

Syntactic and Semantic Analysis of Research Articles' Introduction Sections Published in Egyptian and International Journals in Linguistics

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Abstract

The present paper seeks to analyze the process types of transitivity, nominalization types, tense usage, and voice choice of Research Article Introductions (RAIs) written by Egyptian and international researchers in linguistics. The corpus of the study consists of 50 RAIs selected from Egyptian and international journals from 2014 to 2021. The study is based on Halliday's (1967) Systemic Functional Grammar (SFG) for identifying processes of transitivity and nominalization types. It also depends on both qualitative and quantitative techniques to analyze the selected data. It has been found that the two groups were similar in terms of transitivity process types. That is, material process which indicate actions, had the highest percentage compared to the other processes. Both samples also used the first kind of nominalization (verb to noun) more frequently than the second one (adjective to noun). As for tense and voice, both Egyptian and international Research Articles (RAs) were found to be similar in using present simple tense and active voice the most. The current paper contributes to a better understanding of the transitivity system, nominalization types, tense usage and voice choice. It is expected to provide Egyptian and apprentice scholars with various

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conventions of writing RAIs which help them write good quality RAIs meeting international standards.

Keywords: research article, Introduction section, transitivity analysis, nominalization analysis, tense and voice choice.

1. Introduction

RAAs, compared to other kinds of genres, are the most common academic genre which have been extensively researched (Charles& Pecorari, 2016). Also, they have their own rules of writing and producing effective RAAs requires a complete knowledge and comprehension of these rules (Swales& Feak, 2004). Therefore, examining the linguistic features of the different sections of RAAs is of crucial importance

Moreover, the introduction section is one of the sections through which the reader can have a good first impression about the text. When this section is written clearly and attractively, the reader is encouraged to continue reading the upcoming sections of the text (Swales, 1990; Samraj, 2002; Gledhill, 2000). Due to the significance and complex nature of RAAs, this study is concerned with investigating some linguistic features of the introduction section of Egyptian and international RAAs in linguistics.

In addition, most studies conducted on introduction section (e.g. Swales, 1990; Samraj, 2002; Loi, 2010; Sheldon, 2011; Lu, Casal, & Liu, 2020; Lu, Yoon, & Kisselev, 2021) were interested in investigating the rhetorical structure of the introduction section without analyzing in-depth the linguistic features which provide valuable and

sufficient information that have great benefits to novice scholars. Therefore, this study attempts to fill in this gap.

1.1 Objectives of the Study

This study aims at comparatively investigating selected linguistic features (process types of transitivity, nominalization, tense usage and voice choice) of RAIs written by native English speakers (NESs) and non-native English speakers (NNESs) in the field of linguistics.

1.2 Significance of the Study

Examining the linguistic features of both Egyptian and international writers helps raise students' and apprentice researchers' awareness of those features. In addition, the study is hoped to help teachers and academics master the conventions of writing the introduction section.

1.3 Research Questions

The current paper seeks to answer the following research questions:

- 1- What are the similarities and differences in the transitivity process types employed in Linguistics Egyptian RAIs and Linguistics international RAIs?
- 2- What are the similarities and differences in the use of nominalization in the introduction sections of Egyptian and international RAs in linguistics?
- 3- How do tense usage and voice choice differ in the introduction sections of Egyptian and international RAs in linguistics?

2.Theoretical Framework

2.1 Transitivity System

Based on Halliday's (1967) Systemic Functional Grammar (SFG), transitivity system, which represents the ideational part of language, is related to the semantic aspect of the utterance. This system explains the

meaning of the sentence through analyzing the processes (verbs) expressed in it and thus it helps understand how individuals express their worldview through their utterances. The semantic processes expressed in sentences are material, mental, relational, verbal, behavioral and existential (Halliday & Matthiessen, 2004).

2.1.1 Material processes

Material processes, according to Thompson (2004), indicate physical actions. They consist of two participants: an actor (the doer of the process) and a goal (the object). The actor is the main participant and it is subdivided into animate and inanimate actor. When the process is acted by an animate actor, it is called an action process. In contrast, when the process is acted by an inanimate actor, it is categorized as event process.

2.1.2 Mental Processes

They include feeling or thinking. More specifically, they are realized by verbs like see, hear, think, believe, hypothesize, understand, like, and hate. This kind of processes has two participants: a sensor and a phenomenon. (Halliday & Matthiessen, 2004).

2.1.3 Relational Processes

They are the processes of being and subdivided into attributive and identifying relational processes. The attributive relational process has two participants: the carrier and the attribute while the participants of identifying relational process are the value and the token or identifier and identified (Halliday & Martin, 2005).

2.1.4 Verbal Processes

They indicate saying and are composed of two major participants: the sayer and the receiver. There also may be another participant

called the verbiage which refers to the content which is addressed to the addressee (Thompson, 2004).

2.1.5 Behavioral Processes

They are related to "any human behaviors based on a combination of physiological and psychological acts" (Halliday & Matthiessen, 2004, p. 248). It has only one participant: the behavior.

2.1.6 Existential processes

They are the processes of happening and they are realized by the phrase 'there is'. These processes are composed of only one participant which is called the existent (Thompson, 2004). The following table summarizes the six process types of transitivity and their participants.

Table 1

Summary of Process types, their meanings and their participants

Process Type	Category Meaning	Participants, Directly Involved
material: action event	"doing" "doing" "happening"	Actor, Goal
Behavioral	"behaving"	Behaver
mental: perception cognition desideration emotion	"sensing" "seeing" "thinking" "wanting" "feeling"	Sensor, Phenomenon
Verbal	"saying"	Sayer, Target
relational: attribution identification	"being" "attributing" "identifying"	Carrier, Attribute Identified, Identifier; Token, Value
Existential	"existing"	Existent

(Halliday, 2004, p.260)

2.2 Nominalization

Nominalization, according to some linguists, refers to the process of transforming a verb (process), an adjective (quality), a conjunction, or an adverb into a noun (thing), and also a clause into a nominal group (Eggins, 2004; Martin, 1991). This definition implies that nominalization does not only include change in the part of speech, but also leads to semantic change. Halliday's (1967) SFL was used to analyze nominalization which is a form of grammatical metaphor (GM). GM which is the theoretical foundation of nominalization can be defined as "a substitution of one grammatical class, or one grammatical structure by another" (Halliday & Martin, 2005, p. 87). Grammatical metaphor is used to foreground "meanings in static nominal groups and background personal and subjective voice" (Liardét, 2013, p. 163).

Employing nominalization in academic writing is of crucial importance in academic writing for many reasons (Biber& Gray 2010; Banks, 2008). First, nominalization is employed for summarizing much information using few words. For instance, the clause "The scholars abroad have greatly appreciated and accepted the book" could be, after using nominalization, "I have found a lot of appreciation and greater acceptance abroad". The latter is the metaphorical counterpart of the former (Halliday, 2004, p.36). As a result, nominalization is an economical means of presenting sufficient information and thus it is a form of condensation of information (Billig, 2008).

Second, through increasing the information density, nominalization helps connect ideas and create the cohesion of texts (Martin& Rose, 2008). Third, using nominalization enables the writer to turn processes into abstract objects and to avoid repetition of verbs

(Baratta, 2010). It also removes the need to use personal pronouns and this feature of nominalization makes the text objective and formal (Hyland, 2006). Fourth, Martin (1991) maintains that " in science, nominalization is strongly associated with definitions; its function is to accumulate meanings so that a technical term can be defined" (p.333).

With respect to the types of nominalization, there are several types of nominalization indicated by various researchers (e.g Rodby & Winterowd, 2005) while the current study examines two common types of nominalization that produce ideational metaphor. The investigated types of nominalization in this paper are verbal nominalization (e.g., discuss-discussion; move- movement) and adjectival nominalization (e.g., dense–density). The verbal nominalization, according to Halliday (2004), is divided into three types:1) nouns and verbs spelled alike (e.g. the verb *change* and the noun *change*), 2) verbs change their stems to become nouns (e.g. the verb *analyze* becomes *analysis*), 3) verbs have suffixes added to become nouns (e.g. *discuss* becomes *discussion*; *move* becomes *movement*). The two types are summarized in Figure 1.

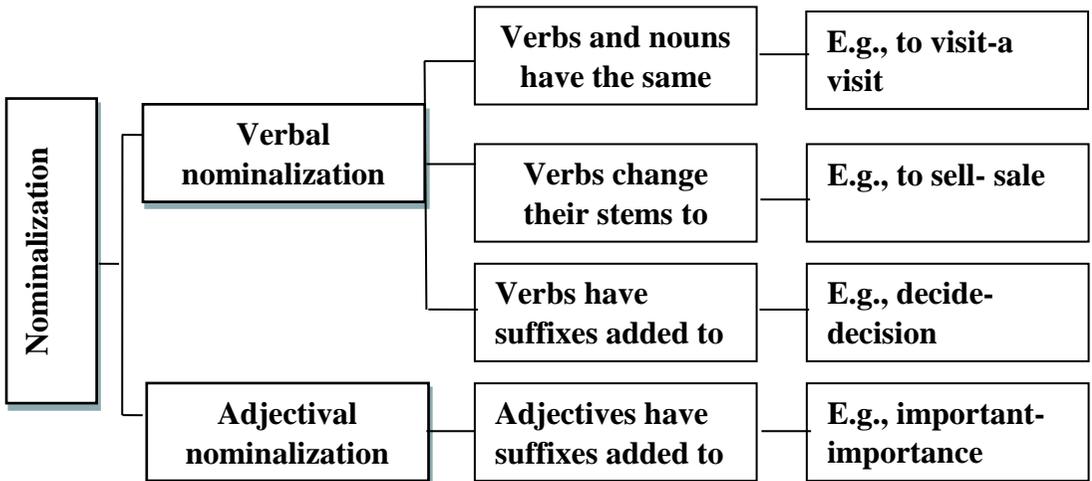


Figure 1. Forms of nominalization investigated (Thomas & To, 2016, p. 13).

2.3 Tense Usage

Tense refers to the time of performing an action and it is related to the verb of the sentence (Malcolm, 1987). There are four aspects of tenses in English: simple, perfect, progressive, and perfect progressive. Each aspect is marked by a syntactic marker which distinguishes it from the other aspects (Quirk et al., 1985) and based on these aspects, there are twelve tenses in English. They are the present simple, the past simple, the present perfect, the past perfect, the present progressive, the past progressive, the present perfect progressive, the past perfect progressive, future simple, future perfect, future progressive, and future perfect progressive (Celce-Murcia& Larsen-Freeman, 1999).

In research article writing, different tenses are used and their usage vary according to the function they perform in each section. However, according to Tarone et al. (1981), Malcolm (1987) and Reeves (2009), the present simple, the past simple, and the present perfect are used more frequently in academic writing than the other grammatical tenses like future and progressive.

The present simple tense is used in the introduction sections of RAs to provide the reader with some background information about the investigated topic or to indicate facts (Swales, 1990). Also, it can be used in other sections to comment on the findings reached and express interpretations of these finding (Dastjerdi et al, 2017). With respect to the past simple tense, it is used in RAIs to indicate findings and methods of previous studies, or describe previous work on which the current work is based. In other sections, it may be used to describe the findings of the study under investigation or the procedures of data

analysis (Hawes& Thomas, 1997). As for the present perfect tense, it combines both present and past as it is used for describing complete or incomplete actions began in the past and their effect is relevant to the present moment. However, the time of starting these actions in the past is indefinite (Reeves, 2009).

2.4 Voice Choice

There are two types of voice in English: active and passive. The passive voice was preferable in scientific and academic writing for two reasons, First, it does not only allow writers to move the agent/actor to the end of the sentence, but also to omit it altogether. Therefore, it describes procedures objectively. Second, for scientific and academic writers, the concept being defined is more important than the actor and when describing a mechanical process, the details of this process are much more important than the actor (Seone,2013). However, some linguists such as Hinkel, (2004b), Banks (2017) and Leong, Toh, & Chin (2018) have maintained that the active voice is recommended and researchers in academic writing have a tendency in recent years to use the active more than the passive. This recommendation is because the active sentence is shorter and more direct than the passive sentence. Also, the active voice enables the writer to express his thoughts clearly unlike the passive voice which sometimes hides the true meaning.

3.Literature Review

Some studies (e.g., Jomaa& Bidin, 2019; Zheng, 2021) investigated the process types of transitivity of the different sections of research articles or the various chapters of MA or PhD theses across different fields. Other studies (e.g., Mehrabi, et al, 2018; Kaidan, Jalilifar, &

Don, 2018) investigated the different kinds of nominalization and the use of tenses and voice (e.g., Hinkel, 2004b; Abarghooeinezhad & Simin, 2015; Nurhayati & Jakarta, 2017). The following section reviews some of these studies.

Jomaa & Bidin (2019) adopted Halliday's (1967) Systemic Functional Linguistics (SFL) to identify processes of transitivity in the literature review chapters of 20 PhD theses in Applied Linguistics (AL) and Information Technology by Arab postgraduates. They noticed that information technology was similar to applied linguistics in the high percentage of the material processes which were followed by relational, verbal, and mental processes. They have found also that behavioral and existential processes had the smallest number and percentage. Similar to Jomaa and Bidin (2019), Zheng (2021) investigated the transitivity structure of ten AL RAs published in top journals of the discipline to identify the variations of process types across sections. He found that material and relational processes were dominant and these two processes were followed by existential processes.

Mehrabi, et al (2018) examined the distribution of nominalization in the structure of RAIs across hard and soft sciences. They have found that writers in hard science have a tendency to use nominalization more frequently than their counterparts in soft sciences. However, there was no significant difference in the lexical density of the introduction sections of the two datasets. In contrast, Kaidan, Jalilifar, & Don (2018) who identified occurrences of nominalization in different types of RAs in physics and AL found that the writers in AL used nominalization more frequently than their counterparts in physics. Also, their analysis showed that the deployment of the second type of nominalization (verb

to noun) is different from the other types of nominalization in each field. They also noticed the frequent use of nominalization in experimental RAs in the field of AL.

Hinkel (2004b) examined the usage of tenses, aspects (perfect/progressive) and the passive voice in academic texts written by NESs and NNESs. He found that the present simple tense was the most used tense in many types of academic genres, followed by the past simple tense. In addition, the findings of his study revealed that use of the passive voice was prevalent in academic writing. Also, he observed that NNESs employed the past simple tense more frequently than the NESs and the advanced non- native speakers had difficulty in employing tenses, aspects, and the passive voice even after years of second language use.

Aligned with the findings of Hinkel (2004b) in terms of the use of tenses, Abarghooeinezhad and Simin (2015) analyzed 50 RA abstracts among English speakers and Iranian speakers in electronic engineering to investigate the use of tense (present/past) and voice (active/passive) in addition to rhetorical structure of their research abstracts. The results of their study indicated the dominance of present tense verbs. Contradicting Hinkel's (2004b) results in light of the use of tense and voice, they found that the active and passive voices had the same frequency of occurrence.

Nurhayati and Jakarta (2017) analyzed RA abstracts of Asian journal to examine the use of tense and voice. They found, in accordance with Hinkel (2004b), that the simple present was the dominant tense, followed by the present perfect and the past simple. In contrast with

Hinkel (2004b), they found that the active voice was used more frequently than the passive one.

The above-mentioned studies analyzed only one linguistic feature (e.g. transitivity, nominalization, tense usage, voice choice) while the present study seeks to analyze all these linguistic features to contribute to a deeper understanding of the articles under investigation.

4. Methodology

4.1 Research Design

The present paper employs both qualitative and quantitative methods for analyzing the selected introductions. Quantitative method is deployed to count the frequencies of the process types of transitivity, types of nominalization, different tenses and voice across both corpora. However, qualitative technique is employed to provide interpretations to the quantitative findings.

4.2 Data Collection

The corpus of the study consists of 50 linguistics RAIs divided into two groups. The first group consists of 25RAIs which were taken from prestigious Egyptian journals according to the Supreme Council of Universities. The other 25 RAIs were taken from international journals registered in Journal Citation Reports.

4.3 Procedures

The Egyptian introduction sections were coded as Egy 1-Egy 25 and the international introductions as Int 1- Int 25. The analysis was conducted in two stages. First, the selected data was analyzed qualitatively in terms of transitivity, nominalization, tense and voice. Examples of process types of transitivity, types of nominalization, types of tenses and voice from both corpora were presented. The

second stage includes analyzing the data quantitatively. The instances of each linguistic feature were counted and their percentages were compared across both corpora to determine the most used types.

5. Data Analysis

5.1 A Qualitative Transitivity Analysis of Linguistics Egyptian RAIs and Linguistics International RAIs

In this section, different examples from both samples are given. LIRAI stands for linguistics international research article introduction and LERAI refers to linguistics Egyptian research article introduction.

5.1.1 Material Process

The next examples from both Egyptian and international samples illustrate using this kind of process:

1. We (actor) *conducted* (material process) a meta-analysis (goal) (LIRAI#2, sentence no.#9).
2. The EMI policy (actor) *creates* (material process) an unusual immersion environment (goal) (LIRAI#4, sentence no.#9).
3. The share of humorous oriented utterances (actor) *builds* (material process) a common ground (goal) among the users of Facebook (LERAI#15, sentence no.#17).

In the above examples, the verbs *conducted*, *creates*, and *builds* represent actions. The first example refers to an action process as the actor is animate while the second and third ones indicate event processes.

5.1.2 Mental Process

In the following extracts taken from both Egyptian and international samples, the verbs *feel*, *aim* and *wish* indicate perception, cognition, and reaction.

4. English teachers in Chinese universities (Sensor), ... *feel* (mental process) the pressure of finding ways (phenomenon) (LIRAI#5, sentence no.#13).
5. Overall, we (sensor) *aim* (mental process) to provide a blueprint of good practice (phenomenon) in framing analysis ... (LIRAI#3, sentence no.#23).
6. Often however, one (Sensor) may not *wish* (mental pr.) to communicate our attitudes (phenomenon), ... (LERAI#3, sentence no.#15).

5.1.3 Relational Process

The next quotations include both identifying and attributive relational processes to provide more explanations to the concepts or phenomena related to the investigated topic.

7. Our results (identifier) *show* (identifying relational pr.) notable associations (identified) between the move structure and the visuals (LIRAI#7, sentence no.#23).

8. This ideology (carrier) *is* (attributive relational pr.) identifiable (attribute) in educational... discourses (LIRAI#10, sentence no.#2).
9. The sample data (identifier) *includes* (identifying relational pr.) two images (identified) which *show* (identifying relational pr.) a presidential candidate (identified) ... (LERAI#4, sentence no.#9).

5.1.4 Verbal Process

The upcoming extracts illustrate using verbal processes in both sub-corpora where the verbs describe, discussed, and argues indicate saying:

10. Next, we (*sayer*) *describe* (verbal pr.) the statistical procedures (verbiage) for our multilevel meta-analysis (LIRAI#2, sentence no.#12).
11. Tahir Gurcaglar (Sayer) (2011) *discussed* (verbal pr.) the idea of a translator's preface (verbiage) (LERAI#13, sentence no.#11).
12. Similarly, Kellner (2017) (*sayer*) *argues* (verbal pr.) that investigating the language of humor in online and digital discourses ... (verbiage) (LERAI#2, sentence no.#15).

5.1.5 Existential Process

The examples below illustrate the function and the participant of this kind of process:

13. *There is* (existential process) considerable confusion (existent) as to whether Translanguaging could be ... (LIRAI#1, sentence no.#3).

14. *There is* (existential process) a need (existent) to conduct a discourse analysis of RAs submitted for publication (LERAI#12, sentence no.#9).

The above-mentioned examples include verbs of existing indicating an occurrence. Also, these examples involve only one participant which is the existent.

5.1.6 Behavioral Processes

In the international sample of linguistics, there is only one example of this kind of processes in which the verb observed indicates human behavior:

15. Sereno et al. (2016) ... (behavior) observed (behavioral pr.) that while intonation is closely linked to intelligibility (LIRAI#24, sentence no.#25).

However, there are three examples of this process in the Egyptian sample:

16. The stand-up comedian (behave) *talks* (behavioral pr.) to his audience directly ... (LERAI#6, sentence no.#4).
17. It has been proven that “71.6 million viewers (behave) *watched* (behavioral pr.) the final debate... (LERAI#10, sentence no.#8).
18. Lakoff and Johnson (2003) (behave) *observe* (behavioral pr.) that human language is hardly metaphor free (LERAI#14, sentence no.#5).

In the above examples, the verbs *talk*, *watch* and *observe* involve physiological and psychological acts. Also, the examples contain only one participant.

5.2 A Quantitative Transitivity Analysis of LIRAI and LERAI

In the following section, the frequencies of the different process types of transitivity system within ILRAI and ELRAI are presented. The next table summarizes the percentage of the six process types in the ILRAI and ELRAI which were found to have a higher frequency of material process, followed by relational, mental, verbal, existential, and behavioral processes.

Table 2

The distribution of the six process types in the introduction section across both sub- corpora.

The six processes	LERAI	(%)	LIRAI	(%)
Material	199	39	329	43.1
Mental	90	17.6	102	13.4

Relational	149	29.2	220	28.8
Verbal	56	11	85	11.1
Existential	15	2.9	25	3.3
Behavioral	1	0.1	2	0.3

As table 2 indicates, the two subsets of linguistics share a similar pattern in terms of the frequency of the six process types where material processes outnumber the other processes. In addition, relational processes occupy the second rank, followed by mental, verbal, existential, and behavioral. Material processes represent the researcher's objective concentration and indicate avoidance of subjectivity. The highest percentage of material processes may be due to the nature of objectivity required in linguistics as a soft science.

Another noticeable finding is the dominance of relational processes following the material ones. Relational clauses are used generally to characterize and to identify. More specifically, they are used to provide more accurate information or to illustrate the relationship between research questions and findings. Thus, their use will add descriptiveness and preciseness to the linguistics RAs. The predominance of material and relational processes shows linguistic writers as objective and accurate. The table also indicates the low number of existential processes which can be ascribed to the intent of writers in the field of linguistics to emphasize the accuracy of the results and minimize personal utterances. The rarity of behavioral processes as observed in the table may be due to their focus on human behaviors. Also, it has been found that the use of the six processes in the international sample outnumbered their use in the Egyptian one. This difference may be explained by Egyptian writers' unawareness of the significance of using those types of processes.

The next section analyzes the two types of nominalization selected to be investigated in the current study: verbal nominalization and adjectival nominalization.

5.3 A Qualitative Analysis of Nominalization in Egyptian and international RAIs in Linguistics

The following examples taken from the international and Egyptian datasets show that writers depend on using nominalization as a crucial resource for constructing academic discourse.

19. EMI illustrates the deeply rooted *importance* attributed to English *proficiency* in many ... societies... (LIRA#4, sentence no.#8).

20. Psycholinguistic research has centered on investigating learning *difficulties* ... Errors are the mistakes made by a group of learners, due to *unawareness* of the existing rules (LIRA#16, sentence no.#5-6).

In these examples, there are four instances of adjectival nominalization where four attributes are expressed in the form of a noun. That is, the words *importance*, *proficiency*, *difficulties*, *unawareness* function as the nominalized forms of *important*, *proficient*, *difficult* and *awareness*, respectively. The congruent form of the first example is 'EMI illustrates that to be proficient in English in many non-English Asian societies is very important', and that of the second one is 'psycholinguistic research has centered on investigating

what is difficult in learning'. However, the writers prefer using nominalization as it helps them provide the audience with more easily comprehensible content.

Following are two examples of nominalization from both corpora. They demonstrate that nominalization helps writers concentrate on the most significant information. Moreover, they involve adjective nominalization (effectiveness) and two instances of verb nominalization where need and research are examples of *verbs and nouns have the same stems*.

21. However, the *effectiveness* of teaching grammar to support language learning is under debate (LIRA#19, sentence no.#3).

22. However, this *need* is not sufficiently met by previous *research* (LIRA#17, sentence no.#10).

In the above mentioned examples, nominalization is mainly used for a more concise and stylistic representation of meaning.

The subsequent examples indicate that writers implement nominalization to reintroduce the results or structure of their studies in a compressed way as follows:

23. Our results show notable *associations* between the move structure and the visuals used in the articles (LIRA#7, sentence no.#23).

24. ... section five includes a *discussion* and our *conclusion* for the results of the data *analyses* (LIRA#18, sentence no.#24).

These excerpts include two types of verbal nominalization. The first one is *verbs have suffixes added to become nouns* (e.g. discussion; association) where *discussion* as well as *association* function as the nominalized form of discuss and associate. The second one is *verbs change their stems to become nouns* (e.g. conclusion; analyses) in which *conclusion* and *analyses* function as the nominalized forms of 'conclude' and 'analyze'. The nominalized forms manage the writers to present the text in a simple, attractive, and economic way and as a result establish an interactive relationship with readers.

5.4 A Quantitative Analysis of Nominalization in Egyptian and international RAIs

Table 3

The Frequency and percentage of nominalization types in LERAI s and LIRAI s

	LERAI s		LIRAI s	
	F	(%)	F	(%)
1-Adjective to noun	62	23.8	98	23.7
2-V.s and N.s have the same stems	57	21.9	102	24.7
3-Verbs change their stems	41	15.8	79	19.1
4-Verbs have suffixes added	100	38.5	134	32.4

Table 3 reveals the most and the least nominalized expressions used in the introduction sections in both sub-corpora. That is, the shift from *process (verb) to thing (noun)* is extremely common in both datasets. More specifically, the number of frequencies of the sub-types of *verb to noun* exceed the number of frequencies of the second type (the shift from *adjective to noun*). As for the sub-types of verb to noun, *verbs have suffixes added to become nouns* have the highest percentage within both subsets with 38.5%, and 32.4%, respectively. *Verbs and*

nouns have the same stems rank second in terms of frequencies whereas *verbs change their stems to become nouns* represent the least frequently used type of verb nominalization.

Through using nominalization in texts, the writer manages to delete the human agency and hence nominalization is a way of expressing objectification. It is also employed to foreground some concepts or meanings so as to focus on them and to background personal voice. Therefore, it helps link up sentences and accordingly contributes to the cohesion of the text. Nominalization is used sometimes to describe complex processes easily. It was observed that nominalization include a higher percentile in the international corpus than its Egyptian counterpart. This difference may be explained by the international writers' acquaintance with the conventions of writing in general and the significance of using nominalization in their writing in particular.

5.5 Tense Usage and Voice Choice in LIRAI and LERAI.

Table 4 clarifies the total frequency occurrences of tense and voice within both datasets of linguistics.

Table 4

The distribution of tense and voice in LIRAI and LERAI

The use of tense& voice	LERAI	(%)	LIRAI	(%)
Tense				
Present simple	379	66.0	372	58.7
Past simple	66	11.5	65	10.3
Present perfect	77	13.4	103	16.2
Present perfect continuous	2	0.3	1	0.2
Present continuous	3	0.5	2	0.3
Future simple	6	1.0	5	0.8
Modals	41	7.1	86	13.6

Voice				
Active	470	81.9	529	83.4
Passive	104	18.1	105	16.6

As indicated in table 4, the present simple, the present perfect, and the past simple were the most used tenses within the two samples. Using these tenses was according to the function of each one and this variety indicates the complexity of linguistic features. The table also shows that the present simple has the highest percentage in the two groups (LERAI: 66% vs. LIRAI: 58.7%). The present perfect occupies the second rank (LERAI: 13.4% vs. LIRAI: 16.2%), and the past simple ranks third in both groups (LERAI: 11.5% vs. LIRAI: 10.3%). Present perfect continuous, present continuous, and future simple tenses were rarely used in both samples. Concerning modals, they were used in LIRAI as twice as their occurrence in LERAI (13.6% vs. 7.1%). As for the voice choice, the active was used as four times as the passive voice in LERAI and as five times the passive in LIRAI.

The present simple is used to present and discuss concepts and definitions related to the investigated study. For example:

25. moves *are* “discoursal or rhetorical units performing ... functions in texts” (LIRA#9, sentence no.#2).

This tense was also used to describe the study under investigation. For instance:

26. The present study *concerns* the impact of short-term and working memory on receptive vocabulary... (LIRA#11, sentence no.#1).

It was sometimes used to make general statements like the following quotation:

27. Studying humor ... *enables* decision makers to trace and detect the problematic issues ... (LERA2, sentence no.#2).

In contrast, the past simple was used to describe past actions or to refer to previous studies. For example:

28. Pronin, Lin and Ross *found* that although individuals can often spot such biases in others... (LERA3, sentence no.#19).

The past simple was sometimes used to discuss the methods applied to carry out a research. For instance:

29. In this study, we *created* a hypothesized model of pronunciation learning based on ... (LIRA14, sentence no.#15).

The present perfect was used mainly to refer to the studies which has been conducted on a specific aspect or relation among different variables. For instance:

30. Many researchers *have applied* versions of this method of analysis in order to uncover the underlying generic structure... (LIRA#9, sentence no.#6).

6. Results and Discussion

To answer the first research question, Halliday' (1967) systemic functional grammar was adopted to identify the process types of transitivity. The analysis of transitivity system revealed that the two samples share resemblance where material processes had the highest frequency (LERAI: 199 (39%) vs. LIRAI: 329 (43.1%).

Material processes were followed by relational (LERAI: 149 (29.2% vs. LIRAI: 220 (28.8%), and mental processes (LERAI: 90 (17.6%) vs. LIRAI: 102 (13.4%). These findings are in parallel with those of Jomaa and Bidin (2019) and Zheng (2021). Moreover, the selected corpora had a lower number of existential processes, aligned with Zheng's (2021) finding. It has also been found that behavioral processes were rarely used (LERAI: 1 (0.1%) vs. LIRAI: 2 (0.3%).

To answer the second question, Halliday's (1967) SFL also was used to analyze nominalization. The findings revealed that there were striking similarities between the Egyptian and international writers with respect to the employment of nominalization. That is, the use of *verb (process) to noun (entity)* outnumbered the use of *adjective (quality) to noun (entity)* in both corpora (LERAI: 198 (76.2%) vs. LIRAI: 315 (76.3%). This finding is in line with Mehrabi, et al. (2018) and Kaidan, Jalilifar, & Don (2018) who postulated that those two kinds were prevalent in texts and verb to noun dominates the other types. More specifically, *verbs have suffixes added to become nouns* predominated the other types of *verb to noun* and *verbs change their stems to become nouns* represented the least frequently used type of *verb to noun* across both corpora (LERAI: 41 (20.7%) vs. LIRAI: 79 (25.1%).

To answer the third question, Celce-Murcia & Larsen-Freeman's (1999) model were adopted to examine the employment of different tenses and voices. The findings showed that the present simple, the past simple and the present perfect were the most used tenses within both sub-corpora. Aligned with Hinkel's (2004b) findings, the present simple was the predominant tense across the two groups (LERAI: 379 (51.6%) vs. LIRAI: 372(55.6%). The past simple ranked second in the

two groups (LERAI: 66 (51.6%) vs. LIRAI: 65(55.6%). This result is in accordance with Abarghooeinezhad& Simin's (2015) result. In addition, it has been found that the present perfect occupied the third rank in the two datasets (LERAI: 77(13.4 %) vs. LIRAI: 103(16.2%).

Regarding voice choice, the findings of the present study revealed that the active voice outnumbered the passive one (LERAI (active 470 and passive 104) vs. LIRAI (active 529 and passive 105) agreeing with the findings of Nurhayati& Jakarta (2017). These findings completely contradict some studies which found the frequent use of the passive or the equal use of active and passive voices (Hinkel, 2004b& Abarghooeinezhad& Simin, 2015).

7. Conclusion

In this study, three linguistic features (transitivity system, nominalization types, tense usage, and voice choice) were investigated in 50 introductions of RAs published in Egyptian and international journals. The findings showed that material processes which indicate actions were the most used type compared to the other processes across both datasets. Also, it has been found that the two groups of linguistics bear some resemblance to each other in terms of the frequency of types of nominalization. That is, the shift from *process (verb) to noun* predominated the shift from *adjective to thing (noun)*. In addition, *verbs have suffixes added to become nouns* had the highest percentage across both sub-corpora and *verbs change their stems to become nouns* have the least percentage.

The analysis also indicated that the only difference between the Egyptian and international corpus is that the number of frequencies of nominalized expressions in the international sample is greater than the

Egyptian counterpart. The Egyptian writers' lower rate of using nominalization may be ascribed to the lack of their mastery of using metaphorical expressions in English. Regarding tense usage, the present simple was found to be used more frequently than the other tenses within both samples. As for voice choice, the active voice outnumbered the passive one throughout the two groups.

Works Cited

- Abarghooeinezhad, M. and Simin, S. (2015). Analyses of verb tense and voice of research article abstracts in engineering journals. *International Letters of Social and Humanistic Sciences*, 47, 139-152.
- Banks, D. (2008). *The development of scientific writing: linguistic features and historical context*. Equinox.
- Banks, D. (2017). The extent to which the passive voice is used in the scientific journal article, 1985-2015. *Functional linguistics*, 4 (12), 1-17.
- Baratta, A. (2010). Nominalization development across an undergraduate academic degree program. *Journal of Pragmatics*, 42 (4), 1017-1036
- Biber, D., & Gray, B. (2010). Challenging stereotypes about academic writing: Complexity, elaboration, explicitness. *Journal of English for academic Purposes*, 9 (1), 2-20.
- Billig, M. (2008). The language of critical discourse analysis: The case of nominalization. *Discourse & Society*, 19 (6), 783–800.
- Celce-Murcia, M., & Larsen-Freeman, D. (1999). *The grammar book: An ESL/EFL teacher's course* (2nd ed.). Heinle& Heinle.
- Charles, M., & Pecorari, D. (2016). *Introducing English for academic purposes*. Routledge.
- Dastjerdi, Z.S., Tan, H., & Abdullah, A. N. (2017). Tense analysis in rhetorical movement of results and discussion chapters of master's theses in hard sciences. *Journal of Applied Linguistics and Language research*, 4 (6), 1-18.
- Eggins, S. (2004). *An introduction to systemic functional linguistics* (2nd Ed.). Continuum.

- Gledhill, C. (2000). The discourse function of collocation in research article introductions. *English for specific purposes*, 19 (2), 115-135.
- Halliday, M. A. K. (1967). Notes on transitivity and theme in English, Part 1. *Journal of Linguistics*, 1967(3), 37-81.
- Halliday, M. A. K. (2004). *An introduction to functional grammar*. Arnold Publishers.
- Halliday, M. A. K., & Martin, J. R. (2005). *Writing science: Literacy and discursive power*. University of Pittsburgh Press.
- Halliday, M.A.K. & Matthiessen, C. (2004). *An Introduction to functional grammar* (3rd ed.). Edward Arnold.
- Hawes, T., & Thomas, S. (1997). Tense choices in citations. *Research in the Teaching of English*, 31 (3), 393-414.
- Hinkel, E. (2004b). Tense, aspect, and the passive voice in L1 and L2 academic texts. *Language Teaching Research*, 8 (1), 5-29.
- Hyland, K. (2006). Disciplinary differences: Language variation in academic discourses. In K. Hyland & M. Bondi (Eds.), *Academic discourse across disciplines* (pp. 17-45). Peter Lang.
- Jomaa, N. J. & Bidin, S. J. (2019). Exploring processes 'verbs' in EFL postgraduates' citations: A Systemic functional linguistics approach. *Indonesian Journal of Applied Linguistics*, 9, 188-201.
- Kaidan, Z.H., Jalilifar, A., & Don, A. (2018). on the significance of disciplinary variation in research articles: Perspectives from nominalization. *Cogent Education*, 8 (1), 1-18.
- Leong, A.P., Toh, A.L., & Chin, S.F. (2018). Examining structure in scientific research articles: A study of thematic progression and thematic density. *Written Communication*, 35 (3), 286-314.
- Liardét, C. L. (2013). An exploration of Chinese EFL learner's deployment of grammatical metaphor: Learning to make academically valued meanings. *Journal of Second Language Writing*, 22, 161-178.

- Loi, C. K. (2010). Research article introductions in Chinese and English: A comparative genre-based study. *Journal of English for Academic Purposes*, 9(4), 267-279.
- Lu, X., Casal, E., & Liu, Y. (2020). The rhetorical functions of syntactically complex sentences in social science research article introductions. *Journal of English for Academic Purposes*, 44, 1-16.
- Lu, X., Yoon, J., & Kisselev, O. (2021). Matching phrase-frames to rhetorical moves in social science research article introductions. *English for Specific Purposes*, 61, 63-83.
- Malcolm, L. (1987). What rules govern tense usage in scientific articles? *English for Specific Purposes*, 6 (1), 31-43.
- Martin, J. R. (1991). Nominalization in science and humanities: Distilling knowledge and scaffolding text. In E. Ventola (Ed.), *Functional and systemic linguistics* (pp. 307–337), Berlin: Mouton de Gruyter.
- Mehrabi, K., et al. (2018). Investigating action nominalization in the introduction sections of research articles: A cross-disciplinary study of hard and soft sciences. *Teaching English Language*, 12 (2), 1-26.
- Nurhayati, S.S., Jakarta, A.B. (2017). Verb tense analysis of research article abstracts in Asian EFL journal, *Progressive*, XII (2), 57-64.
- Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. (1985). *A comprehensive grammar of the English language*. Longman.
- Reeves, A. (2009). Tense matters: The preterit and present perfect in scientific text. *The Journal of the European Medical Writers Association*, 18 (2), 99-101.
- Rodby, J. & Winterowd, W. R. (2005). *The uses of grammar*. Oxford University Press.

- Samraj, B. (2002). Introductions in research articles: Variations across disciplines. *English for Specific Purposes*, 21 (1), 1-17.
- Seoane, E. (2013). On the conventionalisation and loss of pragmatic function of the passive in late Modern English scientific discourse. *Journal of Historical Pragmatics*, 14(1), 70-99.
- Sheldon, E. (2011). Rhetorical differences in RA introductions written by English L1 and L2 and Castilian Spanish L1 writers. *Journal of English for Academic Purposes*, 10(4), 238-251.
- Swales, J. (1990). *Genre Analysis: English in Academic and Research Settings*. Cambridge University Press.
- Swales, J.M., & Feak, C.B. (2004). *Academic writing for graduate students. Essential tasks and skills* (2nd ed.). University of Michigan Press.
- Tarone, E., Dwyer, S., Gillette, S., & Icke, V. (1981). *English for academic and technical purposes: Studies in honor of Louis Trimble*. Newbury House.
- Thomas, D. P., & To, V. (2016). Nominalization in high scoring primary and secondary school persuasive texts. *The Australian Journal of Language and Literacy*, 39, 135-148.
- Thompson, G. (2004). *Introducing Functional Grammar*. Oxford University Press.
- Zheng, X. (2021). Transitivity Structure of Research Articles: Variations across Sections. *English Language Teaching*, 14 (8), 8-18.

Appendix A

List of Research Articles in the Egyptian Sub-corpus

Egy. (2)

El Falaky, M.S. (2018). Serious Humor about the Egyptian Nuclear Program: A Pragmatic Analysis of Facebook Posts. *ELLS*, 9 (1), 211-256.

Egy. (3)

Mohamed, M.A. (2018). Bias Through Metaphors in Selected Works of El-Messiri and Fukuyama: A Cognitive Linguistic Analysis. *ELLS*, 9 (1), 259-298.

Egy. (4)

Abdeen, A.A. (2015). Semiotic Analysis of some Election Posters: A Systemic Functional Grammar Perspective. *Occasional Papers*, 59, 199- 224.

Egy. (6)

Taha, M.I. (2019). A Pragma-Linguistic Study of Egyptian Stand-up Comedy: A New Paradigm of Satire. *Occasional Papers*, 67, 399-436.

Egy. (10)

Wahba, N.S. (2017). Persuasive Strategies in Trump's Final Presidential Debate: A Critical Discourse Analysis. *Occasional Papers*, 63, 309-349.

Egy. (12)

Alaa Eldin, A.M. (2020). Meta-discourse Use of Egyptian Researchers. Writing English Research Articles for International Publication. *Cairo Studies in English*, 1, 158-179.

Egy. (14)

Khalifa, R. (2018). A Corpus-Based Study of Conceptual Metaphors in Egyptian Economic News Headlines. *Occasional Papers*, 64, 5-29.

Egy. (15)

Khalifa, R. (2017). An Analytical Study of the Linguistic Strategies Used by Egyptian University Students in their Humorous Facebook Chats. *Occasional Papers*, 63, 119-148.

Egy. (16)

Gad, R.F. (2018). A Psycholinguistic Perspective on Error Analysis: The Acquisition of Tense-Aspect. *ELLS*, 9 (1), 399- 444.

Egy. (17)

El- Tahawy, N.H., Saleh, M.M., & Attia, M.F. (2021). Representation of Egyptian Women in Nayra Atiya's Biography *Khul-Khaal* 1984: A Feminist Stylistic Analysis. *Occasional Papers*, 73, 41-69.

Egy. (18)

El-Hawary, A. (2020). The Trump-Clinton 2016 Presidential Debates: A Critical Discourse Analysis. *Occasional Papers*, 69, 127-154.

Appendix B

List of Research Articles in the international Sub-corpus

(Int. 1)

Wel, L. (2018). Translanguaging as a practical theory of language. *Applied Linguistics*, 39 (1), 9–30.

(Int. 2)

Lee, H., Warschauer, M., & Lee, J. H. (2018). The effects of corpus use on second language vocabulary learning: A multilevel meta-analysis. *Applied Linguistics*, 40 (5), 721–753.

(Int.3)

Semino, E, Demje, Z, & Demmen, J. (2018). An Integrated approach to metaphor and framing in cognition, discourse, and practice, with an application to metaphors for cancer. *Applied Linguistics*, 39 (5), 625–645.

(Int.4)

Kim a, J., Kim,E.G., & Kweon,S. (2018). Challenges in implementing English-medium instruction: Perspectives of Humanities and Social Sciences professors teaching engineering students. *English for Specific Purposes*, 51, 111–123

(Int. 5)

Tao , J, T., & Gao, X.A. (2018). Identity constructions of ESP teachers in a Chinese university. *English for Specific Purposes*, 49, 1–13.

(Int. 7)

Moghaddasi, S., et al. (2019). "See Figure 1": Visual moves in discrete mathematics research articles. *English for Specific Purposes* 56, 50–67.

(Int. 10)

Gu, M.M., Kou, Z.C., & Guo, X.G. (2017). Understanding Chinese language teachers' language ideologies in teaching South Asian students in Hong Kong. *International Journal of Bilingual Education and Bilingualism*, 22 (8), 1030–1047.

(Int. 9)

Moreno, A.I., Swales, J.M. (2018). Strengthening move analysis methodology towards bridging the function-form gap. *English for Specific Purposes*, 50, 40-63.

(Int. 11)

Barbosa, P.G., Jiang, Z., & Nicoladis, E. (2019). The role of working and short-term memory in predicting receptive vocabulary in monolingual and sequential bilingual children. *International Journal of Bilingual Education and Bilingualism*, 22 (7), 801-817.

(Int.14)

Sardegna , F.G., Lee, J., & Kusey, C. (2017). Self-Efficacy, Attitudes, and Choice

of Strategies for English Pronunciation Learning. *A Journal of Research in Language Studies*, 68 (1), 63-114.

(Int. 19)

Tammenga- Helmantel, M. (2019). The position of grammar in Finnish, Dutch, and global course books for German as a foreign language. *Language Teaching Research*, 23(5) 562–583.

(Int.24)

Liu, Y.T., & Tseng, W.T. (2019). Optimal implementation setting for computerized

visualization cues in assisting L2 intonation production. *System*, 87, 1-13.

ملخص

يسعى هذا البحث إلى تحليل أنواع عملية التعدي لمفعول، ونوعين من التحويل الاسمي، والمبني للمعلوم والمجهول، واستخدام الأزمنة في مقدمات مقالات بحثية كتبها باحثون مصريون ودوليون في مجال اللغويات. تتكون عينة الدراسة من ٥٠ مقدمة تم اختيارها من المجلات المصرية والدولية من ٢٠١٤ إلى ٢٠٢١ وتستند الدراسة إلى قواعد اللغة الوظيفية النظامية لهاليداي (١٩٦٧) لتحديد عمليات التعدي لمفعول وأنواع التحويل الاسمي. كما تعتمد على كل من التقنيات النوعية والكمية لتحليل البيانات المختارة. وقد وجد أن المجموعتين كانتا متشابهتين من حيث أنواع عملية التعدي. أي أن العملية المادية كعملية فعل أو حدوث، كان لها أعلى نسبة مقارنة بالعمليات الأخرى. استخدمت كلتا العينتين أيضا النوع الأول من التحويل الاسمي (الفعل إلى الاسم) بشكل متكرر أكثر من النوع الثاني (الصفة إلى الاسم).

أما بالنسبة للمعلوم والمجهول واستخدام الأزمنة، فقد وجد أن كلا من المقالات المصرية والدولية متشابهة في استخدام المضارع البسيط أكثر من باقي الأزمنة والمبني للمعلوم أكثر من المبني للمجهول. ويساهم البحث الحالي في فهم أفضل لنظام التعد لمفعول وأنواع التحويل الاسمي واستخدام الأزمنة والمبني للمعلوم والمجهول. والغرض منه هو تزويد الباحثين المصريين والمتدربين بالقواعد المختلفة لكتابة مقدمات المقالات البحثية التي تساعدهم على التدريب على كتابة مقدماتهم الخاصة وبالتالي إنتاج مقدمات أكثر فعالية.