highlight the "logical operators" (Sinclair, 1993) employed by academic writers to manifest the presentation of ideas to a non-present audience.

To divide these two notions of clauses, their definitions in SFL were considered as the criteria. In SFL, a clause nexus that is made up of only one clause is referred to as 'clause simplex' (Eggins, 2004), and clause complexing is "formed out of relations that link clauses together to form clause complexes" (Halliday & Matthiessen, 2004, p. 367). A clause complex is comprised of a head clause with other clauses that modify it. In terms of notations, triple vertical lines (|||) signify a clause nexus, and each clause within the clause complex is separated by double vertical lines (||). The following examples delineate various alternative structures available to authors to structure the information in the text. Examples in this research are taken from the corpus of the present study and codified by the abbreviation of a journal's name, the year of publication, and the order of analysis by the researchers.

The initial analysis was on simplex clauses that are composed of one clause and, as example (1) shows, this clause conveys the meaning comprehensively.

(1) MLJ-2016-1 (Simplex clause)

|||*The data were collected from a Spanish and Portuguese department at a private research university in the eastern United States.* |||

A simplex clause may also contain an embedded clause; therefore, it is important to distinguish between tactic relations and embedding relations. According to Halliday and Matthiessen (2004, p. 426), while parataxis and hypotaxis are relations between clauses, "embedding is a semogenic mechanism whereby a clause or phrase comes to function as a constituent within the structure of a group, which itself is a constituent of a clause." Example (2) illustrates an embedded clause indicated by ([[…]]). In this example, the embedded clause functions as a post-modifier within the structure of a nominal group and must not be misinterpreted as a tactic clause.

(2) MLJ-2018-3 (Embedded simplex clause)

||| *Participants' parents filled out a survey* [[*concerning their attitudes toward their children's English study and their educational support at home*]]. |||

Complex clauses were then coded as either paratactic or hypotactic based on their interdependency (taxis) relationship. Due to their equal status, paratactic clauses were coded by Arabic numerals, and hypotactic clauses were coded by Greek letters, with the dominant clause always as (α) and the dependent clauses as (β), following SFL conventions (Halliday & Matthiessen, 2004). Table 3 shows the relationship between the primary and secondary clauses in a clause nexus.

	Primary	**Secondary**
Parataxis	1 (initiating)	2 (continuing)
Hypotaxis	α (dominant)	β (dependent)

Table 3. Tactic relations between clauses (Halliday & Matthiessen, 2004, p. 376)

Paratactic and hypotactic interdependencies are illustrated in examples (3) and (4).

(3) S-2022-1 (Paratactic interdependency)

1 ||| *The entire question-answer session in both rooms was audio-taped* ||
2 || ***and then*** *transcribed*. |||

(4) AL-2020-6 (Hypotactic interdependency)

α ||| *The two alternatives were randomly presented to the left or the right of the slider*, ||
β || ***in order to*** *prevent people from adopting a strategy*. |||

Sometimes, a clause complex employs both paratactic and hypotactic clauses with one nesting within the other as illustrated in example (5).

(5) JSLW-2016-5

β ||| **1** To homogenize the formatting of the data|| **+2** and avoid any subjective impressions of writing quality ratings due to mechanical mistakes, ||
α || **1** all unconventional spellings, capitalizations and punctuations were removed from the texts,
||**+2** and were recorded on a separate coding tier. |||

The second part of coding was done on the logico-semantic relations of expanding the primary clause through the secondary clause. In expansion, additional information is provided through three processes of elaboration, extension and enhancement (Halliday & Matthiessen, 2004, p. 377). The (6) and (7) illustrate the logico-semantic relationships between clauses. In elaboration nexuses (indicated by =), one clause elaborates on the meaning of another by restating it in other words, exemplifying, commenting or specifying it in greater detail; each of those elaboration subtypes is equivalent to the meanings of Latin locutions '*e.g.*', '*i.e.*', and '*viz*'.

(6) MLJ-2022-6 (Paratactic elaboration)

1 ||| *Words* [[*combined by formulaicity (on the other hand)*]] *are distinguished from nonformulaic word combinations (on the other foot)* ||
=2 || *that is, at least one individual component of a formulaic sequence (FS) cannot be replaced by a synonymous word without changing meaning, function, or idiomaticity (in the other hand, on another hand).* |||

(7) MLJ-2018-1 (Hypotactic elaboration)

α ||| *Files within each block were randomized before presentation*, ||
=β || *such that each listener rated sentences in a unique order*. |||

In extension nexuses (indicated by +), one clause expands the meaning of another through addition (*and*), giving an exception (*but*), or offering an alternative (*or*), as illustrated in examples (8) and (9).

(8) S-2020-10 (Paratactic extension)

1 ||| *The courses were theme-based*||
+2 ||*and targeted specific lexical and grammatical forms in each unit*. |||

(9) JSLW-2020-5 (Hypotactic extension)

+β ||| *While disappointing*, ||
α || *this is not uncommon within online learning communities given a rough 'rule of thirds'* [[*where 1/3 of users regularly contribute, 1/3 contribute less often, while 1/3 'lurk' while perhaps still benefitting from viewing the materials*.]] |||

In enhancement nexuses (indicated by ×), one clause expands the meaning of another in terms of time, place, manner, cause, reason, condition, purpose, etc. (*then*, *yet*, *so*) which are referred to as circumstantial information, as shown in examples (10) and (11).

(10) JSLW-2020-1(Hypotactic enhancement)

×β ||| *As required by the university's syllabus*, ||
α ||*the students had to attend the College English course in their first year*. |||

(11) S-2022-1 (Paratactic enhancement)

1 ||| *The entire question-answer session in both rooms was audio-taped* ||
×2 || ***and then*** *transcribed*. |||

An either/or characteristic of hypotactic clauses is that they can be either finite or nonfinite. Therefore, hypotactic clauses were also divided into finite (βf) and nonfinite (βn) clauses. According to Halliday and Matthiessen (2004, p. 424), nonfinite hypotactic clauses do not contain "any explicit marker of its dependent status…, and there is no doubt about its hypotactic relation in a clause complex" (see examples 12 and 13). In (12) nonfinite hypotactic enhancement (×βn) is applied and in (13) finite hypotactic enhancement is used (×βf).

(12) AL-2020-7

α ||| *LMEM was chosen as a primary analysis due to its robust power and flexibility* ||
×βn || *by including both random and fixed effects*. |||

(13) MLJ-2022-6

×βf ||| *If both lexical selection and lexical formation were simultaneously focused on (pass judgement)*, ||
α ||*the FFE was counted as one and was coded as the entire FS.* |||

In presenting circumstantial information, authors can systematically alternate between simplex or complex structures which are referred to as internal or external augmentation respectively. As example (14) illustrates, in the internally augmented simple clause a phrase containing circumstantial element is augmented internally within a single clause to present circumstantial information.

(14) JSLW-2022-8 (Internally augmented simple clause)

*/// **After the rubric introduction***, students in both sections worked with a self-selected peer. |||

In the external augmentation, however, the circumstantial information is presented paratactically (example 15), or hypotactically in a separate ×β clause either through a finite (×βf) (example 16) or a nonfinite (×βn) (example 17) clause. The following examples clarify these three systems of choices.

(15) S-2022-1 (Paratactic augmentation)

1 ||| *The entire question-answer session in both rooms was audio-taped* ||
×2 || ***and then*** *transcribed*. |||

(16) JSLW-2020-8 (Externally augmented hypotactic clause (finite))

×βf ||| ***After studies were coded in an Excel spreadsheet***, ||
α || we calculated frequencies and percentages for each item of the coding scheme. |||

(17) JSLW-2022-1 (Externally augmented hypotactic clause (nonfinite))

×βn ||| ***After signing the informed consent forms***, ||
α || participants were randomly assigned to four groups of equal size (N = 40). |||

According to Halliday and Matthiessen (2004, p. 369) "in the creation of a text, we choose between augmenting a clause internally by means of circumstantial elements and augmenting it externally by means of another clause in a complex." Thus, authors can decide between augmenting a clause internally and being experiential, or augmenting a clause externally and being textual. This decision depends on "how much textual, interpersonal and experiential semiotic weight is to be assigned to the unit" (Halliday & Matthiessen, 2004, p. 369). In (14) the author deploys internal augmentation to assign experiential meaning, but in (15), (16) and (17) the authors use external augmentation to represent logical meaning by forming complex clauses that are semantically combined and cohesively linked. Table 4 provides the various symbols and their corresponding descriptions.

|||	Clause simplex/ Clause nexus	=	Expansion: Elaboration
||	Clause	+	Expansion: Extension
1, 2, …	Parataxis	×	Expansion: Enhancement
α, β, …	Hypotaxis	**n**	Nonfinite hypotaxis
[[…]]	Embedded clause	**f**	Finite hypotaxis
IA	Internal augmentation		

Table 4. The coding symbols

By referring to classified tables provided by Halliday and Matthiessen (2004) (see Appendices 1 and 2), the main researcher coded clauses of 20 articles into mutually exclusive categories. Once the rater coded clauses of 20 articles, a trained individual with substantial knowledge of and expertise in the English language re-coded a random sample of 10 articles to verify the reliability of the analysis. The primary sources of discrepancies in coding were related to tactic relations and embedding due to anomalous and borderline cases leading to considerable disagreement. It is worth noting that the inter-rater agreement enhanced gradually between the coder and re-coder through a process called "consensual coding" (Yu et al., 2021, p. 5) where disagreement was effectively resolved through negotiation between the coder and re-coder, and by consulting the relevant chapter and the examples provided in Halliday and Matthiessen (2004) until full agreement was reached. Then the main researcher continued coding the remaining articles clause by clause. The coding process is illustrated below (example 18) using a few clause nexuses from the methodology section of an article from the corpus.

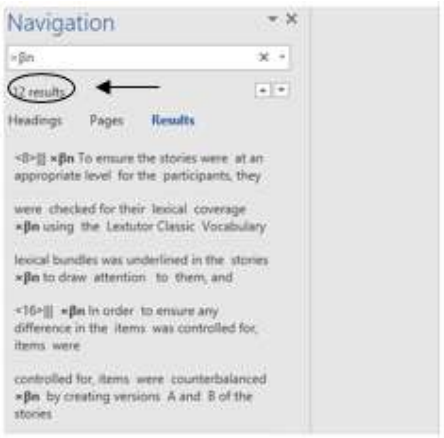
(18) MLJ-2022-2

*<109>||| **1** Participants indicated which book they preferred to read (n= 38), ||**+2** or indicated they had no preference (n = 12). |||*
*<110>||| **α** Those that indicated no preference were pseudo-randomly assigned a text || **×βn** to balance the number of participants [[reading each text.]] |||*
*<111>||| **(Connective) 1** Next, the vocabulary survey was completed**,** || **×2** and then they received the texts and were instructed to read at a comfortable pace**||×βn** in order to understand the main ideas. |||*
*<112>||| **×βn** Upon concluding the reading**, ||α1** participants handed in their texts, ||**+2** and one of the researchers noted the time* [*[they had spent reading.*]] *|||*
*<113>||| **α** Participants filled out the rating questionnaire, || **×βf** after which they began the comprehension tests. |||*
*<114>||| **(IA)** Unlike previous studies [[that administered the MC test **(IA)** prior to the recall test or simultaneously,]] the recall test was taken first. |||*
*<115>||| **(IA)** Upon its completion, **α1** participants immediately began the MC test ||**+2** and could not turn back to the recall test. |||*

*<116>||| **α** This was done in an effort|| **×βn** to minimize the influence of the questions and answers of one test on the other. |||*
*<117>***Simple clause** *||| (**Connective**) Finally, participants filled out questionnaires about their language history and reading habits. |||*

3.3. Corpus analysis

Once the main researcher coded clauses in the remaining articles, the frequencies of each clause type were counted and inserted into the Excel spreadsheet. To count the logico-semantic function of each clause in each methodology section, the Ctrl key + F key in the Word document was a helpful tool. Pressing the Ctrl key + F key will bring up a navigation box in the top right corner of the screen. You can then type a character, keyword or phrase to locate places where that specific character, word or phrase is used in the text. This shortcut also gives the number of the selected character, word or phrase in the document. For example, by inserting ×βn in the find bar, the number of nonfinite enhancement clauses is identified, and their places are located. The following screenshot (Figure 3) clarifies the function of this tool, using a few clause nexuses from the corpus.



<21>||| One set of items consisted of 10 lexical bundles with the same maximum-frequency constraint described above. |||

<22>||| They all appeared in each iteration of the PJT (referred to as PJT Repeated). |||

<23>||| The PJT Repeated items were included || ×βn to provide an indication of the impact of repetition within the PJT itself. |||

<24>||| The second set consisted of four sets of 10 unique items, || again ×βn following the same constraints, || but that only appeared in one PJT || (referred to as PJT Unique). |||

<25>||| The PJT Unique items provided an indication of any practice effects (i.e. getting better at the phrasal judgement task more generally, as opposed to the effect of exposure to specific lexical bundles). |||

<26>||| All of the sets of items were matched for phrasal frequency and word frequency|| ×βn using the COCA (p's <005). |||

<27>||| This was important || ×βn to ensure any differences between item types could be attributed to the experimental manipulations and not to one set of lexical bundles being higher- frequency than another (see Bannard and Matthews 2008). |||

<28>||| In total there were 40 experimental items in each phase of the experiment. |||

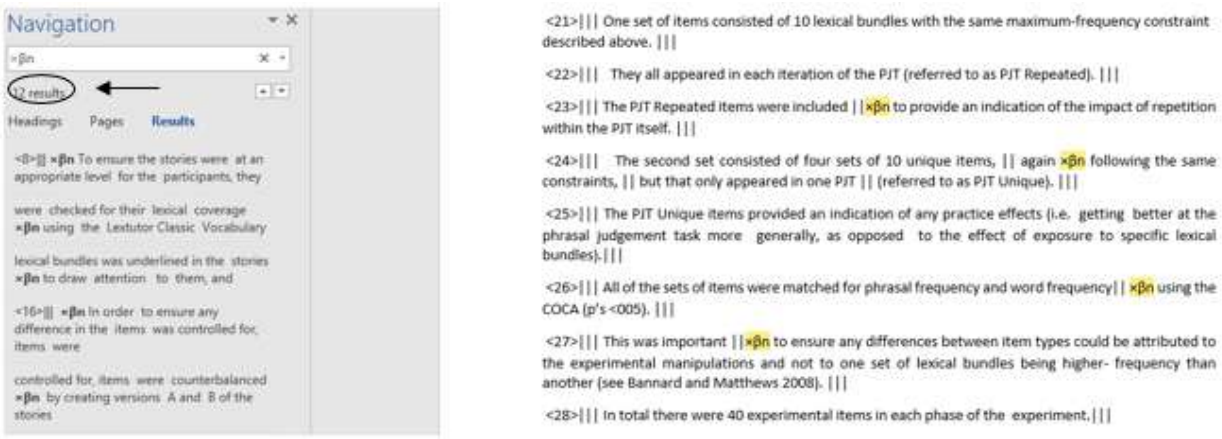


Figure 3. Ctrl + F tool in the Word document

In the next step, the number of different types of simplex clauses, namely simple, embedded simple and internally augmented simple, and finite and nonfinite hypotactic clauses were also counted and inserted in the Excel spreadsheet.

The findings developed in this study are obtained from quantitative and qualitative analyses to contribute to understanding the use of simple, paratactic and hypotactic clauses and their different logico-semantic functions in the method section of research articles. Following Leong (2021), to account for the varying lengths of methodology sections within the corpus, the frequency of each clause type was expressed as a percentage relative to the total number of clauses in the respective method section (e.g., the percentage of hypotactic enhancement clauses as a percentage of total number of clauses).

4. RESULTS AND DISCUSSION

The outcomes of the clause analysis conducted on the corpus of the present study include frequencies of simplex clauses and complex paratactic and hypotactic clauses and the representative logico-semantic relations between them. The quantitative data pertaining to the frequencies of the simplex and complex clauses to manage coherent information structure in the methodology section of analyzed RAs are presented in Figure 4 below. The qualitative analyses entail the analyses of the functions of simplex and complex clauses in maintaining interactive clause relations.

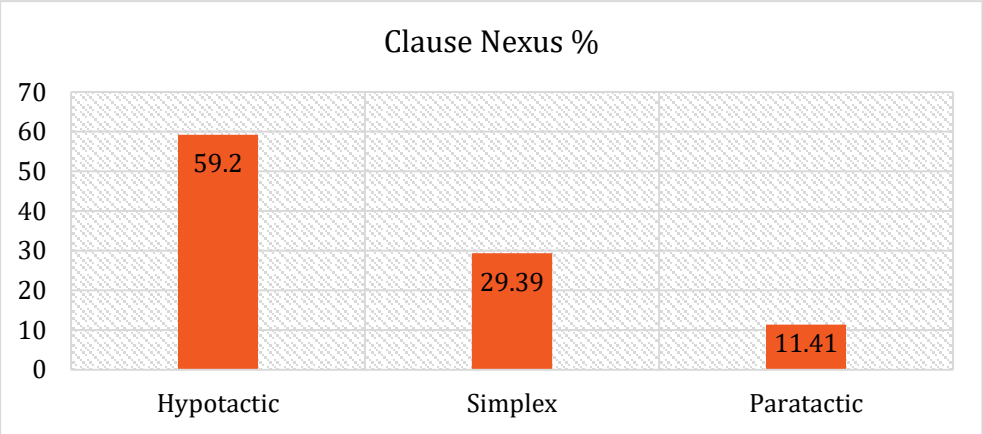


Figure 4. The percentage of the distribution of simplex and complex clause nexus in the analyzed corpus

The quantification of the choices available to authors shows that hypotactic clause complexes were the most frequent in the data, simplexes ranked second, and paratactic clause complexes ranked third within the examined timeframe. In the context of hypotactic clauses, authors exhibited a greater propensity for nonfinite (38%) over finite (21.2%) β clauses**.** It should be noted that the primacy of these percentages, illustrated in the chart, should not be interpreted as implying the superiority of any particular option in the interactive function they perform in the discourse. Thus, the extensive use of hypotactic clauses does not imply their superiority in conveying the information and should not induce a prevailing preference for its interactive function over simple or paratactic clauses in the given context. The deliberate composition of either simplex, paratactic, or hypotactic complex clauses is contingent upon the interactive attribute that the author wishes to assign to the information in the ongoing discourse.

It is noteworthy to observe from the qualitative analysis that the methodology section of RAs in applied linguistics typically consists of five patterns of interactive information structure, each endowed with a distinctive function within the textual fabric. The function of these patterns can be classified as descriptive, reactive, proactive, narrative and accentuating. The strategic use of simplex, paratactic, or hypotactic complex clauses suggests that they serve as pivotal mechanisms in enabling readers to effectively navigate the content within the textual communication thus contributing to a more accessible presentation of the research method. In the following section, the metadiscursive function of different types of information structure, as well as their inherent interactive role through simplex or complex clauses within textual discourse are analyzed.

4.1. Descriptive function

In the context of information exchange through language, the descriptive function is the representation of the author's thinking in the discourse often as a way of promoting the pivotal role of the information. Consider the following examples:

(19) S-2016-1

Embedded simplex clause ||| *The instructional approach* [*adopted in this study*] *was Direct Explanation*;|||

Complex clause ||| **α** *It consisted of a cycle of strategy explanation, modeling and extensive practice*|| **×β1** *aiming at raising students' metacognitive awareness of the reading process*|| ||**×β2** *and familiarizing them with the strategy use.* |||

(20) S-2016-1

Simple clause ||| *The participants were approximately 11 to 12 years old.* |||

Complex clause ||| **α** *This particular age was chosen*, ||**×β1** *as it was assumed //that the students would already have had a cumulative EFL learning experience of at least four years at the time* [*when the data were collected;*] |||

Complex clause ||| **α** *it was also expected that// students at this age would be more receptive to the strategy acquisition in relation to younger or older students*, || **×β** *as many strategies develop between the ages of 7 and 13*, || **+β** *though their spontaneous use materializes around the age of 10 or above.* |||

The embedded simple clause in (19) and the simple clause in (20) contribute to the development of information exchange in a descriptive function. A simplex clause is typically employed to "foreground the pivotal role" (Halliday & Matthiessen, 2004, p. 365) of the information in the text while opening up the semantic space that allows for a dynamic interplay between the author and the reader by introducing a discernible aperture for readers to engage in reasoned discourse and deliberate upon the underlying rationale. This underlying rationale is further expounded upon in the succeeding complex clause nexuses. In the hypotactic clause in (19), the author has adopted a gradual approach to complexity and is striving for clarity and accessibility when employing enhancement (×β) to mitigate challenges associated with cognitive engagement in the simple clause. In (20), the author employs two complex clause nexuses in order to intricately expound upon the fundamental proposition encapsulated within the simple clause.

In the hypotactic clause complexes in (19) and (20), the primary clause (α) assumes the interactive function of transition by explicitly alluding to the promoted information in the preceding simple clause. Complex clauses, therefore, expand upon the core information within the text in an attempt to provide a comprehensive understanding and account for a contextual proposition, facilitate and optimize

information processing, and minimize the cognitive load imposed on the reader to facilitate efficient comprehension. As Jagaiah et al. (2020, p. 3) point out, writers who construct sentences by making connections between clauses can create complex structures, which will consequentially alleviate the load on the cognitive resources of readers. Consider the following simple clauses:

(21) JSLW-2016-7

||| *see Appendix B for the entire essay.* |||

(22) S-2020-3
||| *Table 1 shows examples of the coding categories.* |||

These clauses encompass endophoric information that primarily fulfills a metadiscourse rather than a discourse function, thereby directing attention toward the referential entity which according to Halliday and Matthiessen (2004, p. 110), "take[s] priority in the ontogenetic development of language." These clauses also perform a descriptive function to facilitate effective textual communication.

4.2. Reactive function

A hypotaxis clause nexus is an essential structure for expressing the hierarchical relationship between the items of information, and "in a hypotactic nexus, the sequence is variable" (Halliday & Matthiessen 2004, p. 379). Due to the unequal status of hypotactic clause nexus, authors can rank each clause and structure them in a "progressive or regressive sequence" to promote or postpone the information which gives them authority in cognitively controlling the readers' information processing pattern. The reactive function represents the author's angle of thinking in the text often as a result of assessing writer's thinking. As elaborated in (23) and (24), the dominant clause (**α**) contains the pivotal information that is subsequently reacted in the ensuing β-clauses to assess the information presented in the **α** clause and has the status of validating the pivotal information imparted to the readers in the **α** clause.

(23) AL-2020-4
||| **α** *The same 20 words were tested across the four-word knowledge components*, || **×βf** *because we were interested in exploring*||**=β** *how knowledge of individual words develops.* |||

(24) JSLW-2020-8
|||**α** *Fig 1 visually presented the distribution of the 113 studies over time,* || **=β** *revealing a robust growth of research interests in the past decade (Tables 1 and 2).* |||

By expanding the information across one complex clause nexus, the author can cognitively aid the readers to retain the information and facilitate comprehension.

4.3. Proactive function

The proactive function proacts reader's self-speculation often as a way of probing the information. As example (25) illustrates, on certain occasions authors thematize the β-clause and postpone the propositional information in the dominant clause (**α**).

(25) AL-2020-4

*||| **×βf** Since the use of implicational scaling (IS) requires the subjects to have different proficiency levels, || **α** we aimed for a population of learners with a range of proficiency in English, from beginners to advanced. |||*

The thematized β-clause in (25) is used to co-reference the earlier proposition and provide background for the new information to control possible speculations on the part of the readers.

(26) JSLW-2016-8

*||| **×βf** As Table 3 shows, ||**α** enactment of stance and engagement features are accomplished through hedges (qualifying statements), boosters (expressing certainty), self- mentions (referring to oneself), attitude markers (expressing affective positions toward propositions), and engagement markers (including the audience and directing their focus in the text). |||*

In (26), the author has deliberately adopted the marked order (β^α) which suggests the author's inclination to augment the potency of the illustrative instances presented within the propositional information in the succeeding primary (**α**) clause.

Therefore, the inclusion of complex clauses which augment the complexity of social sciences texts challenges the notion that complex clauses are inherently difficult to comprehend. Hypotactic clauses have the full potential to expand the information reactively or proactively for non-present audiences. These clauses allow readers to build their understanding incrementally and allow the authors to decide on how to control the cognitive engagement of the readers and how to establish connections to propositional information. Moreover, as Halliday and Matthiessen (2013, p. 170) indicate, bound clauses "are not presented by the speaker as being open for negotiation." Given that the β-clause in a hypotactic clause complex is inherently bound, they do not leave any space for readers' speculation (Baklouti, 2011).

It can, therefore, be deduced from the above examples that the strategic use of simple and complex clauses reveals writers' informed decisions about the appropriate level of engagement assigned to the information. The manifestation of the descriptive function is more pronounced in simple clauses. By keeping the information concise and straightforward, while simultaneously inputting a hint of negotiation, the author can render a more contemplating effect to the imparted information. Conversely, the contextual framework of hypotactic clauses is more

reactive or proactive in nature, alleviating the cognitive burden imposed upon readers. In this interactive dimension, due to their inherent regressive or progressive function, β-clauses refer backward to expand the earlier proposition or forward to prospect probable speculations on the propositional clause in the ongoing discourse.

In his study on science research articles (SRAs) and humanities research articles (HRAs), Leong's (2021) findings revealed a statistically significant difference in the percentage of simplexes between the SRAs and HRAs, with a discernably higher proportion observed in the SRAs. Furthermore, in analyzing RAAs in natural and social sciences, Baklouti (2011) substantiated the claim that natural science abstracts exhibited a higher probability of featuring simplexes, while social science abstracts displayed a preference for clause complex. We may cautiously suggest that the authors of science (hard) RAs might also be performing diligently by choosing simplexes to describe the information and assist their non-present audiences in perceiving the pivotal role of the information gained through laboratory experiments, which is related to the uncontroversial logico-semantic relations between the information in clauses. However, the tenuous causal relations between clauses in soft sciences compel the authors to apply hypotactic clauses to structure the information reactively or proactively in their discourse.

4.4. Narrative function

"Material clauses" also known as "material process" (Halliday & Matthiessen, 2004, p. 170) "construe a quantum of change in the flow of events as taking place through some input of energy" (Halliday & Matthiessen, 2004, p. 179), "unfolding through distinct phases typically over a fairly short interval of time" (Halliday & Matthiessen, 2004, p. 184). These clauses consist of three principal components, namely process, participants and circumstances, and according to Halliday and Matthiessen (2004, p. 177), "the units that realize the process, participant, and circumstances elements of the clause make distinct contributions to the modelling of quantum of change." The configuration of participant + process constitutes the experiential center of the clause and circumstantial elements augment this center by adding information about time, place, manner, means, and reason/cause of the main verbal element of the clause (Halliday & Matthiessen, 2004). "While every clause has at least one participant, only certain clauses are augmented circumstantially" (Halliday & Matthiessen, 2004, p. 176). These elements assume an optional function in configuring the overall meaning of a material clause through contributing to enhancing readers' comprehension by signaling interdependency between clauses at the discourse level.

As illustrated in examples (14) to (17), the taxis and logico-semantic relation between clauses provide alternative choices for an author to register circumstantial elements in the text lexico-grammatically to construct meaning. These optional

elements can be registered through internally augmented simplex, simple clause, paratactic extensions (notified by +) or enhancement clauses. Enhancement clauses, indicated by the symbol (×), are configured through hypotactic (×β) or paratactic (×2) interdependency. These alternatives serve to communicate circumstantial information within the context of a sentence, and their varied configurations afford a range of schemata for constructing the experience of unfolding processes.

When the circumstantial meaning is inherent in the process, the author employs paratactic extension (+2) to help readers process the information sequentially, without overloading the content with unnecessary discourse markers. See the following example.

(27) JSLW-2018-5

|||**1α** *The questionnaire was developed in English*, ||**+2** *translated into Hungarian*||**+3** *and administered*|| **×βn** *using the online survey tool Qualtrics*. |||

In (27), since the sequence of process is already evident, it is superfluous for the author to burden the verbal components with excessive sequential indicators. In (28), however, the author has used paratactic enhancement (×2) and simple clause.

(28) AL-2018-5

Complex clause ||| **1** *Participants first completed the WM tasks*|| **×2** *and then completed the TOEFL® Junior™ Comprehensive test.* |||
Simple clause ||| *Finally, they completed a short online bio-data questionnaire*. |||

By the strategic adoption of the narrative function of simplex and paratactic clauses, the author captivates readers through a coherent arrangement of processes by employing explicit sequencing through paratactic enhancement and utilizing straightforward sequential discourse markers (*first, then, finally*); otherwise, the logical sequence of the process would likely remain elusive to readers. As example (29) illustrates, this cohesive chain of the sequence is sometimes facilitated by the utilization of sequential discourse markers (*first*, *then*) within simple clauses.

(29) S-2020-5

Embedded simple /// *The study **first** examined potential factors* [[*that pose challenges to translanguaging practices (e.g., languages available in the classroom and in the university landscape).*]] ///
Simple /// *It **then** examined teacher and student perceptions of the challenges (if any) of pedagogical translanguaging.* ///

4.5. Accentuating function

Due to their unequal status, hypotactic enhancement clauses confer different interactive functions that enable authors to relay the information in hierarchical order. This pronounced interactive function corresponds to their inherent regressive or progressive configuration that helps authors to selectively background or foreground the information within bound clauses. Consider the following examples in which the authors appear to have intentionally picked hypotactic enhancement (**×β**) to attribute different interactive functions to the circumstantial information presented in these clauses.

In (30), the processes *underline* and *number* are accentuated through backgrounding the *reading* process in the β-clause.

(30) JSLW-2016-2

||| **α** *They were instructed to underline and number higher-order problems* ||**×β** ***as they read along***. |||

In (31), the ×β-clause functions as a transitional link that helps the author to accentuate the process conducted in the preceding clause and primes the readers for the subsequent process undertaken in the succeeding clause.

(31) AL-2018-7

|||**α** *Participants were then instructed not to look up critical items*||**×β** ***before returning for Session 2, the next day***. |||
/// **α** *The lexical decision task was administered the following day,* //=**β** *allowing for sleep-associated memory consolidation processes*//=**β** *contributing to lexical-semantic integration.* ///

In (32), the author has strategically foregrounded the ×β-clause '*After extracting all 3-7-word bundles …'* to elevate the process (*extracting*) conducted in the antecedent clause and introduce a new stage in the sequential structure of the events.

(32) S-2022-9

||| **+β** *Although longer LBs are generally less frequent than shorter ones*, || **α** *the same extraction criteria were used regardless of sequence length*. |||
||| **×βn** ***After extracting all 3-7-word bundles*** **[[*meeting the aforementioned frequency and range criteria*,]]** || **α** *these raw lists were reviewed with the goal of reducing substantial overlap between LBs of differing lengths*. ||

The ×β-clauses in (30), (31) and (32) are referred to as "temporal qualifying clauses" which can appear either before or after the head (α) clause. These alternative choices are determined by textual considerations, and the thematic temporal qualifying clause (examples 32 and 33) "is highly motivated when the clause introduces a new stage in the narrative flow of events" (Halliday & Matthiessen, 2004, p. 374).

(33) AL-2020-5

||| **×βn *After examining the effect of potentially problematic issues***, || **α1** *we corrected minor spelling errors,* **//+2** *added missing sentence final punctuation marks,* **//+3** *and deleted learners' comments.* |||

In (34), the phrase '*before data collection*' functions as the circumstantial information that augments the clause internally within the domain of the primary clause in a complex nexus.

(34) AL-2016-5

Complex clause /// ***α Before data collection****, the sentences were subjected to pilot tests with monolingual and bilingual speakers of L1 Spanish*//**×βn** *to remove potentially ambiguous elements.* ///

In (35), the phrase '*prior to the analysis*' functions to internally augment the circumstantial information, thereby presenting an internally augmented simplex clause.

(35) AL-2018-3

Internally augmented simplex/// ***Prior to the analysis****, all data were converted to CHAT format.* ///

In (36), however, the author augments the circumstantial meaning externally by means of another clause in the complex.

(36) AL-2016-9

|||**×βf** *After the three raters passed a post-standardization marking test*// **=β** *involving assigning a CEFR level to eight essays*, || **α** *two of the raters independently marked the same set of 1,009 LLC essays,* // **=β** *excluding the ones used for training purposes (Phase5)*. |||

According to Halliday and Matthiessen (2004), alternating between these systems of choices relies on the degree of "textual, experiential, and interpersonal semiotic weight" the author wishes to ascribe to a unit. In (34) and (35), the circumstantial information is characterized by its experiential nature, while in (36), the information assumes interpersonal dimensions, because "only the latter has the grammatical potential of a clause; for example, it can itself be augmented circumstantially and assessed modally" (Halliday & Matthiessen, 2004, p. 368). In (37), the circumstantial hypotactic clause is augmented circumstantially by the phrase '*under the researcher's supervision*' and in (38), the circumstantial information is assessed modally denoted by the adverb '*successfully*'. This chain-like attribute makes hypotactic clauses more interactive in nature.

(37) S-2022-2

||| **×βn** *After watching the film,* ***under the researcher's supervision***, || **α** *the participants did the narration with headphones on*||**×βn** *to avoid any interference such as noise*. |||

(38) MLJ-2020-2

||| **×β** *Once a student* ***successfully*** *performed the task*, || **α** they began the main DDL activity. |||

It can therefore be deduced from these examples that in structuring the information in material clauses, the interactive function of simple and paratactic clauses is mostly narrative in nature, whereas hypotactic clauses exhibit more interactive and accentuating function.

5. CONCLUSION

This SFL-based study aimed to unveil one of the many areas necessary for success in academic writing by focusing on the systemic and functional view of the tactic and logico-semantic systems in the interactive information structure of clause expansion in the methodology section of RAs in four top-tier applied linguistics journals. By conducting rigorous quantitative and qualitative analyses on the data, we obtained valuable perspectives on the interactive function of diverse clause types, namely simplex, paratactic and hypotactic clause complexes, across different types of information in the analyzed corpus.

The findings derived from this research have made a noteworthy contribution to the extant body of knowledge in the field of academic writing. Our study has shed light on the descriptive function of simplex and paratactic clauses in propositional and proposal clauses and their narrative function in material process clauses. Hypotactic clauses, however, are pronounced in disseminating information more interactively in establishing and controlling the cognitive engagement of the non-present readers in reaping the information in the ongoing discourse. This pronounced function can be primarily attributable to the finite or nonfinite and regressive or progressive configuration inherently and exclusively possible in this type of clause.

The theoretical implications of these empirical findings underscore the inherent nature of language as a dynamic system comprising a multitude of choices, wherein the determination of the clause type is contingent upon the extent of the interlocutor's interactive engagement in the ongoing discourse. Constructing interactive information structure imposes priorities on the system of choices where alternating among simplex, paratactic, or hypotactic clauses is contingent upon the degree of the cognitive involvement of the non-present readers and exercises the agency to select the appropriate clause type.

Pedagogically, the findings of this investigation potentially equip novice academic writers with an understanding of how to adhere to the information

structuring patterns in international journals and develop a cogent account in their academic writing. Moreover, these findings serve as a resource for academic writing teachers in diverse educational contexts to impart fundamental knowledge to their students to structure the information interactively in the text.

Further research should focus on the introduction and discussion sections of RAs in applied linguistics to build upon the foundation laid by this study and continue exploring the interactive dimension of clauses on these sections that induce more interpersonal discourse with non-present readers. Moreover, a more profound comparative study on social and natural science research articles warrants further investigation.

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Appendix 1

Categories of enhancement and principal markers (Halliday & Matthiessen, 2004, p. 411)

	Category	Meaning	Paratactic	Hypotactic		
				finite	non-finite: conjunction	non-finite: preposition
(i) temporal	same time	A meanwhile B	(and) meanwhile; (when)	[extent] as, while	while	in (the course/ process of)
				[point] when, as soon as, the moment	when	on
				[spread] whenever, every time	–	–
	different time: later	A subsequently B	(and) then; and + afterwards	after, since	since	after
	different time: earlier	A previously B	and/ but + before that/ first	before, until/ till	until	before
(ii) spatial	same place	C there D	and there	[extent] as far as		– –
				[point] where	–	–
				[spread] wherever, everywhere	–	–
(iii) manner	means	N is via/by means of M	and + in that way; (and) thus	–	–	by (means of)
	comparison	N is like M	and + similarly; (and) so, thus	as, as if, like, the way	like	
(iv) causal–conditional	cause: reason	because P so result Q	[cause^effect] (and) so; and + therefore			
			[effect^cause] for; (because)	because, as, since, in case, seeing that, considering		with, through, by at, as a result, because of, in case of
	cause: purpose	because intention Q so action P	–	in order that, so that	–	(in order/so as) to; for (the sake of), with the aim of, for fear of
	cause: result			so that	–	to
	condition: positive	if P then Q	(and) then; and + in that case	if, provided that, as long as	if	in the event of
	condition: negative	if not P then Q	or else; (or) otherwise	unless	unless	but for, without

	Category	Meaning	Paratactic	Hypotactic		
				finite	non-finite: conjunction	non-finite: preposition
	condition: concessive	if P then contrary to expectation Q	[concession^ consequence] but; (and) yet, still; but + nevertheless [consequence^ concession] (though)	even if, even though, although	even if, even though, although	despite, in spite of, without

Appendix 2

Categories of extension and principal markers (Halliday & Matthiessen, 2004, p. 405)

	Category	Meaning	Paratactic	Hypotactic	
				Finite	Non-finite
(i) addition	'and', additive: positive	X and Y	(both …) and; not only … but also	while, whereas	besides, apart from, as well as
	'nor', additive: negative	not X and not Y	(neither …) nor	–	–
	'but', adversative	X and conversely Y		while, whereas	without
(ii) variation	'instead', replacive	not X but Y	but not; not … but	–	instead of, rather than
	'except', subtractive	X but not all X	only, but, except	except that	except for, other than
(iii) alternation	'or'	X or Y	(either …) or (else)	if … not (… then)	–