

ELİF NUR ALTUNTAŞ

A CROSS-LINGUISTIC STUDY OF NOUN PHRASE COMPLEXITY IN
ENGLISH-DOMINANT AND TURKISH EFL WRITERS' GRADUATE LEVEL
ACADEMIC WRITING IN FOREIGN POLICY

ELİF NUR ALTUNTAŞ

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Elif Nur Altuntaş

January 2025

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts in Teaching English as a Foreign Language.

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ABSTRACT

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MA in Teaching English as a Foreign Language

Advisor: Asst. Prof. Dr. Tijen Akşit

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This study conducts a linguistic analysis of noun phrase complexity in graduate level academic writing on foreign policy, based on Kyle's (2016) measures of noun phrase complexity. It focuses on MA theses written by English language dominant writers and English Foreign Language Turkish writers. Focusing on exploring noun phrase complexity is demonstrated and varied with reference to language background, the results of the study highlight differences in nouns as dependents, determiners, adjectives, prepositions, and relative clauses and similarities in following genre requirements and use of possessives, non-clausal adverbial, and verbal modifiers.

Keywords: Noun phrases, phrasal complexity, syntactic complexity, academic writing, foreign policy

ÖZET

Baskın Dili İngilizce Olan Yazarların ve Yabancı Dili İngilizce Olan Türk Yazarların

Lisansüstü Düzeyde Dış Politika Üzerine Yazılarında İsim Tamlaması

Karmaşıklığının Dillerarası Bir Çalışması

Elif Nur Altuntaş

Yabancı Dil Olarak İngilizce Öğretimi Yüksek Lisans Programı

Tez Danışmanı: Dr. Öğr. Üyesi Tijen Akşit

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Bu çalışma, Kyle'ın (2016) isim tamlamaları karmaşıklığı ölçeklerine dayanarak lisansüstü düzeyde dış politika konusunda yazdıkları akademik yazılarda isim tamlamalarının karmaşıklığının dilbilimsel analizini yürütmektedir. Baskın dili İngilizce olan yazarlar ve İngilizce Yabancı Dili olan Türk yazarlar tarafından yazılmış yüksek lisans tezlerine odaklanmaktadır. Dil arkaplanını dikkate alarak, isim tamlamalarının karmaşıklığının sergilenmesi ve çeşitlendirilmesinin keşfedilmesine odaklanan çalışmanın sonuçları, 'nouns as dependents', 'determiners', 'adjectives', 'prepositions', ve 'relative clauses' kullanımındaki farklılıkları ve yazı türüne ait gereklilikleri karşılamada, 'possessives', 'non-clausal adverbial', ve 'verbal modifiers' ölçeklerinin kullanımındaki benzerlikleri vurgulamaktadır.

Anahtar kelimeler: isim tamlaması karmaşıklığı, sözcük öbeği karmaşıklığı, sözdizimsel karmaşıklık, akademik yazı, dış politika

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CHAPTER 1: INTRODUCTION

Introduction

Academic writing in English has a formal tone. It needs to be precise and explicit as well as accurate in terms of grammar and content. Thus, organization of the content and form bears importance, which brings complexity because academic writing has a regular pattern; that is, it is linear in the sense that each part of a text must align with the main point, but at the same time, it should not be repetitive (Gillett, 2022). Consequently, grammar is addressed to avoid repetition by paraphrasing and using similar skills. In other words, writers need to manipulate the language to convey their messages clearly and coherently by following a formal tone. To satisfy this need, they may use paraphrasing to emphasize a point in their message by adjusting the complexity of the words or the whole sentence.

Complexity is one of the essential components of writing development, along with fluency and accuracy. Studies on complexity may highlight the issues regarding the writers' proficiency and stages of development in the target language (Ortega, 2003). As a result, these studies represent great importance for predicting the linguistic repertoire of the writers and how they are acquired over time. Briefly, this chapter introduces the motives of the current study on writing complexity.

Background of the Study

Academic writing is distinguished from other discourses not only by its content but also its grammatical features. Among the prominent studies conducted in academic writing regarding complexity studies, Biber and Gray (2016, p.75-76) quote Well's definition of academic writing, which claims that the style of academic

writing is “nominal.” They further explain that the research on noun phrases relies on nominalizations, which is also considered an essential component of written academic texts and can be extended to a broader scope, such as noun pre/postmodifiers, prepositional phrases, and so on and so forth.

In academic writing, studies on complexity suggest that, unlike the standard expectations, the main clause structures tend to be simpler while phrases are more elaborated (Biber & Gray, 2010). The findings of some studies, such as Wu, Mauranen, and Lei (2020), suggest that more studies are required to analyze phrasal complexity separately, as most studies in the literature rely on syntactic/grammatical complexity in general. The definition of phrasal complexity is classified in terms of length, structure & modification. To analyze data for noun phrase complexity, statistical analysis, textual analysis, and corpus analysis are frequently adopted (Berlage, 2014). Albelihi and Lan (2021) conducted a study that applied the Chi-square test and residual analysis to analyze the use of noun phrases. The study compared Ph.D. dissertations of English first language and Arabic first language writers. Their study suggests that English writers use compressed forms on noun phrases more often, unlike Arabic writers. The complexity of noun phrases might be affected by the Arabic writers; hence, they used the modifiers existing in Arabic even though they shared the same context with the English writers. According to the results of their study, the characteristics of noun phrase use have differed in length. Another study conducted by Nasser (2017) shows that Iranian writers may use shorter sentences compared to English-dominant writers. In addition, in terms of complexity, the study presents that English as a foreign language (EFL) writers tend to rely on less sophisticated structures, contrary to the English-dominant writers, and

especially for phrasal complexity, it is suggested that there was a significant difference between the two groups.

Statement of the Problem

The existing literature suggests that the use of noun phrases and their complexity seem to be not addressed sufficiently, resulting in a requirement for further analysis. Some studies claim that there is not a significant difference between English-dominant writers and EFL writers in terms of syntactic complexity at the tertiary level. In contrast, the results of these studies suggest that the differences occur mainly at the phrasal level (Wu et al., 2020). Similarly, another study reveals that English writers may follow more differing patterns in terms of noun phrase use. Furthermore, the results of this study demonstrate that teaching compressed noun phrases might be necessary to prioritize in academic writing courses designed for EFL students because there seems to be limited use of noun phrases in English as a second language writing (Lan et al., 2022).

Shortly, studies highlighting the differences between the writings of EDW and EFL writers occur more at the phrasal level, especially in noun phrase use, showing that phrasal complexity requires attention as well. On the other hand, the insufficient availability of existing literature on noun phrase complexity reveals a gap that needs further study. Lastly, along with the findings of Lan et al. (2022), there might be overused or underused forms of certain complexity features in writers' texts or a tendency to avoid specific structures at some levels, depending on their proficiency.

Aim of the Study

This study aims to identify the features of the use of noun phrases by English language dominant writers (henceforth EDW) and Turkish EFL writers (henceforth

TEW) in academic discourse by analyzing the noun phrase complexity in Master of Arts (MA) theses written in English. The theses are selected from the subjects of international relations, history, and political science. The writers are selected according to their language and educational backgrounds, considering these factors might influence writing directly. The study further aims to explore how these features differ from each other and whether there are any resemblances in the covered texts.

Research Questions

1. What are the features of noun phrase complexity in MA theses written on the topic of foreign policy between 2018 and 2023 by Turkish EFL and English-dominant writers?
2. What are the similarities and differences between the selected writings of TEW and EDW in terms of complexity in noun phrases?

Significance of the Study

This study may address the gap mentioned in the literature of complexity studies focusing on phrasal complexity. Contributing to the literature, the analysis may identify some key features of noun phrase complexity within the provided contexts. By doing so, the study also underlines another factor that affects graduate-level academic writing regardless of proficiency level, as it explores the writer's tendency to foster certain characteristics in their writing. It may answer how certain groups of writers are prone to avoid or overuse some phrasal structures although they are proficient speakers of the target language.

Considering from the instructor's perspective, the common tendency for complexity is towards the clausal level in the Turkish academic context, while the literature argues that phrasal level bears importance too; thus, this study may offer a

different understanding of how the features of complexity are amassed (Atak, 2019) which may lead the practitioners to question the current practices in designing writing courses and revise their expectations from student writings. To rephrase, studying phrasal complexity fosters a critical perspective to comprehend proficiency development, as suggested by Ortega (2003) in an early study, which states that the use of complex phrasal structures is directly proportional to proficiency levels. Consequently, this could inform the practitioners on designing materials and assessment tools to promote language proficiency, such as prioritizing exercises with nominalization in their teaching practices.

For student writers, providing an analysis of complexity patterns might influence their writing practices. A study conducted by Altınmakas & Bayyurt (2019) revealed that writing practices are affected by various factors, from pre-tertiary background to the perception of academic writing. Thus, their study shows that some writers perceive academic writing as complex, bounded by rules, and restrictive. Hence, further research on complexity may help practitioners foresee potential challenges the student writers might experience and allocate required sources more productively.

Addressing the needs of English for Academic Purposes (EAP) classrooms, studying specific disciplines and their use of phrasal structure is crucial, for there is reliance on noun phrases in EAP writing, and the level of reliance may differ across disciplines and genres (Hyland, 2021); thus, the difficulty experienced by foreign language writers in writing academic genres might be affected more by grammatical features such as phrases rather than the mastery of specific terminology (Halliday & Martin, 1993). Hereby, the topic of foreign policy in MA theses might merit consideration. Both the genre and topic require the mastery of specific language

skills as they are part of distinct discourse communities. The concept of “Foreign Policy” may interact with multiple disciplines, such as international relations and politics, and be a part of EAP classrooms through English-medium-instruction (EMI) institutions.

Definition of Key Terms

Complexity: According to Wolfe-Quintero et al. (1998), complexity is the ability to use myriad structures and vocabulary and the extent to which the learner is capable of restructuring the language.

Syntactic Complexity: Ortega (2003, pg.492) summarizes syntactic complexity as a repertoire that shows the range of structures used in grammar.

Phrasal complexity: Bulte and Hausen (2014) classify phrasal complexity under syntactic complexity. It is suggested that phrasal complexity refers to the elaboration and variety of phrases used.

EFL: EFL stands for “English as a foreign language.”

CHAPTER 2: LITERATURE REVIEW

Introduction

This chapter aims to provide a review of the existing literature on academic writing and complexity studies in order to establish a background for the present study, which focuses on probing the features of noun phrase complexity in Master of Arts (MA) theses on the topic of foreign policy, written by English as a foreign language (EFL) writers with Turkish first language (L1) background and the writers whose dominant language is English. The chapter begins with an overview of English as a first Language, native language, and dominant language. After describing the general characteristics of the language used in EAP writing, it introduces three main points under the title “Complexity in Writing.” These points intend to cater to an in-depth understanding of the definition of linguistic complexity and factors considered to measure complexity, including a framework adopted in the current study emphasizing phrasal complexity and the tool for automatic analysis of syntactic sophistication and complexity. Then, the chapter proceeds to discuss the relevant studies conducted on phrasal complexity in L1 English and EFL academic writing settings in the last section of this chapter. The section attempts to show explored patterns of complexity in EFL writing and potential factors that might have been influential on EFL writing complexity in comparison to the samples of English first language writers.

English as First Language, Native Language, and Dominant Language

There is no defacto definition of native and first language. On the other hand, the native speaker is traditionally defined as someone who has spoken a language

since childhood. This approach might imply that “first language” and “native language” are interchangeable. However, a first language may refer to the chronology of acquisition. Additionally, such a definition fails to address the people who do not fit into the dichotomy of the native-nonnative speaker in a traditional sense, and this approach may impose a neo-racist ideology by creating an idolized, presumably monolingual “native speaker.” In fact, being from a specific country or ethnic group may not guarantee to be proficient or native of any language (Tsuchiya, 2020; Vulchanova et al., 2022).

Similarly, a first language may not necessarily address a dominant language. A dominant language briefly refers to a language in which someone is more proficient than other languages they speak (if any). Factors such as frequency of use, overall fluency, domains of use, age of acquisition, ability to use productive skills, levels of language activation, automaticity, efficiency, and accuracy in processing might determine language dominance. Moreover, the dominant language can be defined in terms of societal and individual practices. Individual practices are related to hemispheric language dominance in language processing, what a person can do, and what they typically do, whereas societal practices include an external input such as speaking the official language (Treffers-Daller, 2015; 2019).

Being spoken as a “first” language, a dominant language, second or foreign language, English language creates a diverse group of identities through multiple functions as well as being distributed to a variety of locations. Kachru (1985) proposes Three Concentric Circles Model of English which has groups called “The Inner Circle”, “The Outer Circle”, and “The Expanding Circle”. The inner circle refers to the groups that are traditionally considered as “native speakers” or “first language speakers” including countries such as the United States of America, the

United Kingdom, Canada, Australia, and New Zealand. The outer circle is where English acts as an institutionalized second language, such as in India. To explain further, the role of English language in outer circle communities expands beyond the communication as in most cases it is employed extensively in law, government, and education in addition to other native languages. The expanding circle includes countries such as Türkiye, where the English language is taught for international communication purposes, without an official or institutionalized profile. The primary difference between outer and expanding circle countries might be how a certain identity is attributed to the English language. Based on these points, Kachru (1985) further shows the plurality of the English language by acknowledging the localized varieties of English, such as Indian or Nigerian English, in outer circle countries as those communities developed new varieties for their needs. The work also poses a critical view on standardization attempts in English language, arguing the reinforcement of inner circle norms as standard might influence negative effects instead of shaping standards based on needs and purposes.

Similarly, in an earlier work, Stevens (1982) highlights the difficulty of limiting the characteristics of English to a unified single form as its geographical distribution widens. Mentioning the term “localized forms of English”, he expands on it that the English language might show identifiable features attributed to a specific community of English speakers due to different needs and purposes. Hence, the question of international and intranational needs arises. International needs and purposes refer to adopting English for international communication purposes as a vehicle to access education, science, or simply to other individuals by a community but the language is not required to function within the same community, such as the Turkish context where English is a useful vehicle, yet it is not a fundamental part of

the everyday use. Communities with intranational needs also share the same needs and purposes to adopt the English language; however, a crucial point in this case is that the language is spoken by a large population within that community, such as being the official language of a country as in the case of West African English. Stevens (1982) further adds that international-needs countries use English more closely to a native speaker model. In contrast, there is no purpose of following an ideal native speaker in intranational-needs countries as their local linguistic and cultural identities are reflected rather than conforming to L1 norms. Thus, as mentioned earlier, considered with Kachru's (1985) work, the plurality of English due to outer and expanding circles may lead to exploring World Englishes and English as a Lingua Franca paradigm.

World Englishes refer to diverse forms of English including inner, outer, and expanding circle countries, recognizing English as a plural and dynamic entity by underscoring pragmatic aspects of the language rather than approaching English with a prescriptive view and accepting it as a monolithic language that only belongs to native speakers, namely the inner circle countries (Jenkins, 2009; Kirkpatrick & Deterding, 2011). Schneider (2003) proposes a five-phase model for the formation of new English varieties and argues that this formation process is a result of consistent language contact affecting identity of speakers and mutual accommodation. The model briefly explains that the process begins with the introduction of English to a new territory. Then, it achieves stability in the territory but the native speaker norms remain. The third phase, which is also called nativization, suggests the occurrence of critical transformations in which the language becomes a part of an emerging sociopolitical identity by blending with the local culture. In other words, although deriving from the norms of inner circle countries, a divergent version of English with

its distinctive structural patterns emerges. Replacing the previous version, this new variety gains acceptance from the users in the later phase, after the stabilization of the new variety, the last phase of the process, differentiation, takes place, providing a foundation for the internal diversification, such as new dialects. Kirkpatrick and Deterding (2011) add that tendencies such as simplification also contributes to this process as well as the language contact. Thus, this process of linguistic change and innovation may reveal new patterns to characterize features of different varieties of English. Some features might be summarized as omitting the consonant clusters in some words, regularization of some grammar rules such as the count/noncount distinction on nouns, the absence of -s while using the present tense or not using the past tense markers if the timeframe is known, or adjusting English word order in a different way based on the importance of an item for its topic (Kirkpatrick & Deterding, 2011).

As the geographical borders fade in the spread of English, it gains importance as a medium of communication in international spheres. As a common means of communication among speakers with different L1 backgrounds, English as a Lingua Franca (ELF) serves as a channel for global communication by being a complex adaptive system. Thus, it emphasizes intelligibility and adaptability to address the needs and purposes of multilingual speakers. Unlike following strict adherence to native-speaker norms, it supports the idea that English is dynamic, flexible, emergent, and directly affected by the contexts and speakers in areas such as digital communication, international business or academia. Promoting agency of speakers from outside the inner circle, ELF, similar to World Englishes, also follow certain strategies such as simplification or adjustments in grammar to mitigate communication barriers resulting from different L1 backgrounds or proficiency

levels. It centralizes the idea of meaning negotiation without being bound by any prescribed variety. In other words, it prioritizes mutual intelligibility and pragmatic communication in English to manage communication and satisfy the contextual needs (Canagarajah, 2007; Jenkins 2009; Mauranen, 2012; Seidlhofer, 2005).

Seidlhofer (2005) additionally highlights that ELF plays a significant role in academia because academic language targets clarity and intelligibility in language instead of strict regional standardized form. Likewise, ELF provides a realistic framework for English language teaching in terms of real-life uses of English, emphasizing communicative and pragmatic nature of ELF in addition to questioning if the standardization considering only one inner circle variety English is realistic or sufficient to fulfill the needs speakers have (Canagarajah, 2007; Mauranen, 2012). Moreover, in addition to the fact that it provides a ground for frameworks such as polylinguaging and translanguaging due to its fluid nature in meaning-making and functioning as a contact language without being limited to native-speaker norms, it can also contribute to the practices and approaches employed in EMI in Turkish higher education by underscoring a critique of rigid approaches to speaker identity and standardization as it suggests implementing authentic sources, prioritizing clarity, and recognizing multilingual influences on linguistic complexity (Bayyurt & Dewey, 2020).

As English language is not monolithic and aims to provide a medium in several areas. Consequently, within the scope of this study, instead of approaching the issue from a traditional perspective, a junction of first language and dominant language ideology is employed to create a common sphere of ELF as Turkish writers have employed the language within the context academia as part of English-Medium-Instruction programs to reach science. Thus, although English in academia

might seem primarily rule-governed, this manner of classifying writers as English-Dominant or English-Foreign language may help highlighting roles and features of English in academic contexts and whether they share any characteristics or how they disagree with each other in certain aspects, or if the genre expectations have dominated the language adopted by both groups.

English for Academic Purposes

Distinguishing characteristics of Academic English (henceforth AE) might be unclear. Still, most broadly, it is a dynamic variety used in academia, and it is characterized by specific linguistic features. The dynamicity of AE stems from ever-changing educational contexts. It includes a wide range of genres, discourse types, and registers. The more abstract the content becomes; the more sophisticated and challenging AE becomes. Hence, it is not a variety acquired once and for all, and it is different from everyday English. Some common characteristics of AE could be listed as specialized vocabulary, use of long noun phrases with embedded clauses, common use of nominalization, ergative words, and passive structures (DiCerbo et al., 2014; Scarcella, 2003).

The complicated nature of AE due to its register and linguistic requirements prepares the foundation for English for Academic Purposes (EAP). In a fundamental study, Jordan (1997) mentions that an early record of EAP as a term has existed since the 1970s and is designed to facilitate structurally the mastery of communicative competence in academic settings. Regardless of being in a completely English-speaking context, English as a Foreign Language context, English as a Second Language, or English Medium Instruction (EMI) context, EAP forms a significant part of academia by combining language and study skills as not only the expertise of complex linguistic structures but also the study skills, suggesting the development of

academic literacy. Thus, it could be divided into two aspects: common core skills or subject-specific English. To exemplify, Common Core mainly involves study skills such as note-taking and paraphrasing, while subject-specific English is the particular language required for a disciplinary community, such as vocabulary and grammar structures (Jordan, 1997). Similar to Jordan's emphasis on academic literacy, Flowerdew and Peacock (2001) further highlight that tailoring discipline-specific instruction and creating genre awareness might provide a productive ground for the development of communicative competence in academic discourse in addition to following certain principles in classrooms regarding authenticity, error tolerance, reality, and non-triviality. Thus, EAP could cater to the academic and professional needs of learners in a meaningful manner.

Hyland (2014) also expands on Flowerdew and Peacock's (2001) principles with a similar emphasis on genre-based instruction since he argues that EAP plays a crucial role in developing academic literacy through genre-based approaches as this approach enables the mastery of both academic conventions and specialized language practices of learners' fields.

However, Macallister (2016) criticizes a rule-governed and static obedience to existing academic norms. As traditional EAP teaching focuses on complying with academic norms, Macallister (2016) proposes that learners' engagement with academic practices should be supported by critical thinking and reflectivity. While Macallister (2016) adopts a critical perspective on EAP, Hyland (2018) defends a more pragmatic stance that teaching specific academic skills will contribute to the learners' success in academic and professional discourse positively, especially to those who speak English as a Foreign Language because this approach to EAP might

help learners acquire necessary competencies to engage with complex genres and academic communities by genre and skills-oriented approaches.

Genre is defined as a text-based category of communicative events by the members of a discourse community with common purposes (Swales, 1990). To expand on this, Swales (1990) emphasizes the importance of discourse communities, who are a group of people with common communicative goals and practices such as academic disciplines, in shaping the structure and function of texts. This view perceives genre as a tool to accomplish rhetorical goals by also considering social and functional nature of writing. Therefore, despite seeming prescriptive and rule-bound in rhetorical and linguistic choices, he adds that it is possible to avoid being overly prescriptive by employing a more flexible approach to teaching as exposure and practice are considered fundamental in learning genre due to the fact that it requires both textual and contextual knowledge and is subject to change as the purposes or needs of the discourse community change, indicating that a genre's structure, style/language, and content are determined by the intended purpose of discourse communities in writing.

Of fundamental importance, discourse communities also highlight the discipline-specific core of English for Academic Purposes. In line with Swales (1990), Hyland (2008) implies that genre in EAP writing shows disciplinary variation such as observing more argumentative and discursive forms in texts from humanities disciplines whereas sciences employing objective forms emphasizing structured genres. As genre-based approaches form a context for grammar instead of perceiving it as an isolated set of rules, they can contribute to EAP writing to achieve communicative roles. To reiterate, genre-based approaches help writers familiarize themselves with certain structures, and contextualize grammar when taught by

referring to the communicative purposes of a specific genre; thus, they may minimize the potential language barriers that EFL writers may experience (Hyland, 2008).

Similarly, Flowerdew (2015) proposes a combination of academic literacies and genre-based approaches in EAP because genre-based approaches center the texts and their communicative goals within specific contexts by emphasizing a structure, grammar, and form that conform the standardized forms as well as standardized varieties of English, rejecting the sociocultural aspects of academic writing. Hence, a collaboration with academic literacies approach could benefit the academic writing practices since it considers writing as a social practice with an emphasis on identity construction, power relations, and sociocultural contexts of text production. Based on genre approach, it is possible to reveal rhetorical strategies, lexico-grammatical patterns, and therefore authorial voice in academic texts. If combined, academic literacies approach can underscore the identity construction, power dynamics, and cross-cultural differences in academic writing.

As the purposes of discourse communities change and focus on discipline specific genres evolves towards a more dynamic and pluralistic view, the multidimensional framework of EAP expands. Academic English and academic genres predicate the formation of a new part under EAP. Consequently, English for Research Publication Purposes (henceforth ERPP) emerges to cater to the needs of academic discourse communities. ERPP underlines the challenges EFL scholars might experience such as linguistic barriers, limited access to global scholarship, or encountering publication rejections. Centering English as a Lingua Franca and World Englishes, ERPP approaches writing as a synthesis of genre theory, social constructivism, and world systems theory. To elaborate, ERPP benefits from genre

analysis to study rhetorical structures and features, and from naturalistic approaches to explore writing as a social practice. It supports international academics to publish in English and addresses the specific needs of EFL writers in global academic communication by enhancing accessibility, visibility, and impact. As part of EAP, ERPP also acknowledges that it is genre-specific, and academics are required to navigate through complex rhetorical structures as well as complying with the conventions depending on the disciplines, journals, or manuals. In addition, it reflects the significance of recognizing genre-specific expectation for analyzing writing complexity as it integrates the linguistic, rhetorical, and disciplinary knowledge to compose a meaningful text maintaining clarity and precision (Flowerdew & Habibie, 2021). Flowerdew (2022) further questions whether ERPP should adhere to standard English norms or adopt a varietal model, considering individual identities of international scholars. Therefore, he explains the standardized model as a system that provides a common standard for clarity and global communication. It also aligns mostly with STEM disciplines because of its structured and formalized system; hence it is supported by certain guidelines such as IMRaD (introduction, methodology, results, and discussion). However, journal policies or publishing houses may lead international scholars to be marginalized and exercise a symbolic power through native speakerist ideologies. On the contrary, varietal model embraces the diversity of World Englishes and ELF, proposing a flexibility and negotiability in linguistic choices instead of rigid norms as it recognizes the linguistic realities of EFL writers who form the majority of today's ERPP.

In an earlier study, Nesi and Gardner (2012) argues that different disciplines will have different genre expectations based on their analysis of the discipline-based, genre-specific expectations by studying student assignments in UK context. They

adopted Biber's Multidimensional Analysis to explore the features of informational vs. involved writing, narrative vs. non-narrative texts, and persuasive vs. non-persuasive registers to study 13 academic genres such as essays, proposals, case studies, and so forth. The findings suggested that each genre demonstrates disciplinary norms that affect linguistic features and contextual factors govern all aspects of writing. Discipline-specific results reveal that STEM majors could be characterized with dense information, objectivity, frequent use of nominalizations, technical terms, and passive structures. In contrast, humanities majors might be associated with more frequent use of stance markers, personal pronouns, and evaluative language, while social sciences demonstrate characteristics of both disciplines in combination depending on the target genre. To further exemplify, academic genres such as methodology recounts, critique, case studies, literature surveys, narrative recounts, and problem question were among the analyzed genres that yielded distinct results (Nesi & Gardner, 2012).

Methodology recounts were observed to include chronological markers, use of imperatives and past tense verb forms as in procedural language, while the density of hedging language was low. On the contrary, critique genre showed a frequent use of hedging, self-mention, and adjective modifiers. Following a more balanced use, case studies resulted in using a combination of descriptive and analytical language by using conditionals, and modals, as well as relatively more frequent use of discipline-specific vocabulary. Literature surveys were associated with summarizing verbs, hedging and evaluative language in addition to citations and quotations. Narrative recounts employed chronological markers and past tenses while problem question follows a formal connection with a highly discipline specific jargon. Moreover, the study presents that nominalizations were more common in informational genres such

as reports or methodology recounts. Likewise, complex noun phrases were more common in scientific writing such as reports and they were mostly modified by prepositional phrases. Passive voice was commonly encountered in objective and procedural writing. Conversely, first-person pronouns were frequent in reflective and empathetic writing and rare in descriptive or factual genres. Stance markers such as hedges, boosters, attitude markers, and self-mention also showed variation in use. Hedging was common in essays, critiques, and literature surveys while boosters were mostly in essays only. Attitude markers were observed in essays, literature surveys, and reflective writing. Self-mention was present in essays, critiques, and reflective writing (Nesi & Gardner, 2012).

The genres and discipline specific expectations initiate that graduate level academic writing, especially thesis writing also shares similar expectations as part of ERPP. Gillett (2024) summarizes thesis writing with including key elements such as introduction, literature review, methodology, findings/results, discussion, and conclusion. Thus, each section in a thesis is expected to develop logically to guide readers through the research process in addition to fostering critical evaluation. Furthermore, he stresses that literature review chapters may reflect the syntactic complexity and sophistication as the previous arguments are required to be summarized and cited in the chapter, indicating how proficiently the writer may integrate the content to their research while in the methodology chapter, encountering technical terminology more could be a part of its characteristics suggesting a correlation between discipline-specific writing requirements and complexity. However, based on the discipline-specific needs and purposes, thesis writing as a genre may not rigidly follow the same flow.

Consequently, focusing on various aspects of EAP in classroom practices might benefit writing studies as well. Specifically, to satisfy the learners' discipline-specific needs in written academic and professional contexts, the practices might create awareness of frequently employed genres in the target contexts and specialized language in a critical manner to ensure that written classroom practices can also align with real-life expectations. As for the scope of this study, discourse communities or in other words the writer groups are interrelated through sharing same communicative goals and disciplines, yet they may differ from each other in terms of sociocultural approaches to the same genre and achieving its expectations because of their language backgrounds and other influential factors such as the context. ERPP and genre theory with regards to thesis writing provide a foundation for the current study as it aims to refer to the intercultural aspect of thesis writing as well as variations within the same genre in terms of linguistic complexity.

The Language of Academic Writing

Hyland (2021) states that academic writing might be considered a type of literacy that does not show the presence of the writer and prioritizes factual information. Hence, this kind of writing practice cannot be separated from discourse communities, which also carry their own specific language and culture. To clarify, although formal English might be present, there is a general formal academic register that is required to be followed in graduate-level writing, with its tone and language differing from other varieties of English. Thus, Hyland (2021, p.43-47) argues that the complexity of language and use of rhetoric may change in relation to discipline, proficiency in the target language, and purpose in academic writing. For instance, an engineering or science student may use directives more than an arts or humanities student. Even though this study is limited to arguing genre and discipline-based

academic writing, it fosters a brief overview of potential expectations in academic writing. Since academic writing follows a specific language, there could be some common patterns that one may expect to see in an academic text.

When the common patterns in the language of academic writing are studied further, it is possible to indicate that academic writing may follow a rule-governed approach regarding style and layers. A study conducted by Dixon (2022) reveals the multifaceted nature of academic writing by mentioning that it consists of various layers in addition to creating a bias-free discourse with the help of rules. Therefore, the study analyzes the rules of academic writing by examining the disciplines, periods, and article types in journals to explain the rationale behind each rule and to what extent they still apply in current academic writing practices. One hundred fifty-five rules among the 537 rules determined by the Chicago Manual of Style, The Publication of the American Psychological Association, Scientific Style and Format, ASME's Guide for Journal Authors, IEEE Style, and Modern Language Association Handbook are chosen for corpus analysis. Apart from focusing on rules regarding formatting, organization, and so on, the study also introduces linguistic rules. It investigates the use of passive structures, pronoun use, sophisticated grammar, and lexis, as suggested by the manuals. The findings show that the language of academic writing tends to be formal and complex. In addition, there is a decrease in the use of phrasal verbs, some linkers (such as in order to/for, for the purpose of), and time adverbs (at present), while an increase is visible in using "based on" as an adverb and assigning singular verbs to words such as "data" from 1950 to 2020. The study suggests that lexical rules (such as using advanced academic vocabulary) show great significance in academic writing and the notion of accuracy in grammar use. It might be fair to contend that the language of academic writing is based on correctness and

clarity in a formal manner, although strict adherence to grammar rules may not be possible all the time. Additionally, the use of passive structures and nominalizations are still common patterns. The limitations of this study, nonetheless, are that it mentions language issues at the sentence level even if there are some findings regarding the lexical items, the coding of data is not completed by multiple people, which may interfere with the reliability, and since the huge amount of data is collected from various excerpts, the amount of noise such as quotations were high, but its impact on the study is not addressed. Other limitations could be listed as disregarding the effects of standard varieties; in other words, the study did not highlight if there is a difference between the use of different varieties of English in the selected excerpts but included EFL writers and L1 English writers as unity while addressing that those manuals may help to create a bias-free writing context based on the L1 backgrounds of writers; only 155 rules which are primarily on linguistic features of the academic texts are studied, as a consequence, the rules regarding the textual level are not mentioned.

Briefly, it could be stated that the language of academic writing has multiple layers governed by rules to create a common pattern among writers from different backgrounds. As for the language expectations in academic writing, considering how it is organized by various manuals, both studies emphasize the complex nature of language, its formal tone, and changes in structures depending on the needs of the writers.

Turkish EFL and L1 English Academic Writing

The language used in academic texts may follow different patterns due to the writers' backgrounds. There might be common characteristics based on writer groups. Although it is not possible to generalize the existence of a specific variety of

English used by Turkish L1 writers, there might be some common or different tendencies between them and L1 English writers. Comparative studies may provide valuable insights into this issue.

Öztürk & Köse (2016) conducted a corpus-based study focusing on four-word lexical bundles and compared MA and PhD theses written by Turkish writers and research articles and theses by L1 English writers. The results suggest that Turkish writers used 125 lexical bundles, whereas their native counterparts preferred 69 bundles in theses and 77 in research articles. The Turkish corpus includes more lexical bundles in number but in a more repetitive manner. Some expressions such as “with the help of” or “with the help of” never occurred in the L1 English corpus. In addition, L1 English texts relied slightly more on noun phrase-based and prepositional phrase-based bundles, while Turkish writers used more verb phrase-based bundles, anticipatory-it + verb phrase/adjective phrase, and passive verb + prepositional phrase. Similarly, other studies (Özbay & Öztürk, 2021; Uçar, 2017) analyzing three to four-word lexical bundles supported that L1 English corpora tend to include more variety and NP-based bundles while Turkish corpora have more lexical bundles in number with less variety and consist of VP or PP-based bundles. Güngör & Uysal (2023) also analyzed research articles written by L1 English writers and Turkish EFL writers to find if four-word lexical bundles are phrasal or clausal. The findings suggest that the most common noun structure in both corpora is noun phrases with of-phrases, and they supported previous research by mentioning that prepositional phrase-based and verb phrase-based structures are overused by Turkish writers. Finally, the study concludes that L1 English writers rely on phrasal structures more often, whereas Turkish writers tend to use more clausal and passive structures.

Another study by Babanoğlu (2014) investigated pragmatic writers in EFL Turkish and Japanese argumentative essays and looked for the features of conversation in writing compared to L1 English writers. “I think” is the most frequently used marker in L1 English and Turkish corpora. Both Turkish and Japanese EFL writers used sentence-initial “and, kind of, maybe, I mean” more than L1 English writers. Compared to EFL Japanese and L1 English writers, Turkish writers prefer “I mean” and “kind of” more frequently. Consequently, Turkish writers are more prone to overuse oral features in written registers. Yılmaz and Dikilitaş (2017) support that EFL writers show more speech-like features in their academic prose and add that they may overuse adverbs and intensifiers.

Among the most frequent expressions, the use of “think” and “believe” also shows a pattern. EFL Turkish writers choose that-clause and zero-that-clause as complementations instead of to-infinitive while using the verb “think.” For “believe,” zero-that-clause is preferred rather than that-clause, NP, and wh-clause. The writers may avoid using NPs with “believe” even when expected and choose that-clause or zero-that-clauses. When “think” is used with an NP, there is a tendency to use it with the preposition+noun and about+NP. Prep. N. and about + NP are also frequently combined with verbs such as consider, remember, plan, and intend. Similar to “think,” the use of “believe” follows Prep. N. and in + NP patterns, as well as the frequent use of zero-that-clause (Söğüt & Keçik, 2023).

Özışık (2014) characterizes Turkish EFL academic writing with preposition errors. Prepositions used with adjectives seem to be the least problematic, unlike the prepositions used with nouns. Yılmaz (2018) applies a diagnostic test to find errors and proposes that noun clauses are the most problematic structures in Turkish EFL academic texts, compared to adverbial clauses and adjective clauses. As

subordination is an indicator of linguistic complexity, the study emphasizes that Turkish learners at the intermediate level can experience problems in complex clauses. Likewise, another study (Tokdemir-Demirel, 2017) reveals that Turkish writers are challenged by noun-based structures. They tend to make mistakes while using a determiner before a noun, noun-number disagreement in NPs, and subject-verb agreement. Lastly, Taşçı (2023) addresses the non-finite clauses in L1 English and EFL texts. The results show that Turkish writers do not use non-finite clauses as often as L1 English writers. Both parties use bare-infinitive at the least frequency and to-infinitive at the most.

Even if the generalization of the mentioned characteristics is limited, one may expect to see more NP-based structures in L1 English academic texts and VP or PP-based fragments in Turkish EFL texts.

English Language in International Relations

The relationship between the English language and international relations (IR) has a long history. In an early study, Brimelow (1976) argues that English has become the language of diplomacy, replacing French. He states that any language serving as an official language of communication between the independent states is called the language of diplomacy. He further explains that English suits this position for being useful, easy, and convenient. With the changing balance of power since the Versailles Conference, English started gaining recognition in diplomatic scenes.

A more recent study by Xhemaili (2022), adding to Brimelow's emphasis on the rising importance of English in IR, argues that the language used in IR differs from everyday English. The study emphasizes that English in IR is remote, impersonal, and formulaic due to field-specific expressions and recognized by organizations such as the UN and NATO. Therefore, the necessity of English for

specific purposes courses is highlighted. Similar to Brimelow's approach, Xhemaili also argues that English is flexible, diverse, and adaptable; thus, it serves as a bridge for many stakeholders. With this attributed role to English, it is possible to consider it a form of action. As the language is used in diplomatic and international contexts, it may function as a warning, threatening, promising, negotiation, or create a space for meaningful silence.

With its increasing importance and specialized linguistic requirements, English in the IR context may show a significant area of focus in EMI institutions for preparing learners to participate in a discipline-specific discourse with the expectations of complex language use.

Complexity in Writing

Definition of Linguistic Complexity

There is not an exact or agreed-upon definition of complexity, but Bulte and Housen (2012) define complexity as a matter of quantity and type of discrete components composing the entity and the connection between those components. Similarly, in a more specific definition, linguistic complexity is the range/variety and sophistication of grammatical resources, the organization or restructuring of the knowledge in the target language in a more elaborative manner (Crossley & McNamara, 2014; Foster & Skehan, 1996; Lu, 2011; Ortega, 2015; Wolfe-Quintero et al., 1998).

As an overview, Bulte & Housen's (2012) study presents that the concept of complexity is classified according to difficulty and complexity, which are named relative complexity and absolute complexity. Among these classifications, linguistic complexity falls under absolute complexity along with discourse-interactional complexity and propositional complexity. Linguistic complexity is also divided into

two main branches, the first one being the system and the latter being the structure complexity. While lexical complexity is a part of system complexity, structure complexity leads to two other categories: formal and functional complexity. Morphological complexity is a part of formal complexity, whereas syntactic and phonological complexity are analyzed under functional complexity. Adding another category to the classification, Bulte and Housen (2012) summarize that syntactic complexity consists of three different levels of complexity: Sentence level, clausal level, and phrasal level. As a sub-construct of syntactic complexity, phrasal complexity refers to grammatical devices such as phrasal embedding, elaboration, and the variety of structures.

In short, complexity consists of various other sub-systems, and among them, the term “linguistic complexity” generally means the range of structures used and elaborateness of used structures, and the phrasal complexity indicates the degree of elaboration and range of structures used in phrase level.

Development of Linguistic Complexity

The development of complexity features is hypothesized to have five stages, from less complex to more complex structures, by Biber, Gray, and Poonpon (2011). After analyzing 28 grammatical features, they report that the finite complement clauses with common verbs are the earliest developing structures (Stage 1), while complement clauses controlled by nouns or appositive noun phrases (Stage 5) develop much later. In fact, this is not a matter of time but proficiency. That is, according to Biber et al. (2011) stages, more advanced students are likely to rely on the structures of later stages as shown in Table 1. The table introduces the hypothesized stages of linguistic complexity development by providing examples from the subjects of the current study.

Table 1*Hypothesized Stages of Complexity Development*

Stage	Grammatical Structures (Biber et al., 2011)	Examples from the Corpora
1	1. Finite complement clauses controlled by extremely common verbs	1. He said that the process would be difficult, but necessary for reform.
2	2. Finite complement clauses controlled by a wider set of verbs	2. They claimed that the new policy would improve bilateral relations.
	3. Finite adverbial clauses	3. Although the conflict was ongoing, when the treaty was signed , peace seemed possible.
	4. Nonfinite complement clauses controlled by common verbs	4. The government tried to stabilize the currency amidst the economic crisis.
	5. Phrasal embedding in the clause: adverbs as adverbials	5. The decision was quickly implemented by the administration.
	6. Simple phrasal embedding in NP: attributive adjectives	6. The prolonged conflict had severe consequences on the region.
3	7. Phrasal embedding in the clause: prepositional phrases as adverbials	7. The report was submitted to the committee for review.
	8. Finite complement clauses controlled by adjectives	8. It was surprising that they accepted the terms so quickly.
	9. Nonfinite complement clauses controlled by a wider set of verbs	9. The government sought to avoid any direct confrontation.
	10. "That" relative clauses, especially with animate head nouns	10. The diplomat that led the negotiations received international recognition.
	11. Simple phrasal embedding in NP: nouns as premodifiers	11. The policy framework introduced new guidelines.
	12. Possessive nouns as premodifiers	12. The country's leadership was questioned during the crisis.
	13. "Of" phrases as postmodifiers	13. The conflict is a result of decades of tension.
	14. Simple prepositional phrases as postmodifiers (with concrete meanings)	14. The soldiers gathered near the border to defend their position.

Stage	Grammatical Structures (Biber et al., 2011)	Examples from the Corpora
4	15. Nonfinite complement clauses controlled by adjectives 16. Extraposed complement clauses 17. Nonfinite relative clauses 18. More phrasal embedding in the NP: attributive adjectives, nouns as premodifiers 19. Simple PPs as postmodifiers (abstract meanings)	15. It was important to address the underlying issues. 16. It seems that the negotiations have reached a critical point. 17. The resources allocated to address the problem were insufficient. 18. The long-term strategic plan was implemented after careful consideration. 19. Their influence grew significantly over the years .
5	20. Preposition + nonfinite complement clause 21. Complement clauses controlled by nouns 22. Appositive NPs 23. Extensive phrasal embedding in NP: multiple PPs as postmodifiers	20. The team is determined to succeed despite facing numerous challenges. 21. The recommendation that they adjust their strategy was accepted. 22. The report, a comprehensive analysis of the conflict , was published last year. 23. The report on the development of trade in Eastern Europe was thoroughly discussed.

Note. Grammatical Structures column is taken from “Should we use characteristics of conversation to measure grammatical complexity in L2 writing development?”, by D. Biber, B. Gray, and K. Poonpon, 2011, *TESOL Quarterly*, 45(1), pp. 5–35 (<https://doi.org/10.5054/tq.2011.244483>) Copyright 2011 by John Wiley & Sons, Inc.

In later studies (Jitpraneechai, 2019; Lan et al., 2019; Parkinson & Musgrave, 2014), clauses as postmodifiers and infinitive clauses are added to the fifth stage in addition to participial premodifiers added to the second and third stages.

As this flow of development hypothesizes that more advanced writers rely on more compressed structures while stages 1 or 2 are expected for less proficient writers, some researchers tested this hypothesis. In a recent study by Sarıcaoğlu and Atak (2022), 42 undergraduate students from two different proficiency groups were

studied. Their results highlight that the groups differ significantly in using finite complement clauses controlled by nouns, words before the main verbs, and passives. The higher proficiency group relies on complement clauses controlled by nouns (NPs in the object position), and the number of words before the main verbs (NPs in the subject position) is significantly more than the low proficient group. Previous studies report similar results in line with Biber et al. (2011) and Sarıcaoğlu and Atak (2022). Biber et al. (2020) study the development of advanced university students longitudinally. Focusing on phrasal and dependent clause features used by undergraduate and graduate students, they observed an increase in the use of phrasal modification at advanced stages, such as a decrease in adverbial and relative clauses and an increase in premodifying nouns and attributive adjectives. Additionally, the long-term observation pinpoints that the magnitude of change in using phrasal features is greater in the undergraduate students' writings than in their graduate counterparts, which suggests there is an ongoing development process. In a similar vein, Thongyoi and Poonpon (2020) compare texts and band scores with Biber et al. (2011) developmental stages. Band 1 being the lowest and Band 5 being the highest, they report that responses graded Band 4 include more complex structures compared to lower ones and have more noun modifiers. Another study by Atak and Sarıcaoğlu (2021) also supports the hypothesis. Ninety B1 – B1+ students' essays are studied. The findings show that students use prepositional phrases as adverbial clauses, finite adverbial clauses, and attributive adjectives embedded in NP, simply Stage 2 and 3 structures.

It could be said that, briefly, the linguistic complexity increases with the use of more phrasal structures. Thus, as the writer's proficiency advances, their writing tends to move from clausal to phrasal structures.

Noun Phrases and Phrasal Complexity

Phrasal modification has been a grammatical style in academic writing. Nouns and phrasal modification have become more frequent than verbs and clausal modification. In fact, from the 18th century to the 20th century, phrasal elaboration of noun phrases has increased significantly in academic writing, and the discourse style has developed to be more compressed (Biber & Gray, 2011).

As mentioned earlier, phrasal complexity refers to the elaboration, embedding, and range of phrases, such as appositive noun phrases or prepositional phrases as postmodifiers. How this elaboration, embedding, or range happens affects how a sentence is processed. For instance, an NP in an embedded clause can influence the overall syntactic complexity of a sentence and, therefore, cause more difficulty in processing, or NP characteristics (definite, indefinite) and type of NP extraction (object vs. subject) can result in processing changes (Gordon et al., 2004).

Being part of the advanced stages of syntactic complexity, phrasal complexity also stands as a predictor of proficiency, as stated in previous studies (Atak & Sarıcaoğlu, 2021; Biber et al., 2020; Sarıcaoğlu & Atak, 2022; Thongyoi & Poonpon, 2020).

Measures of Complexity

Complexity has been measured from two different perspectives. The first perspective uses large-grained or global indices, and the second employs fine-grained indices. One of the prominent studies on explaining measuring complexity with large-grained measures is proposed by Wolfe-Quintero et al. (1998). They defined the measures of grammatical and lexical complexity frequencies, ratios, and indices by analyzing a compilation of existing studies thus far and using excerpts from those studies. The indices mentioned by Wolfe-Quintero et al. (1998) are mean length of

clause and T-unit (MLTC, MLTU), mean length of sentence (MLS), complex T-units per T-unit (CTU/TU). Furthermore, the study described that the most significant constructs of complexity are the depth and types of clauses. Therefore, it identified that the measures of grammatical complexity could be T units per sentence (TU/S), the number of dependent clauses per total clauses (DC/C), and clauses per T unit. The study deduced that T unit complexity, which means clauses per unit, could be an indicator of proficiency as well as the number of dependent clauses per total clauses and T units per sentence. Finally, the study argues that more advanced writers may use more reduced forms. Although the study provides an extensive overview of complexity, it only reports complexity as grammatical and lexical complexity. The measures of complexity are not analyzed in depth as they are considered only clausal, which may suggest that the phrasal complexity is disregarded. The existing measures are tested within the literature, but the study itself does not provide any unique cases apart from validating the previously provided points by literature.

As large-grained indices do not allow for the collection of more detailed information about the syntactic structures, other alternatives are developed by researchers. Contrary to the large-grained indices, the fine-grained indices provide a more detailed look at almost all levels, from sentence to phrasal. Kyle (2016) briefly lists the two frequently used fine-grained indices, Coh-Metrix and the Biber Tagger.

Coh-Metrix is an online text analysis tool to measure syntactic complexity. Its indices include analyzing the number of words before the main verb to indicate sentence level complexity, modifiers per noun phrase without covering relative clauses of prepositional phrases, similarity in syntactic structure, and phrase incidences (Kyle, 2016).

The Biber Tagger, on the other hand, is based on Biber's (1988) multidimensional-functional analysis (as cited in Nini, 2019). An automatic tool called the Multidimensional Analysis Tool (MAT) to utilize the tags has been developed. Although MAT does not provide direct complexity measures, it parses and tags each grammatical component clearly, enabling users to see which occurrence of a phrase is where in context. In addition to providing interpretable results, with some Python extensions, it is possible to automatize more statistical information or visualize the required data from MAT outputs (Nini, 2019).

Apart from the existing automatic tools, Biber et al. (2011) emphasize the importance of studying phrasal components of complexity in more detail. Their study highlights the developmental stages of complexity and proposes new measures. The aim is to pose a critical stance to existing large-grained measures of complexity, which are T-units and clausal subordination, and whether what they measure is more common in written academic discourse or in communicative settings. The findings reveal that finite dependent clauses are more frequently used in conversation than academic journal articles, and the articles have more constituents in noun phrases than in communicative settings, which tend to be more clausal. Based on the results, academic texts tend to be more phrasal than clausal, and they claim that large-grained measures might be insufficient to capture such complexity in relation to language proficiency and developmental stages. In other words, their study suggests that complexity is not a monolithic entity; rather, it differs in different contexts such as writing and conversation; therefore, limiting the measures will not provide a sufficient representation of this construct, which also suggests that the T-unit measure mostly analyzes the dependent clauses. In other words, the T-unit measure

does not address the phrasal and other non-clausal structures. In conclusion, the study proposes new indices that measure complexity in more detail.

Biber et al. (2011) analyze syntactic complexity under eight major categories, each of which consists of different indices. The categories are finite adverbial clauses, finite complement clauses, finite noun modifier clauses, nonfinite adverbial clauses, nonfinite complement clauses, nonfinite noun modifier clauses, adverbials, and noun modifiers. In their study, Biber et al. (2011) found that finite clauses are more commonly used in conversation compared to written academic texts, while nonfinite clauses and noun modifiers are especially frequent in academic writing.

Kyle (2016) proposes another automatic analysis tool called “Tool for Automatic Analysis of Syntactic Sophistication and Complexity” (henceforth TAASSC), capturing both large and fine-grained indices in quantitative analysis. Aligning with the listed measurements, the only difference TAASSC has is that it does not divide phrase types into as many categories as Biber et al. (2011). Instead, it uses dependency relations, frequencies and standard deviations, and modifications to analyze phrasal complexity.

To summarize, there is more than one way to measure complexity depending on the needs and purpose of the researcher. Large-grained indices will offer an overview of sentence and clause complexity based on frequencies, depth, and subordination, whereas fine-grained indices will enable an understanding of phrasal complexity in addition to other levels by also acknowledging the types of grammatical structures.

Tool For Automatic Analysis of Syntactic Sophistication and Complexity

TAASSC is based on Stanford CoreNLP (Kyle, 2016), which is a natural language processing tool. Thus, it might be helpful to briefly outline natural language processing before exploring TAASSC.

Natural language processing (NLP) is a technique used in computational linguistics, and it covers both the automatic analysis of human languages and their representations based on theories. One may encounter examples of NLP in various fields, such as online information retrieval, machine translation, syntactic parsing, or question-answering. Therefore, some capabilities of NLP consist of identifying basic language constructs, analyzing or modifying constituents, and creating and propagating dynamic bindings by accessing lexical, semantic, and episodic characteristics of natural language (Crowdhary, 2020). Thus, the primary point in NLP starts with questioning how to represent the natural human language in machines.

Crowdhary (2020) summarizes that the fundamental approaches to representing natural language in NLP start from more syntax-based processes and move towards more semantics and pragmatics-based processes considering the context. As only syntax-based strategy tackles the syntax with a more direct application, it does not answer the semantic problems of natural language. Other approaches rely on logic and working memory.

As natural language can be represented in various ways, the components of NLP include syntactic analysis, semantic analysis, and discourse analysis. The syntactic analysis is done by determining the structure of given sentences. It analyzes and determines the subjects and objects of verbs, modifying words and phrases they modify with the help of a process called “parsing” based on grammars. Semantic

analysis, on the other hand, moves beyond syntax and analyzes the meaning of words, phrases, and sentences through processes such as named entity recognition. Similar to semantic analysis, which focuses beyond syntax, discourse analysis looks at the bigger picture. Rather than analyzing sentences individually, it studies how sentences are connected across broader contexts, such as implementing discourse structure parsing to identify some conjunctions and discourse markers to give insights into the structure of the text (Crowdhary, 2020; Jurafsky & Martin, 2024).

Once the language representation is completed, an NLP tool can start processing the language. To process the language, it tokenizes the linguistic components, and these tokens can be analyzed via various functions. The most important functions of NLP that are applied in this study are tagging and parsing.

Tagging refers to a set of actions such as Part-of-speech (POS) tagging and named-entity tagging. POS tagging is a prior step of parsing; it assigns grammatical speech tags to each word, such as verb, noun, and so forth. To decide how to assign tags to words, it uses a pre-defined set of tags, but linguistic ambiguity or encountering an unknown word may affect the automatic assignment. However, creating a large set of word-POS tag correspondences or applying probabilistic disambiguation methods may help overcome this issue (Kyle, 2016). Whether a POS tag can be processed or require additional interference depends on the category of the tag. There are two categories, one being closed class and the other open class. The closed class words refer to the group of words that perform grammatical functions, like pronouns, prepositions, or auxiliary verbs; so, by nature, they have a relatively fixed set of words. On the other hand, open-class words represent nouns, verbs, adjectives, and adverbs. The main aim of open-class words is to convey the meaning; thus, they evolve constantly. That is, the tagger needs to analyze the context of the

newly introduced word, as well as its morphology and other surrounding patterns, in order to make a calculated assumption based on its memory. Shortly, POS tagging targets to find the accurate tag for words with more than one possible part of speech (Jurafsky & Martin, 2024). With regard to named-entity tagging, it addresses anything that has a proper name, such as a person or a location. The task of named-entity tagging is to identify the constituents of proper names and tag which type of entity they are (Bird et al., 2009).

The tagging process and parsing work in tandem. Parsing provides a syntactic description of a sentence by relying on the grammar of the language. Simply, the parsing algorithms combine grammatical and statistical information to compute the mathematical representations of the grammatical derivations with formalization. In other terms, the syntactic descriptions created by parsing are governed by the formalism of the grammar (Crowdhary, 2020). There are different methods of parsing, such as top-down/recursive descent parsing, shift-reduce parsing, left-corner parsing, probabilistic parsing, and dependency parsing.

The fundamental common point all parsers except dependency parsing have is that they are all based on phrase structure grammars. That is, the parsers have to reduce the sentences into phrases such as noun phrases or verb phrases. Nevertheless, dependency parsing studies the grammatical relationships between words and builds trees that show each word in connection with others via dependency rules instead of creating hierarchical trees formed by phrase-based parsers. Therefore, dependency parsing emphasizes the syntactic roles of words through the head and dependent relationships. Providing a sound basis for analyzing the semantic relations between predicates and their complements, it also enables the analysis of grammars with relatively free word order. Namely, the head functions as the primary organizing

word and its dependents act as modifiers. Thus, with this specification of head-dependent pairs, dependency parsing enables the classification of the types of grammatical relations or functions (Bird et al., 2009; Crowdhary, 2020; Jurafsky & Martin, 2024). An example of graph-dependency parsers could be Stanford CoreNLP, on which TAASSC is based. Stanford CoreNLP employs an algorithm named “Maximum Spanning Tree” to construct the most accurate tree structure. At the same time, it applies typed dependencies. Typed dependencies are used to label grammatical roles like subjects or object positions (De Marneffe et al., 2006; Manning et al., 2014).

As for TAASSC, it might be argued that it implements dependency parsing by analyzing indices such as dependents per clause. It relies on statistical analysis techniques to process phrasal and syntactical patterns, but it differs from probabilistic approaches in that it involves dependency relationships. Another point to underscore is that typed dependency is a part of TAASSC indices that mention subject or object relations within a phrase or a sentence. Therefore, it enables the users to locate the position of phrases, agency in structures, and further phrasal modifications. A list of phrasal complexity indices employed in this study is provided in Appendix 1.

Empirical Studies on Linguistic Complexity in L1 and EFL English Academic Writing

Complexity studies conducted in academic writing might suggest a difference between the writers of English academic discourse due to differing first language backgrounds, language proficiency, and expertise in writing. Additionally, writers with English first language (L1) and writers with English as a foreign language (EFL) might have distinct patterns of linguistic complexity in their writings.

A leading study in complexity, written by Biber and Gray (2010), compares the complexity of academic writing with the features of spoken discourse by using corpus-based analysis. Except for differences identified between conversation and academic writing, the study revealed that, unlike the common expectations, the language of academic writing itself is not structurally elaborated in clausal levels. The structures of main clauses are usually simple, but the complexity is achieved by adding prepositional phrases to noun phrases (NP). In other words, the complexity of academic writing mainly relies on phrasal elaboration rather than syntactic or clausal elaboration. Supporting the outcomes of Biber and Gray's (2010) study, a similar study conducted by Staples et al. (2016) shows that L1 English academic writing includes more complicated phrasal structures as the academic level advances while the clausal complexity is reduced. A supporting study by Ansarifard et al. (2018) presents that the use of complex phrasal structures becomes more frequent as proficiency increases. The study compares abstracts of MA- and PhD-level L1 Persian students' theses with each other, and then abstracts of published research articles from L1 English expert writers are added to the comparison. Building on Biber et al. (2011) indices, the results show that L1 English expert writers use more complex phrasal structures than others and include a wider variety. Although both first language and second language (L2) groups tend to use noun phrases with nouns and adjectives as phrasal pre-modifiers and prepositional phrases as post-modifiers, there is a significant difference in using nouns as pre-modifiers, adjective/noun combinations as pre-modifiers, and multiple prepositional phrases. For instance, the expert writer group with L1 English uses multiple prepositional phrases more than MA and PhD groups, whereas there is not a significant difference between MA and PhD groups. In a different study, Casal and Lee (2019) analyze the association

between writing quality and complexity in 280 assessed research papers written by English as a second language (ESL) freshmen students taking a writing course. Using both large-grained and fine-grained measures, the study reveals significant differences between lower-grade papers and higher ones. For instance, even though clausal coordination and subordination are similar in all papers, low-rated papers include shorter T-units and less complex nominals, and high-rated papers rely on more complex structures. Therefore, they suggest that complexity and writing quality might be relevant, especially in terms of phrasal complexity.

A recent study by Albelihi (2021) argues that there might be an association between language background and phrasal complexity. The corpus of the study consists of 50 abstracts of PhD dissertations written by L1 Arabic students and 50 written by L1 English writers. The study adopts measures proposed by Biber et al. (2011). Although the study is mostly consistent with Ansarifard et al. (2018) and Biber and Gray (2010), it additionally presents that prepositional phrases are the most frequently chosen modifiers by L1 Arabic writers, while L1 English writers rely on pre-modifying nouns and L1 background seems to contribute significantly in 4 indices among 11 developed by Biber et al. (2011) which are nouns as pre-modifiers, prepositional phrases (other), prepositions with -ing clauses, and infinitive clauses. Hence, it shows that L1 background and phrasal complexity are not independent from each other. Similarly, Lan et al. (2022) support the idea that there might be a link between language background and phrasal complexity. Their study aims to investigate how different grammatical features contribute to noun phrase (NP) construction. The textual data is taken from BAWE, and all EFL writers are considered to be a unit. By adopting Biber et al.'s (2011) measures, the results indicate that L1 English samples included more diverse patterns of noun phrases,

while compression is more common in advanced L2 writing. Relying on phrasal modifiers more than their L1 counterparts, the L2 corpus shows that the use of pre-modifying nouns contributes the most to the association between language background and phrasal complexity. Li and Tang (2022) arguing the influence of L1 in NP complexity study the texts written by L1 Mandarin speakers and compared the found English NP structures with Mandarin grammar. The findings show that attributive adjectives, -of phrases with postmodifiers, and nouns as premodifiers are the most common structures, while appositive noun phrases are the least common. According to their explanation, this tendency results from the fact that English structures that have similar structures to Mandarin are more common, whereas structures such as relative clauses are scarce because they don't have a counterpart in Mandarin.

Along with previous studies, a study conducted by Alsahlanee and Janagathan (2023) proposes significant differences between L1 and EFL writers. The study compares research articles on linguistics written between 2016 and 2020 by Iraqi and L1 English writers. Employing fine-grained measures of Biber et al. (2011), the study shows that L1 English and Iraqi writers significantly differ from each other in 10 indices among 12. However, the language backgrounds of the L1 English writers are determined according to the institutions they are affiliated with and whether those institutions are in an English-speaking country, which might have affected the results by having a significant difference in almost every present index and created a slightly different outcome from other studies conducted on the phrasal complexity. On the other hand, a previous study conducted by Lan (2020) aligns with the claims that support the association between phrasal complexity and academic level and between phrasal complexity and language background. As Lan (2020) studies how noun

phrase complexity is influenced by academic levels and L1 background, 200 essays written by undergraduate and graduate students are derived from BAWE and analyzed by using Biber et al. (2011) indices. As phrasal complexity is claimed to be dependent on both academic level and L1 background, once again, pre-modifying nouns are the most effective contributor, but contrary to the findings of academic level, language background tends to affect the diversity of noun phrases instead of NP compression.

Considering other different aspects of academic writing, Gray (2021) underscores the departmental differences in phrasal complexity. The study gathers 270 research articles from 6 departments (from humanities, social sciences, and natural sciences). Based on the results, the most frequent phrasal modifiers in all departments are adjectives as noun premodifiers and prepositional phrases. Structural elaboration is more common in humanities disciplines than the social sciences and least in natural sciences. Natural sciences can be characterized by heavy reliance on noun + noun sequences and mostly structural compression. Taking a more detailed look, Esfandiari and Ahmadi (2022) analyze 80 research articles from applied linguistics and clinical medicine departments according to chapters. In both departments, the NP modifiers are not evenly distributed across chapters. Introduction and discussion chapters tend to have more NP modifiers compared to other chapters. In applied linguistics research articles, the discussion chapter shows the heaviest reliance on NP modifiers, while the introduction chapter plays the same role in clinical medicine research articles. Lastly, they claim that clinical medicine research articles employ more NP modifiers than applied linguistics research articles.

A study conducted from a different perspective by Wu et al. (2020) shows that the syntactic complexity does not differ significantly between L1 and EFL

writers of English, but phrasal levels differ from each other. The study compares the writings of the two groups from an English as a Lingua Franca (ELF) perspective and suggests that EFL writers may have a tendency to use longer sentences for clarity concerns. The samples are taken from available corpora such as SciELF and COCA to be analyzed qualitatively. Indices developed by Lu (2010) are employed in the study, measuring complexity according to 14 indices in terms of production length, coordination, subordination, and phrasal complexity. The findings suggest that the use of nominal phrases is more complex in ELF writing, while verbal phrases are fewer in comparison to L1 English writing. The most prominent finding of the study that agrees with other studies mentioned so far is that the differences between L1 and EFL writing complexity are phrasal rather than clausal. In the simplest way, it could be argued that phrasal complexity appears to be an important construct that needs to be analyzed further. It could be explored in relation to academic levels, writing quality, or language backgrounds. So far, the mentioned studies have agreed that phrasal complexity is highly influenced by the proficiency levels and language backgrounds of the writers.

CHAPTER 3: METHODOLOGY

Introduction

This study aims to explore the main features of noun phrase complexity in English-dominant writers and Turkish EFL academic writing in comparison to each other. To reach this target, master theses written in English by L1 English and L1 Turkish writers are analyzed. Thus, the research questions below are addressed within the scope of the study.

1. What are the features of noun phrase complexity in MA theses written on the topic of foreign policy between 2018 and 2023 by Turkish EFL and English dominant writers?
2. What are the similarities and differences between the selected writings of TEW and EDW users in terms of complexity in noun phrases?

Hence, this chapter presents the methodology followed during the study. The chapter consists of four sections. The first section introduces the research design, while the second section shows the context and sampling. The third section focuses on instrumentation and data collection procedures. Lastly, data analysis is the topic of the fourth section.

Research Design

This study utilizes linguistic analysis to explore phrasal complexity. Linguistic analysis, though referring to a variety of different methods, essentially addresses a methodology that facilitates a systematic study of language structures, their functions, and their relationships. Integrating theoretical and empirical approaches with a focus on both syntax and semantics may highlight the

complexities and patterns of linguistic structures (Puglielli & Frascarelli, 2011). Therefore, it aligns with the purpose of the current study, which is to analyze how language is used within a text to examine textual patterns and the similarities or differences between these patterns.

For further clarification, this study benefits from corpus-based syntactic complexity analysis by utilizing TAASSC. Forming the foundation of the current research, syntactic complexity argues that a significant indicator of language proficiency and development is the use of complex structures through subordination, coordination, variety, and phrasal elaboration (Housen & Kuiken, 2009; Ortega, 2003). In addition, this study follows principles of corpus linguistics in aiming to systematically analyze a specific linguistic feature from a selected dataset (Biber et al., 1998). To explore quantitatively noun phrasal complexity patterns across different writer groups with a small corpus of 67 theses, this study draws upon linguistic analysis by incorporating TAASSC. Thus, after the application of selection criteria to collect theses, the texts are examined in terms of noun phrase usage chapter by chapter. Although the collected data is textual, it is quantified with the help of a tool to gather an in-depth understanding of noun phrase complexity features. For this reason, the quantitative data is interpreted according to the backgrounds of the writers while identifying its features through the provided statistical means.

Context & Sampling

The study draws samples from ProQuest and the Thesis Center of the Council of Higher Education (CoHE). ProQuest provides a rich collection of dissertations and master theses. Similarly, the Thesis Center of CoHE includes theses published in

Turkiye. Both databases have thousands of theses. Therefore, the selection criteria are employed.

The samples are collected purposefully in two stages. At first, a topic is identified to limit the subject, and publication dates are specified. These limits aim to reduce the effects of discipline-specific language use and language change through time. A study by Sarte and Gnesheva (2022) reveals the importance of topic on noun phrasal complexity. Hence, a key concept is selected to provide a standard for the theses. The second stage groups selected texts according to names/languages, number of pages, and relevance.

As part of the first stage, the advanced search function of each database is set according to language, subject, key concept, number of occurrences of the key concept, location, and date. The theses written in English in the field of international relations, history, and political science on foreign policy are chosen. The topic is determined based on popular themes of the relevant departments. The selected theses are also expected to include “foreign policy” as a cluster in the main body at least three times. The location is limited to Türkiye and inner circle countries where English is a dominant language (Kachru, 1985; 1990) to reduce the influence of different varieties of English and increase the potential to reach more English L1 and L1 Turkish writers. The chosen date range is from 2018 to 2023. Thus, the latest publications can be accessed. As mentioned in the earlier chapters, academic writing is a dynamic entity which is open to changes in genre and language; therefore, a date range is set to maintain possible language shifts for increasing comparability. As a result of searching, ProQuest yields 6364 results, and Thesis Center CoHE shows 598. Of the 6364 theses from ProQuest, only 891 show direct relevance to the subject, and 527 from CoHE. As the number is still high, another parameter is

applied. The theses, including “foreign policy” in the main text at least three times, are selected for proceeding to the second sampling stage. The number of chosen theses from ProQuest is 300, and from CoHE 391.

The second stage aims to create a final list of suitable writers for this study. The writers are chosen based on their names. Consequently, 99 writers are assumed to be L1 English, and 272 are considered L1 Turkish. Meanwhile, the average range of page numbers is defined by considering selected theses. Thus, the theses, including at least 80 and at most 130 pages, are collected. The cover pages, dedication and acknowledgment pages, list of contents, abstracts, reference, and appendices pages are eliminated while calculating the number of pages. After the page limit, 36 theses are left in ProQuest and 138 from CoHE. As a final step, the number of pages from each thesis is matched. Among those with multiple options, the latest publication is chosen, while for the unmatchable ones, the thesis with the closest higher number of pages is selected. The number difference is only one in each case, except one being two pages. However, the total word count based on the number of pages results in a 197.902-word discrepancy, with the EFL TR group having the higher numbers. Therefore, five theses are removed from the analysis to reach as close word counts as possible in each chapter and in total.

Additionally, 12 writers are verified to be English L1 based on their biographies and vitae; 6 writers have studied in the US since their BA years or earlier, and the rest remained unverified but don't mention any statement to indicate having a different L1. For Turkish writers, assumptions are made similarly by their names and those with available vitae. Two writers have studied in UK-based universities, two in Canada, while the rest have US-based backgrounds. Turkish writers are all based in Turkiye.

Consequently, a total of 67 theses, 31 by Turkish writers and 36 by L1 English writers, are found to be suitable for this study. The lists of selected studies are provided in Appendices 2 and 3.

Instrumentation

The tool employed is a software named “Tool for the Automatic Analysis of Syntactic Sophistication and Complexity (TAASSC)”, developed by Kyle (2016), which also forms the theoretical foundations of the current study.

TAASSC serves the purpose of this study as its algorithm benefits from part-of-speech (PoS) tagging and dependency parsing. As PoS tagging identifies word categories and phrase types, it enhances the understanding of phrasal complexity by determining elaborate noun phrases. To explain further, exploring the noun phrasal complexity features is the purpose of the current study, and to study complexity features in detail, the focus of the analysis should be measuring the relationships between the sentence components. These grammatical relationships could be analyzed through dependency relations.

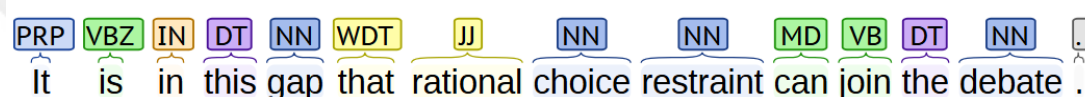
Kyle (2016) states that phrasal complexity is measured by TAASSC through the Stanford Neural Network Dependency Parser and a Python XML parser. The dependency parser processes the dependency relations in each sentence, and the product of this process is read by a Python XML parser. Providing three types of analysis for phrasal complexity, TAASSC calculates the averages. To reiterate, instead of providing raw counts of occurrences, the average number of dependents per noun phrase type, the average occurrence of dependent types, and the average occurrence of dependent types per a specific NP type are calculated. Hence, the indices covered in this study include seven phrase types, which are nominal subject, passive nominal subjects, agents, nominal complements, direct objects, indirect

objects, and prepositional objects; and eight types of dependents, which are determiners, adjective modifiers, prepositional phrases, possessives, verbal modifiers, nouns as modifiers, relative clause modifiers, and adverbial modifiers.

For further explanation of TAASSC's calculation algorithm, the sentence taken from Writer 1 could be used as an example, as shown in Figures 1 and 2 below, which are generated by Stanford CoreNLP for visualization purposes.

Figure 1

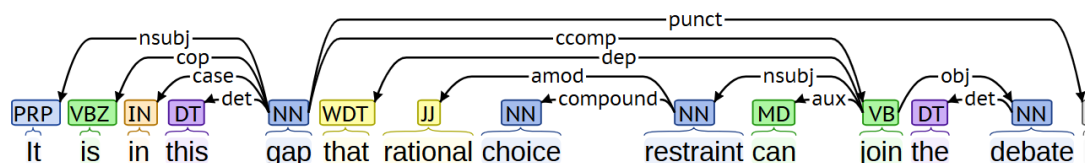
Part of Speech Tagging



At the beginning, the part-of-speech tags are attributed to the components of the sentences. In this example, the components are tagged as personal pronoun, verb (present tense, 3rd person singular), preposition, determiner, noun (singular), Wh-determiner, adjective, noun (singular), noun (singular), modal, verb (base form), determiner, noun (singular), and period (Santorini, 1995). However, with this annotation, it is not possible to collect valid results for the phrasal complexity of this sentence. Therefore, parsing based on dependency relations, as shown in Figure 2, may provide better results on how these components are related and how they function.

Figure 2:

Basic Dependencies



The figure shows that the main clause of this sentence is “It is in this gap”, being composed of a personal pronoun, copula be, and a prepositional phrase which further includes a determiner + noun combination. Then, it is followed by a complement clause (Marnaffe & Manning, 2008). It might be inferred that this sentence has multiple layers.

After annotating in terms of its part-of-speech tags and dependency relations, TAASSC continues to process the sentence for calculating the averages per target indices. The phrase database produced by TAASSC showed that this sentence was analyzed five times as it identified two nominal subjects (it, restraint), two direct objects (debate, in this gap that rational...), and an object of the preposition (gap). Therefore, this sentence contributed to dependents per nominal subject, dependents per direct object, dependents per object of the preposition, determiners per direct object, determiners per object of the preposition, adjectival modifiers per nominal subject, nouns as a nominal subject dependent per nominal subject, and relative clause modifiers per object of the preposition indices. While calculating the averages, based on this example only, TAASSC will generate 1.0 for dependents per nominal subject index as it will consider that there are two nominal subjects and two dependents (adjective, compound noun). Consequently, the indices will score as shown in the table below.

Table 2

TAASSC Calculation

Indices	Excerpt	Total Number of Occurrences	Total NPs of that Type	Final Score (<i>M</i>)
dependents per nominal subject	rational choice restraint	2	2	1.0
dependents per direct object	the debate	1	1	1.0

Indices	Excerpt	Total Number of Occurrences	Total NPs of that Type	Final Score (<i>M</i>)
dependents per object of the preposition	this gap that ...	2	1	2.0
determiners per direct object	the debate	1	1	1.0
determiners per object of the preposition	this gap	1	1	1.0
adjectival modifiers per nominal subject	rational restraint	1	1	1.0
nouns as a nominal subject dependent per nominal subject	choice	1	1	1.0
relative clause modifiers per object of the preposition	that rational choice restraint can join the debate	1	1	1.0

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

Scholarworks GSU, (<https://doi.org/10.57709/8501051>). Copyright 2016 by Kristopher Donald Kyle.

As shown in the table above, TAASSC can provide the average number of occurrences per phrase type to measure phrasal complexity. In this example, it is possible to infer that the direct object was more complex than the others as it scored 2.0 and a determiner and relative clause modifier, which could also be further analyzed. However, it is significant to mention that the numbers and their interpretations depend on the data set. Thus, TAASSC can continue the same calculation in larger data sets, and the interpretation is based on the output scores. At the end, TAASSC creates an .xml file for the statistical data and a phrase database for the parsing process.

Lastly, TAASSC offers more than 90% accuracy (Kyle, 2016) in its analysis, nominating it as a preferable option.

Data Collection

Following the sampling stage, the collected theses are divided into two major groups named ‘EFL TR’ and ‘ENG’ to be processed by TAASSC. The EFL TR group refers to the data collected from Turkish writers, and ENG is adopted for English-dominant writers. The writers are numbered from 1 to 67. The theses written by the ENG group are numbered from 1 to 36, and the EFL TR group is given numbers from 37 to 67.

Each thesis collected from both groups is further separated into four main parts. Nonetheless, it is significant to underline that the content organization of chapters showed certain variations across theses due to institutional and departmental differences. Thereby, the assigned parts are named in numbers as ‘unit of analysis 1’, ‘unit of analysis 2’, ‘unit of analysis 3’, and ‘unit of analysis 4’. The term ‘unit of analysis’ is abbreviated as “UoA”.

Unit of analysis 1 refers to the chapter that functions as an introduction, in which writers briefly state their study's purpose, scope, and methodologies. Unit of analysis 2 primarily covers the literature reviews and background information. Given the fundamental essence of the topic (foreign policy), UoA 2 showed great variation in content. A group of writers utilize this Unit of Analysis to provide historical anecdotes or detailed descriptions of the existing political atmosphere, whereas the others present a systematic literature review of relevant studies and brief notes about the political events leading to their arguments. Likewise, the writers employ different organizations in the discussion and results chapters. Some theses address discussion and results chapters independently, while in others, they are combined. For this

reason, unit of analysis 3 includes both chapters together. Lastly, the unit of analysis 4 consists of the conclusion and recommendations chapters. However, not every thesis contains recommendations. To clarify, some theses have a different chapter in addition to their conclusion chapters, in which new policy regulations are recommended, or potential solutions to discussed events are proposed; yet some other theses either shortly mention future implications or lack any recommendations. Evidently, the headings, although named differently, serve similar intents and are collected under four units of analysis accordingly in order to reduce the influence of format and organization differences.

Data Analysis

In order to ensure the reliability of TAASSC, a two-phase piloting stage was conducted before the data analysis. The first phase tested the technical issues that might occur. A random text with minor typos was selected and converted into a .txt file; each sentence was separated line by line. After the analysis, the .cvs output was converted into .xml. In this phase, it was observed that TAASSC could successfully process .txt files without being influenced by typos and file conversion (.cvs to .xml) did not cause any data loss. The second phase tested the accuracy of TAASSC. A random text from the current data set was chosen and processed by TAASSC, the output scores were manually verified through comparisons between the phrase database and manual analysis, some samples were also shared with another researcher to enhance inter-annotator agreement. Although TAASSC did not show any disagreements with the manual analysis and the human annotators, the phrase database was cross-checked continuously to ensure accuracy throughout the study.

Before processing the texts, they are edited to suit the automatic analysis tool. The items such as page numbers, references, headers, captions, block quotations,

appendices, repeated sentences, and adapted lists are removed to minimize the effects of noise over the main bodies of the texts. Finally, the EFL TR corpus has 852.456 words, and the ENG group has 853.395. The breakdown of word numbers per unit of analysis varies due to the content and organization plans writers follow. The shortest unit of analysis for each group is the 4th UoA, with approximately a 20.000-word discrepancy, and UoA 2 is the longest, with a 58.326-word difference. The mismatches between UoA 1 and 3 are 22.303 and 16.237 words. The ENG group has higher numbers except for UoA 2. A summary of word counts is provided in Table 3.

Table 3

Total Number of Words per Chapter

	UoA 1	UoA 2	UoA 3	UoA 4	Total
EFL TR	92.652	398.565	305.180	56.059	852.456
ENG	114.955	340.239	321.417	76.784	853.395

The grammar and spelling mistakes are left untouched during the editing process as they do not interfere with NP complexity analysis, and none of the errors impede the meaning.

Consequently, separate documents are created for each thesis to process the chapters individually. Then, the documents are analyzed separately within their groups in TAASSC. The tool provides 132 indices for noun phrase complexity. In three major categories, it shows “the average number of dependents per each phrase type and all phrase types, the occurrence of particular dependent types regardless of the NP types they occur in, the average occurrence of particular dependent types in particular types of NPs they occur in” (Kyle & Crossley, 2018). Nevertheless, 36 indices are eliminated to limit the study's scope, and they do not directly align with

the purpose of the study. Therefore, noun phrases connected with conjunctions ‘and’ or ‘or’ and standard deviation calculations that show the variety in using a specific structure are removed from the analysis. The remaining indices are classified into five major categories: Positions, Nominalizations, Passives, Modifications, and Embedding. The categorization of indices is synthesized from the results of previous studies mentioned in Chapter 2, as the majority of the studies suggested differences or similarities in certain groups of indices, such as nouns as pre-modifiers being used more often or reliance on passive structures. Therefore, this categorization is composed to address the relevant indices in more detail. The list of all indices used by TAASSC is shown in Appendix 1.

The first category, positions, focuses on dependents, determiners, adjectival modifiers, prepositions, possessives, nouns, verbal modifiers, relative clauses, and adverbial modifiers regarding their functions, such as being the subject or object of a sentence. The nominalizations category shows dependents per nominal structures and the role of nouns in nominal structures, such as serving as the head of a nominal phrase. The passives category includes dependents based on their functions, such as being agents or passive nominal subjects. The modification category refers to a comprehensive set of metrics covering almost all the items as the positions category but without focusing on their functions in a sentence; instead, the modifiers are analyzed in this category. Embedding, being the last category, covers relative clause modifiers embedded in noun phrases.

By way of reiteration, to fulfill the aim of the first research question, the data sets are analyzed separately to identify the features and patterns exerted by each writer group. In other words, the textual data are separated and grouped according to language background and chapters in .txt format. Each thesis chapter is analyzed

separately by TAASSC, and the final descriptive data is interpreted manually to draw any possible patterns for each chapter and group to be compared.

Regarding the second research question, once the data is gathered from both ENG and EFL TR groups, each index is recalculated in every document based on language background and chapter to reach comparable average scores. Examining the identified features of each group in a comparative manner will explain whether they show similarities or differences.

To provide an in-depth understanding of the data analysis process, detailed definitions of each unit of analysis, categorization of indices, and types of indices are provided below.

Units of Analysis

As mentioned earlier in this chapter, the collected theses are divided into four units based on their contents for the analysis.

Unit of Analysis 1

UoA 1 addresses the chapters of theses that aim to provide an introduction; it includes information regarding theses such as the significance of the study, methods, and research questions. This unit of analysis is also used to contextualize the main arguments of the theses by providing brief portraits of the political conjuncture.

Unit of Analysis 2

The writers provide the background information, a review of the existing literature, the theoretical foundations of the followed methodology, and providing detailed information that led to the events or issues that will be discussed in the thesis, which is usually a review of the history. In many cases, this unit of analysis is referred to as Chapter 2 in original texts but may include or mean other chapters that function in the same role. Therefore, any chapter that satisfies the criteria for

presenting detailed background information, historical reviews, or literature reviews is included in this UoA regardless of the title.

Unit of Analysis 3

This UoA refers to two chapters which are traditionally titled as results and discussion. However, due to format requirements and the content, the majority of the writers did not provide exact titles for the relevant chapters, or they embedded the results within the discussion chapter. There are some other writers who preferred using separate titles for both chapters. Thus, UoA 3 refers to those chapters together based on their contents.

Unit of Analysis 4

The theses sometimes combined the conclusion and recommendations parts, some theses did not have recommendations part but used only the conclusion chapter for that purpose. Changing the order of the conclusion and recommendations chapters was also observed in some theses. Under general circumstances, the conclusion chapter is written before the policy recommendations or recommendations chapters; however, as some writers employed an order and vice versa, the content of their conclusion chapters often included potential conclusions of the recommendations or practical implications instead of solely focusing on summarizing the thesis and reporting the final remarks. As a result, UoA 4 includes these listed components.

Categories

Each unit of analysis is divided into five categories based on the primary functions of the relevant indices. The categories are named as positions, nominalizations, passives, modifications, and embedding.

Positions

This category addresses the functions of noun phrases in the sentence, and there are two subcategories, one being the subject position and the other being the object. The following sentence written by Writer 37 provides an example of the use of NPs in different functions:

The national interest is defined as an overriding objective that emerges from a certain standard which determines and governs the foreign policy actions of states...The use of case study method enables the researcher to obtain detailed and comprehensive understanding of the phenomenon under study through the utilization of wide range of research tools.

In this example, “the national interest” functions as a subject, consisting of a determiner, an adjective, and a noun. The object position could be seen in both sentences. The first sentence uses “an overriding objective” as a direct object, the complete NP being “an overriding objective that emerges from a certain standard which determines and governs the foreign policy actions of states” whereas “the researcher” in the second sentence functions as an indirect object.

Subjects. This subcategory presents results regarding the noun phrases functioning in subject positions. Dependents, determiners, adjectival modifiers, prepositions, possessives, nouns, verbal modifiers, relative clause and verbal modifiers are analyzed under this category.

Objects. This category addresses the NPs used as direct and indirect objects. Similarly, the dependency relations per direct and indirect objects, determiners, adjectives, prepositions, possessives, nouns, relative clause modifiers, and non-clausal adverbial modifiers are covered.

Nominalizations

This category refers to nominals, nominal complements, and nouns as a nominal dependent per nominal index to further highlight the use of nominal structures in NPs. For instance, Writer 1 states:

Liberal hegemony, also called primacy, has allowed the United States to create a host of problems for itself that have caused the foreign policy community to question its continued operability.

In the example above, it is possible to observe dependents per nominal such as “Liberal hegemony”, the head noun had one dependent which is “liberal” or “a host of problems” with two dependents which are a determiner and a prepositional phrase, followed by a nominal complement “problems for itself”, while an example of nouns as nominal dependents could be seen “the foreign policy community”.

Passives

This category presents the use of passive structures in relation to NPs. NP agency and dependents are analyzed in this category. The indices studied under this category are dependents per passive nominal subject and dependents per agent. Writer 10 provides an example sentence to an analyzed structure addressing dependents per passive nominal subject. The sentence “Any amendments that are voted on for the AUMFs are also tabled.” is written in the passive form and includes an NP in the subject position. “Any amendments that are voted on for the AUMFs” functions as the subject of the passive voice sentence and is complex as the head noun “amendments” is modified by a determiner, a relative clause modifier with an embedded prepositional phrase including an NP as a prepositional object. Another sentence by the same writer states “The war was still unpopular and regarded as a mistake by the American public.”, providing an example for dependents per agent

index as it has an NP in determiner (the) + adjective (American) + noun (public) form performing as an agent.

Modifications

This category covers the results of modifiers such as prepositions, adjectives, determiners, nouns, possessives, non-clausal adverbial modifiers, verbal modifiers, and relative clause modifiers attached to NPs. For instance, in the following sentence, writer 16 shows modified NPs: The tactic's pointedness helps draw the link between neo-imperialism and terrorism because it intended to only harm the system, not people. First, the subject is an NP "the tactic's pointedness" with determiner + possessive + noun structure. Secondly, the object of the sentence also includes an NP "the link between neo-imperialism and terrorism" with determiner + noun + prepositional phrase with coordinated nouns structure.

Embedding

This category focuses on relative clauses to highlight the layers of NP complexity in various functions by analyzing the embeddedness. One of the indices is relative clause modifiers per direct object. Thus, Writer 47 shows a simple example: It follows a pragmatist foreign policy that is found on strategic rationale. The object of this sentence is "a pragmatist foreign policy that found on strategic rationale". The following structure could be observed:

determiner (a) + adjective (pragmatist) + adjective (pragmatist) + noun (policy) + relative clause (that found on strategic rationale) → relative pronoun (that) + verb (found) + prepositional phrase (on strategic rationale) → preposition (on) + adjective (strategic) + noun (rationale)

As presented above, relative clause modifiers can contribute to the noun phrase complexity by adding layers through embedding.

Types of Indices

The current study benefitted from 96 indices from Kyle, 2016. The indices might be categorized according to three main categories as: dependents, modifiers, and pronoun use.

Dependents

Dependents include the indices such as dependents per nominal subject, per direct object, per indirect object, per nominal, per nominal complement, per passive nominal subject, per agent, per object of the preposition. These indices provide a general overview of the dependency relations including all components that modify a head noun. Showing the density of modifications, the average scores cover all modifiers within the target text without acknowledging the types of modifiers. The indices of passive nominal subject and object of preposition were occasionally referred as passives or prepositional objects.

Modifiers

This type of indices addresses a wide variety of modifiers in NPs of various functions. The indices are namely determiners, adjectival modifiers, prepositions, possessives, nouns, verbal modifiers, relative clause modifiers, and non-clausal adverbial modifiers. Each type is associated with different functions based on the measure such as prepositions per nominal subject or prepositions per object of the preposition. Except for the passives category, which only includes dependents in general, each index of this type is available in all categories. Therefore, when written in the text within the relevant categories, they are usually referred as determiners, adjectives, prepositions, possessives, nouns, verbs, relative clauses, and adverbs shortening the names of them.

Pronoun Use

Each index has two versions, the first is considered as regular one and the second is no-pronoun version. The scores of regular versions may or may not involve pronouns in NPs as direct dependents in pronouns are not common whereas the no-pronoun version completely excludes the pronouns in NPs to avoid potential influences in processing of the complexity of the phrase. In addition, pronoun use might provide clearer insights of the employed structures and their registers. Pronoun-based usages may indicate a more conversational language while higher scores in no-pronoun indices may suggest a more formal academic tone and more detailed NPs.

CHAPTER 4: RESULTS

Introduction

This chapter presents the results of the current study. The current study intends to explore the noun phrasal complexity features of MA theses written by English-dominant and Turkish EFL writers on foreign policy through linguistic analysis with the help of TAASSC. Therefore, this study focuses on two research questions:

1. What are the features of noun phrase complexity in MA theses written on foreign policy between 2018 and 2023 by Turkish EFL and English dominant writers?
2. What are the similarities and differences between the selected writings of Turkish EFL and English-dominant writers in terms of complexity in noun phrases?

Sixty-seven theses are analyzed and divided into two groups and four units of analysis to respond to the research questions. Thirty-six theses belong to the ENG group, which refers to the English-dominant writers, while thirty-one are a part of the EFL TR group, Turkish EFL writers. The theses are further separated into four units of analysis due to differences in naming chapters by different institutions and programs. Hence, UoA 1 includes introductions and methodologies, and literature reviews or background information chapters are collected through UoA 2 while UoA 3 covers discussion and results chapters, and UoA 4, conclusion and recommendations chapters.

The total word count processed by TAASSC is 1.705.81, with the ENG group having a higher word count of 853.395, although there are some discrepancies in word counts between units. The highest difference occurs in UoA 2 by the EFL TR group, with 58.326 words more, while the lowest is in UoA 3 by the ENG group, with 16.237 words more. UoA 1 and 3 are also longer in the ENG group, the difference being approximately 20.000 words per UoA. Additionally, 96 indices are employed for the study's scope and categorized as positions, nominalizations, passives, modification, and embedding.

In this chapter, the findings concerning two research questions will be presented. As the datasets were extensive, scores were provided as group averages for each index in tables, accompanied by reviewed results of individual scores. Data regarding individual scores are mentioned when there was a significant deviation to report the variability within the groups, helping to summarize overall trends in the results more effectively.

At the beginning, as explained in Chapter 3, the units of analysis, categories, and types of indices will be reminded briefly. Then, the results will be presented based on the research questions. Firstly, addressing the first research question, the results regarding the EFL TR and ENG groups will be shared unit by unit. Each unit of analysis follows the same order as the categories of indices. The first category, positions, is divided into two subcategories, subject and object, under each of which dependents, determiners, adjectival modifiers, prepositions, possessives, nouns, verbal modifiers, relative clauses, and adverbial modifiers are covered. The second category, nominalizations, focuses on nominals, nominal complements, and nouns as nominal dependents. The third category, passives, only shares results of passive structure use in noun phrase complexity. The fourth category, modifications, follows

the same manner as the first category, including dependents, determiners, adjectival modifiers, prepositions, possessives, nouns, verbal modifiers, relative clauses, and adverbial modifiers. Lastly, the fifth category, embedding, addresses the findings about relative clause modifiers. As the second research question is closely related to the findings of the first research question, the results are presented similarly but in a comparative way to concentrate on similar and different features between the two groups. Figure 3 below provides a visualized outline of the current chapter.

Figure 3

Outline of Chapter 4

Chapter 4	Introduction		
	Units of Analysis	Unit of Analysis 1	
		Unit of Analysis 2	
		Unit of Analysis 3	
		Unit of Analysis 4	
	Categories	Positions	Subjects
			Objects
		Nominalizations	
		Passives	
		Modifications	
		Embedding	
	Types of Indices	Dependents	
		Modifiers	
		Pronoun-use	
	Features of Noun Phrase Complexity in Selected Theses	TR Group	Unit of Analysis 1
			Unit of Analysis 2
			Unit of Analysis 3
			Unit of Analysis 4
		ENG Group	Unit of Analysis 1
			Unit of Analysis 2
	Unit of Analysis 3		
	Unit of Analysis 4		
	Comparison of Noun Phrase Complexity Features between TR and ENG Groups	Unit of Analysis 1	
Unit of Analysis 2			
Unit of Analysis 3			
Unit of Analysis 4			
Summary of the Results			

Units of Analysis

This section summarizes the units of analysis previously explained in Chapter 3.

Unit of Analysis 1

UoA 1 is composed of chapters with introductory functions.

Unit of Analysis 2

Chapters providing background information and a review of the existing literature are included in this unit.

Unit of Analysis 3

Chapters aiming to present results and discussion of theses are analyzed under this unit.

Unit of Analysis 4

Conclusion and recommendation chapters are covered in this unit.

Categories

As mentioned in Chapter 3, four categories are employed to group indices, which are positions, nominalizations, passives, modifications, and embedding.

Positions

This category refers to noun phrases in subject, direct object, and indirect object roles.

Nominalizations

This category focuses on nominals, nominal complements, and nouns.

Passives

This category shows the use of passive nominal subjects and agents.

Modifications

This category presents a variety of pre- and post-modifiers such as prepositions, adjectives, determiners, nouns, possessives, non-clausal adverbial modifiers, verbal modifiers, and relative clause modifiers.

Embedding

This category explores relative clause modifiers in noun phrases.

Indices

This study employed 96 indices provided by TAASSC, developed by Kyle, 2016. The types of indices might be classified as dependents, modifiers, and pronoun use.

Dependents

This type of indices refers to the number of dependents attached to NPs, such as dependents per direct object, dependents per nominal, and so forth.

Modifiers

This type of indices includes a wide set of NP modifiers with various functions. The indices could be listed as determiners, adjectival modifiers, prepositions, possessives, nouns, verbal modifiers, relative clause modifiers, and non-clausal adverbial modifiers.

Pronoun Use

All indices have two versions, which are the regular version that does not regard pronoun use and the no-pronoun version that specially excludes pronouns from NPs.

Features of Noun Phrase Complexity in Selected Theses

This section presents the results of first research question which attempts to explore whether the tendencies in the use of noun phrases shown by selected writer groups create any patterns. Therefore, the two groups are analyzed separately.

The EFL TR Group

This group comprises 31 theses written by Turkish EFL writers from EMI programs. The writers numbered from 37 to 67 are in this group.

Unit of Analysis 1

Positions. This section provided results for NPs functioning as subjects and objects within a sentence.

Subjects. This subcategory presents results regarding the noun phrases functioning in subject positions. Dependents, determiners, adjectival modifiers, prepositions, possessives, nouns, verbal modifiers, relative clause and verbal modifiers are analyzed under this category. Table 4 shows the average result per index in the unit of analysis 1 of the TR group. The results suggest that dependents per nominal subjects without pronouns are the most complex and frequently employed structures by the selected writers in their first chapters as subjects. In contrast, non-clausal adverbial modifiers per nominal subjects might have been encountered less regularly or have simpler structures.

Table 4

EFL TR Group, Subjects in UoA 1

Indices	Results (<i>M</i>)	Examples
dependents per nominal subject	1.03	The structural theories of international relations such as neo-realism, neo-Marxism, neo-liberalism and normative constructivism approaches display how the international system level can shape the objective national interests of states in

Indices	Results (<i>M</i>)	Examples
dependents per nominal subject (no pronouns)	1.19	foreign policy process. The national interest literature basically draws special attention to another question that whether national interest is an analytical concept in the foreign policy process.
determiners per nominal subject	0.33	The main purpose of this study is to solve the dilemma that happens between the studies of the international system level and the state level.
determiners per nominal subject (no pronouns)	0.39	The theories of neo-realism roughly emphasize the two main points in order to explain the state actions.
adjectival modifiers per nominal subject	0.18	The unstable international system emerges as a period when the number of great powers in international politics changes.
adjectival modifiers per nominal subject (no pronouns)	0.22	The stable international system is basically defined as the period of time when the international structure and order has dominance to shape world politics.
prepositions per nominal subject	0.20	The structure of the international system is determined according to distributions of power.
prepositions per nominal subject (no pronouns)	0.24	The concept of structure may be examined under the context of unipolar, bipolar, or multipolar levels.
possessives per nominal subject	0.01	For this reason, its value is highly sensitive to political statements.
possessives per nominal subject (no pronouns)	0.02	Erdogan's rhetoric towards the US have been hard-hitting, defiant and uncompromising over the last years, especially after the failed coup attempt in Turkey in 2016.
nouns as a nominal subject dependent per nominal subject	0.13	The structure of the international system is determined according to distributions of power.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.16	The hierarchy of power within the international system dictates state behaviors.
verbal modifiers per nominal subject	0.01	Turkey's eye-catching geopolitical position, functioning as a bridge between Asian and European continents , grabbed the attention of NATO countries.
verbal modifiers per nominal subject (no pronouns)	0.01	Illustrating Turkish aim to be part of the Western political and economic system are the full membership of the Council of

Indices	Results (M)	Examples
relative clause modifiers per nominal subject	0.02	Europe, North Atlantic Treaty Organization and the Organization for Economic Co-operation and Development. The questions, which will be explained through this thesis , are: what kind of political tools is being used by the USA in order to preserve its status quo at an international relations platform.
relative clause modifiers per nominal subject (no pronouns)	0.02	The veto powers used by the permanent members of the UN Security Council give them significant influence.
(non-clausal) adverbial modifiers per nominal subject	0	NO EXAMPLES
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	The September 11 terror attacks to the US and the US's response to these attacks by conducting military campaigns in Afghanistan and Iraq in 2001 and 2003, respectively , the Israeli-Palestinian conflict, its repercussions in the region and peace initiatives in the new millennium, the tension over Iran's nuclear program and the US's sanctions on Iran, the effects of Arab Spring protests, the Syrian Civil War since 2011, Yemen Civil War since 2014, the rifts between Qatar and the Quartet in 2014 and 2017 have all constituted a source of challenge and tension for each state of the region including Oman.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Kristopher Donald Kyle.

Although the results provided in the table might seem consistent, some indices showed discrepancies across the writers. Regarding dependents per nominal subjects, Writers 44, 46, and 53 included more complex structures (around 1.5) compared to the average, while the rest were similar to each other. A sample subject might be “While doing this, Neo-Classical Realism that offers a comprehensive

framework of systemic and internal variables in foreign policy analysis will be...” by Writer 46. The head noun “realism” is preceded with an adjective (neo-classical) as a modifier and then followed by a relative clause starting with “that offers a ...” which is also layered due to the use of NPs and PPs.

Additionally, theses by Writers 46 and 54 of the same index without pronouns showed a higher complexity rate (around 1.7). Among these five theses, Writer 46 is more complex in both indices. The use of determiners did not vary, and both with and without pronoun items were used similarly, the same as the adjectival modifiers and prepositions per nominal subject with and without pronouns. In contrast, Writers 37, 44, and 52 did not use any possessives in the NPs functioning as subjects. Likewise, seven theses (37, 41, 44, 45, 54, 58, and 61) did not involve any verbal modifiers in NP subjects; writer 44 also did not have any nouns as nominal subject dependents, two (44, 56) in relative clause modifiers, and eight (37, 41, 43, 44, 45, 47, 51, 53, 65, 67) in non-clausal adverbial modifiers. The numbers are the same for no-pronoun indices. Notably, one thesis written by Writer 44 stands out for simultaneously not employing any possessives, verbal modifiers, nouns, relative clause modifiers, and non-clausal adverbial modifiers in subject NPs.

Objects. This category addresses the NPs used as direct and indirect objects. Similarly, the dependency relations per direct and indirect objects, determiners, adjectives, prepositions, possessives, nouns, relative clause modifiers, and non-clausal adverbial modifiers are covered. Table 5 shows the results of direct objects, and Table 6 shows the indirect objects.

Table 5*EFL TR Group: Direct Objects in UoA 1*

Indices	Results (M)	Examples
dependents per direct object	1.83	The Association Agreement foresaw three phases to complete: the preparatory period conceived a special treatment of trading conditions and financial projects for Turkey.
dependents per direct object (no pronouns)	1.83	Turkey made an application to the European Economic Community in an attempt for association with the organization.
determiners per direct object	0.44	The first chapter presents a theoretical framework for the concept of Europeanization.
Adjectival modifiers per direct object	0.44	The thesis focuses on the fluctuant relationship between Turkey and the European Union.
prepositions per direct object	0.43	In addition, Bülent Ecevit - Prime Minister at that time - froze the terms of the Additional Protocol in 1978 due to the economic crisis in Turkey.
possessives per direct object	0.07	With the "Blue Homeland" doctrine declared by Turkey, it has determined its spheres of influence to the extent of the authority given to it by international law.
verbal modifiers per direct object	0.04	This includes books and journal articles written by prominent Turkish and international scholars , and newspaper articles from both Turkish and international news sources.
nouns as a direct object dependent per direct object	0.17	The national interest is defined as an overriding objective that emerges from a certain standard which determines and governs the foreign policy actions of states.
relative clause modifiers per direct object	0.04	The study analyzed the policies that shaped Turkey's foreign relations during the Cold War.
(non-clausal) adverbial modifiers per direct object	0.01	Oman has constituted a striking example in the region regarding the contradiction between its internal and external politics.
determiners per direct object (no pronouns)	0.45	Turkey submitted a formal application for full EEC membership on April 14, 1987.
adjectival modifiers per direct object (no pronouns)	0.45	On the one hand, the theories of the state level evaluate the national interest as a subjective concept that arises out as a

Indices	Results (M)	Examples
		result of domestic political factors.
prepositions per direct object (no pronouns)	0.44	It delivers a number of public announcements each year in the form of press releases, statements, declarations, and responses to the specific questions.
possessives per direct object (no pronouns)	0.07	Between 1990 and 1999 the European Commission underlined Turkey's eligibility for membership.
verbal modifiers per direct object (no pronouns)	0.04	Same as the regular index
nouns as a direct object dependent per direct object (no pronouns)	0.17	The organization discussed the implications of international agreements.
relative clause modifiers per direct object (no pronouns)	0.04	America has imposed financial sanctions targeting critical industries after 9/11.
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	Same example as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Table 5 illustrates the indices regarding direct objects. The average of dependents may indicate NPs with more than one dependent were relatively common as the score was 1.83. The example in the table shows a noun phrase with multiple dependents. An example is “Turkey made an application to the European Economic Community in an attempt for association with the organization.”. The direct object “an application to the European Economic” is an NP with determiner + noun structure followed by a prepositional phrase that includes an object as “to” is the preposition accompanied by “the European Economic Community” which is a noun phrase consisting determiner + adjective + noun structure and functioning as an

object of the preposition. This shows that there are two dependents in the direct object of the example, which is mostly consistent among the writers and close to the average. The results also showed that the writers did not differ in their use of dependency in both with and without pronouns. Likewise, determiners, adjectives, prepositions, and nouns did not differ across writers, although determiners and adjectives were used more frequently. Nonetheless, the indices of possessives, verbs, relative clauses, and non-clausal adverbial modifiers showed slight differences, for some theses did not have any samples of the target structures. Writer 44 did not include possessives in the direct objects as well as relative clauses and adverbs, Writers 47 and 65 did not have verbal and adverbial modifiers, 51 did not present relative clauses, and 45, 54, 57, and 63 did not have adverbs. Even though the mentioned structures were observed rarely in the majority of the theses as direct objects, the same indices, when applied to indirect objects, yielded drastically different results, which are shown in Table 6.

Table 6

EFL TR Group: Indirect Objects in UoA 1

Indices	Results (<i>M</i>)	Examples
dependents per indirect object	0.06	Similar examples to determiners and adjectives
dependents per indirect object (no pronouns)	0.06	Similar examples to determiners and adjectives
determiners per indirect object	0.03	While this thesis provides an overview of EU foreign policy history to give the reader the necessary context, the research part focuses on 2009-2020 period.
adjectival modifiers per indirect object	0.03	For instance, Saudi Arabia offered Israeli citizens a bounded permission to enter the Kingdom of Saudi Arabia.
prepositions per indirect object	0	NO EXAMPLES
possessives per indirect object	0	NO EXAMPLES

Indices	Results (<i>M</i>)	Examples
verbal modifiers per indirect object	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object	0	NO EXAMPLES
determiners per indirect object (no pronouns)	0.03	Same as the regular index
adjectival modifiers per indirect object (no pronouns)	0.03	Same as the regular index
prepositions per indirect object (no pronouns)	0	NO EXAMPLES
possessives per indirect object (no pronouns)	0	NO EXAMPLES
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as a indirect object dependent per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Table 6 indicates that the majority of the theses did not provide samples of target structures, which could correspond to the indices regarding the use of prepositions, possessives, verbs, relative clauses, and non-clausal adverbs, in the indirect object position. The average of dependents per indirect object seems to be

0.06 because Writers 40 and 44 adopted the index in their writing, with the result being 1.0 for each. Writer 40 also used determiners with a score of 1.0, relatively in a more complex manner, as the others showed no sign of determiners assigned to the indirect objects such as "...to give the reader...". Writer 43 was the only example of adjectival modifiers in indirect objects, with a score of 1.0, using expressions such as "...Saudi Arabia offered Israeli citizens a bounded permission to enter...", 'Israeli' as the adjectival modifier of the noun 'citizens'.

Consequently, the results suggest that writers use indirect objects infrequently in UoA 1 and the complexity is achieved by determiners and adjectives.

Nominalizations. This category covers nominalizations within dependency relations by focusing on dependents of head nouns in NPs and how often a noun is modified by another noun. For instance, the same sentence might provide an example of two types of indices in terms of dependency. The sentence "The research question is 'how does de-Europeanisation impact Poland's domestic and foreign policy?'" includes 2 NPs: The research question and Poland's domestic and foreign policy. The first one consists of 2 dependents per nominal. The noun "question" is modified by a determiner and noun "research". Additionally, it should be noted that "research" might be considered as an adjectival modifier due to its descriptive nature, but as for the structure-based approach of the current analysis, it is classified as a noun. The second NP is composed of 3 dependents. The structure follows as possessive + adjective + and + adjective + head noun.

Table 7

EFL TR Group: Nominalizations in UoA 1

Indices	Results (M)	Examples
dependents per nominal	1.51	The research question is 'how does de-Europeanisation impact Poland's

Indices	Results (<i>M</i>)	Examples
dependents per nominal complement	2.95	domestic and foreign policy? The driving factors of the changes in the direction of the domestic political agenda and its implications on foreign policy will be examined.
dependents per nominal (no pronouns)	1.52	The Polish state has historically been divided several times in its long history, such as between Russia, Austria, and Prussia in 1795.
dependents per nominal complement (no pronouns)	2.82	In order to analyze the transformation and test the theory, I divide Poland's recent political history into two distinct periods.
nouns as a nominal dependent per nominal	0.17	The emphasis on being divided among powers and suppressed by them created the 'suffering' nation myth that characterized Polish attitudes to the World War I.
nouns as a nominal dependent per nominal (no pronouns)	0.17	The EU-NATO membership decision shaped Poland's modern political identity.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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According to the results presented in Table 7, nominal complements showed the highest complexity but with a significant variety across the writers. Six writers differed in their use of complex nominal complements; the lowest scored 1.6, while the highest was 4.6. Nominals without pronouns were slightly more complex; in contrast, the pronoun-free index of nominal complements was less complex. Dependents assigned to nominals were close to each other in all writers, both with and without pronouns, showing a more complex and frequent distribution than nouns as nominal dependents. Lastly, nouns as nominal dependents occurred less, and the discrepancy between writers was less than 0.1.

Passives. This category presents the use of passive structures in relation to NPs.

Table 8

EFL TR Group: Passives in UoA 1

Indices	Results (<i>M</i>)	Examples
dependents per passive nominal subject	1.53	These written releases are produced by the Turkish Ministry of Foreign Affairs.
dependents per agent	1.57	There are many definitions provided by different scholars regarding the concept.
dependents per passive nominal subject (no pronouns)	1.60	The second chapter of the dissertation is designed to touch upon Iraqi Turks.
dependents per agent (no pronouns)	1.54	In the first section of the analysis, all written statements by Turkish Foreign Ministry are numerically evaluated to better assess the differing practices of the ministry in terms of its outreach through written releases within the last decade.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The most complex use of NPs is the no-pronoun passive nominal subjects with 1.60. Although the index provides mostly consistent use across writers, Writers 44 and 46 seem to employ more dependents, averaging 2.2. To exemplify, the sentence from Table 8 could be analyzed as it was taken from Writer 44. The sentence is in the passive voice, and the nominal subject is “The second chapter of the dissertation”. The head noun could be identified as “chapter”. Starting with a determiner and adjective, the head noun is followed by a prepositional phrase, including three dependents in total as an independent sentence. However, the same

index shows a 0.07 difference in the version with pronouns included. Modifying agents is another common complex structure in this category, with an average of 1.54, while the use changes slightly in the no-pronoun version. However, within the index, seven writers had differing tendencies such as never including the relevant structures or relying on them more often than others. Writers 39 and 41 use fewer dependents per agent, less than 1.0. In contrast, Writers 45, 52, 53, and 54 relied on assigning more dependents per agent, above 2.5. Only Writer 46 has a score of 0, with no sample of the structure present.

Modifications. This category covers the results of modifiers such as prepositions, adjectives, determiners, adverbs, and relative clauses attached to NPs.

Table 9

EFL TR Group: Modifications in UoA 1

Indices	Results (<i>M</i>)	Examples
dependents per object of the preposition	1.53	States focused on surviving from the hostile ideology which are capitalism and socialism within the anarchical system of international relations.
dependents per object of the preposition (no pronouns)	1.47	The Jupiter Missile Crisis cannot be seen as a singular event, but is considered as an extension of the ongoing Cuban Missile Crisis between the US and the Soviet Union.
determiners per nominal	0.41	The importance of diplomacy increased gradually with bilateral relations.
adjectival modifiers per nominal	0.33	Power transition theory puts states into four different categories according to both their degree of power and also their degree of satisfaction within the international system.
prepositions per nominal	0.29	The enlargement of Israeli settlements in the West Bank was one of the biggest obstacles to peace.
possessives per nominal	0.03	Under the foreign ministry of George Papandreu, Greece waived its veto on Turkish membership to the EU and this allowed Turkey to be recognized as a candidate during the Helsinki European Council on December 10-11. 1999.

Indices	Results (<i>M</i>)	Examples
verbal modifiers per nominal	0.02	Turkey was becoming a key station with its role in securing NATO's southern flank , a central barrier against Soviet's ideology exporting facility as well as a reliable host for American nuclear weapons that were then deployed in Incirlik military base.
relative clause modifiers per nominal	0.03	The framework that provided the basis for the discussion was outlined in the introduction.
(non-clausal) adverbial modifiers per nominal	0.01	Under the foreign ministry of George Papandreu, Greece waived its veto on Turkish membership to the EU and this allowed Turkey to be recognized as a candidate during the Helsinki European Council on December 10-11, 1999 .
determiners per nominal (no pronouns)	0.42	The security of state borders during conflicts and wars has remained a major priority for governments.
adjectival modifiers per nominal (no pronouns)	0.34	The failed coup attempt in Turkey became a major turning point for the strategic partnership.
prepositions per nominal (no pronouns)	0.29	The intensification of ethnic conflicts on a regional and especially global scale under the influence of the Cold War led to security threats.
possessives per nominal (no pronouns)	0.04	We will answer this question in detail on the basis of the European Union's Progress Reports and academic literature.
verbal modifiers per nominal (no pronouns)	0.02	Same as the regular index
relative clause modifiers per nominal (no pronouns)	0.03	The nexus between domestic political imperatives will be among the necessary components analysing the transformation of Poland to detect foreign policy re-orientation.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	Same as the regular index
determiners per object of the preposition	0.41	The holy region of Palestine and the city in its heart today called Jerusalem is significant for centuries religiously, historically, and geopolitically.
adjectival modifiers per object of the preposition	0.34	The evaluation of the existing literature reveals that much of the attention was given to the characteristics of Central Asian states .
prepositions per object of the preposition	0.25	The new regionalism is relevant in that regard, since it emphasizes the newly

Indices	Results (M)	Examples
possessives per object of the preposition	0.03	emerged cases of regionalism after the Cold War , such as the case of Central Asia. From this point on, the EU has started to monitor the relations with its neighbours , two of which are the State of Israel and Palestine.
verbal modifiers per object of the preposition	0.02	Ismail Cem's foreign policy discourse will be examined in the light of the discussions of critical geopolitics, a critical approach towards classical geopolitics trying to reveal how statecraft envisions space and constructs global politics.
nouns as an object of the preposition dependent per object of the preposition	0.18	In January 1933, Adolf Hitler became Chancellor of Germany and decided to reverse the Treaty of Versailles regarding its financial, territorial and military provisions.
relative clause modifiers per object of the preposition	0.03	The papers presented in the workshop provided insights into challenges that shaped the policy agenda.
(non-clausal) adverbial modifiers per object of the preposition	0.01	Therefore, it would be possible to observe different kinds of discursive strategies, namely constructive, reactionary and neutral , adopted by Turkish Foreign Ministry vis-à-vis the same country.
determiners per object of the preposition (no pronouns)	0.41	This section will show that Central Asian republics face security issues that none of them could solve on their own, and that cooperation in the security field is necessary.
adjectival modifiers per object of the preposition (no pronouns)	0.34	Peace and harmony among the three monotheistic religions have disappeared as a result of the Ottoman Empire losing the ruling power in the holy region.
prepositions per object of the preposition (no pronouns)	0.26	The members of the three monotheistic religions lived in peace and tranquillity until the end of the Ottoman period in the Holy Land that passed under the control of Muslims.
possessives per object of the preposition (no pronouns)	0.03	Likewise, although Oman has a distinctive geopolitical position on the edge of the Middle East and across the Indian Ocean and Southeast Asian countries, providing it with a wide-reaching foreign policy scope and room for maneuvers in the region's foreign policy choices , it could not have been immune from the challenges of the Middle East region.

Indices	Results (<i>M</i>)	Examples
verbal modifiers per object of the preposition (no pronouns)	0.02	Same as the regular index.
nouns as an object of the preposition dependent per object of the preposition	0.18	The international community is of the opinion that deportations and settlements are against international law.
relative clause modifiers per object of the preposition (no pronouns)	0.03	That is why its existence played a significant role in the power transformation achieved peacefully in 1989 .
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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1.53 and 1.47 are the highest category scores, whereas the non-clausal adverbials were simpler and the least frequently adopted indices regardless of their position in the target sentences. For providing an overview, NPs following prepositions functioning as objects included more dependents than other dependency indices of the category.

In addition, determiners were more frequent regardless of position than other structures. The results show that the second-most frequent structure is adjectival modifiers in all positions accompanied by prepositions and nouns, in all of which writers did not show any differentiation. Adverbials, relative clauses, verbs, and possessives resulted in lower results, ranging between 0.04 and 0.01. Writer 41 never used possessives to modify the objects of prepositions, and Writer 46 avoided

relative clauses and adverbial modifiers in object positions, scoring 0 in all relevant indices.

Embedding. This category focuses on relative clauses to highlight the layers of NP complexity in various functions by analyzing the embeddedness. Table 10 below suggests a scarce distribution of the use of complex structures with relative clauses. Although there were not significant differences between averages of indices, it might be suggested that relative clause modifiers per direct object indices employed more often. Regular and no-pronoun versions of relative clause modifiers per direct object index might have scored the same but it was possible to observe examples with or without pronouns. An example of the regular version could be the following sentence: The study analyzed the policies that shaped Turkey's foreign relations during the Cold War. The direct object of the sentence is "the policies" which is an NP with determiner + noun structure, and it is modified by a relative clause with a relative pronoun. On the other hand, no-pronoun index provided an example of reduction. The sentence is "America has imposed financial sanctions targeting critical industries after 9/11.". The NP functioning as a direct object is "financial sanctions" with adjective + noun structure, followed by the relative clause "targeting critical industries after 9/11". If the clause was not reduced, or in other words, if there was a relative pronoun, the full sentence would be "America has imposed financial sanctions that target critical industries after 9/11.".

Table 10

EFL TR Group: Embedding in UoA 1

Indices	Results (M)	Examples
relative clause modifiers per nominal subject	0.02	The questions, which will be explained through this thesis , are: what kind of political tools is being used by the USA in order to preserve its status quo at an

Indices	Results (M)	Examples
relative clause modifiers per nominal subject (no pronouns)	0.02	international relations platform. The veto powers used by the permanent members of the UN Security Council give them significant influence.
relative clause modifiers per direct object	0.04	The study analyzed the policies that shaped Turkey's foreign relations during the Cold War.
relative clause modifiers per direct object (no pronouns)	0.04	America has imposed financial sanctions targeting critical industries after 9/11.
relative clause modifiers per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per nominal	0.03	The framework that provided the basis for the discussion was outlined in the introduction.
relative clause modifiers per nominal (no pronouns)	0.03	The nexus between domestic political imperatives will be among the necessary components analysing the transformation of Poland to detect foreign policy re-orientation.
relative clause modifiers per object of the preposition	0.03	The papers presented in the workshop provided insights into challenges that shaped the policy agenda.
relative clause modifiers per object of the preposition (no pronouns)	0.03	That is why its existence played a significant role in the power transformation achieved peacefully in 1989.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Writers 44 and 56 never adopted relative clauses to modify NPs in the subject position. Also, Writer 44 did not have relative clause modifiers in the direct objects, the same as Writer 51. Writer 46 did not use relative clause modifiers per

prepositions in the object position. Except for these examples, all writers provided similar results with almost no or less than 0.05 discrepancies in all indices.

Unit of Analysis 2

Positions. This category addresses the functioning of NPs in sentences, including two subcategories named as subjects and objects.

Subjects. When a noun phrase is adopted as a subject, it is classified as a nominal subject. Table 11 shows that the nominal subjects without pronouns were assigned slightly more dependents than the same index with pronouns. A sentence adopting the regular index has “The depreciations of their national currencies” as the nominal subject, while the sentence with the no-pronoun index has “The actorness debate in international relations”. Both sentences seem close to each other as the first one’s structure is determiner + noun + prepositional phrase” and the structure of the latter is determiner + noun + noun + prepositional phrase. When reflected in numbers, the difference is only one dependent.

Table 11

EFL TR Group: Subjects in UoA 2

Indices	Results (<i>M</i>)	Examples
dependents per nominal subject	1.01	The depreciations of their national currencies increased inflation rates significantly.
dependents per nominal subject (no pronouns)	1.15	The actorness debate in international relations has focused on an actor’s legal, structural and behavioural aspects for a long time.
determiners per nominal subject	0.31	The economic downturn affected all industries.
determiners per nominal subject (no pronouns)	0.37	The policies of developing countries often face resistance.
adjectival modifiers per nominal subject	0.18	Economic challenges require adaptive strategies.
adjectival modifiers per nominal subject (no pronouns)	0.21	Global markets dictate the flow of investments.

Indices	Results (M)	Examples
prepositions per nominal subject	0.18	The success of these initiatives depends on mutual cooperation.
prepositions per nominal subject (no pronouns)	0.22	The evolution of the regional order in the post-Soviet space has been significant.
possessives per nominal subject	0.01	Its substantial emphasis on the relationship between discourse, geography, and power is one of the most significant contributions of critical geopolitics to the study of global politics.
possessives per nominal subject (no pronouns)	0.02	This term's Western policy concept was mainly defined by Celal Bayar, Adnan Menderes, Fuat Köprülü and Fatin Rüştü Zorlu.
nouns as a nominal subject dependent per nominal subject	0.15	The expansion of Russian influence in the region has drawn considerable attention.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.17	The effectiveness of multilateral agreements relies on mutual trust among member states.
verbal modifiers per nominal subject	0.01	Same as the no-pronouns index
verbal modifiers per nominal subject (no pronouns)	0.02	This term, dating back to the 1940s , has mostly been used for two states: the USA, and the Soviet Union.
relative clause modifiers per nominal subject	0.02	From my point of view, the Cold War atmosphere, which creates the bi-polar world , can be explained through neo-realist theory because it is the theory that explains emerging disagreements stemming from the clash of interests among states.
relative clause modifiers per nominal subject (no pronouns)	0.02	The natural resources discovered in the region in the 1990s and 2000s further increased the actual geostrategic and geo-economic importance of the Eastern Mediterranean.
(non-clausal) adverbial modifiers per nominal subject	0	NO EXAMPLES
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	During this period the European political modernity adopted within Ottoman institutions and bureaucracy, namely significant reforms in the areas of education, culture, judiciary, and society had been realized in accordance with the model of Europe.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Results also suggested that determiners were actively employed compared to other structures, while adverbial modifiers ranked the lowest in frequency. The rest is in order: prepositions, adjectives, and nouns.

The writers did not vary in any index of this category. However, there are minor differences in the use of pronouns in each index. It is shown that no-pronoun indices have mildly more frequent usage; for instance, there is a 0.03 discrepancy between adjectival modifier indices, no-pronoun index resulting in the higher number.

Objects. This category covers the NPs functioning as objects in a sentence. The objects could be classified as direct objects and indirect objects as shown in Tables 12 and 13 below.

The results suggest that direct objects are modified frequently compared to indirect objects, and the indices have a 0.01 discrepancy due to pronouns. Two examples might be provided “...analyzes sectarian identities in the Middle East” and “...describes Oman's independence in foreign policy decisions”, the structures are adjective + noun + prepositional phrase and possessive + noun + prepositional phrase.

In addition, writers follow a similar manner in which their individual results do not have a high discrepancy.

Table 12*EFL TR Group: Direct Objects in UoA 2*

Indices	Results (<i>M</i>)	Examples
dependents per direct object	1.69	It analyzes sectarian identities in the Middle East as the primary catalyst for the actions of regional and international actors.
dependents per direct object (no pronouns)	1.70	The end of the Cold War posed challenges to neorealist theory.
determiners per direct object	0.41	The theory aims to reveal the existing hierarchical power relations.
adjectival modifiers per direct object	0.38	Realism is one of the oldest and most dominant theories in international relations tradition.
prepositions per direct object	0.38	The article was built on the reviews of some influential works.
possessives per direct object	0.08	Moreover, the existing literature on the Omani foreign policy mainly focuses on examining the principles and characteristics of its foreign policy rather than exploring the dynamics of Oman's foreign policy.
verbal modifiers per direct object	0.04	Considering the first HDR published in 1990, the main objective of development is 'to create an enabling environment for people to enjoy long, healthy and creative lives.
nouns as a direct object	0.16	This article examines the philosophical roots of realism.
dependent per direct object		
relative clause modifiers per direct object	0.04	There have been some positive prospects for the MINT in that they have all future plans to be in the top ten economies of the world by the end of the first half of this century and although Turkey experienced hard times in the past, there are some economics analysts who are optimistic about Turkey's current position as viable in terms of investments due to Turkey's latest precautions of averting the times with depression.
(non-clausal) adverbial modifiers per direct object	0.01	Same as the no-pronoun index
determiners per direct object (no pronouns)	0.42	Neoclassical realism explains the foreign policy decisions.

Indices	Results (<i>M</i>)	Examples
adjectival modifiers per direct object (no pronouns)	0.39	The book highlights key elements of political realism .
prepositions per direct object (no pronouns)	0.40	The research analyzes the influence of domestic factors .
possessives per direct object (no pronouns)	0.08	Lefebvre describes Oman's independence in foreign policy decisions as 'maintaining freedom of action' and states that Qaboos was able to implement this independent policy after he got a grip on the internal situation by the end of the 1970s.
verbal modifiers per direct object (no pronouns)	0.04	It is conceivable to say that reports of the commissions such as 'the Brandt Commission-Independent Commission on International Development Issues' and the 'Brundtland Commission-The World Commission on Environment and Development' are examples of the first efforts aiming to tackle concerns similar to Human Development Report 1994 .
nouns as a direct object dependent per direct object (no pronouns)	0.16	Neorealism prioritizes the analysis of power structures .
relative clause modifiers per direct object (no pronouns)	0.04	The political reforms during the second half of 2010 in Turkey, had effects on the European Commission Progress Report, especially the accomplishment of the Copenhagen Criteria about the new Constitutional amendments carried out by AK Party .
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	The collapse of the Soviet Union in 1991 not only marked the end of the Cold War period but also left the USA as the only remaining superpower in the world politics.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Similar to the previous category of subjects, in this category, the use of determiners, prepositions, adjectival modifiers, and nouns was in the same order. Adverbial and relative clause modifiers, as well as the possessives, were the least frequently encountered structures in NPs as direct objects. Lastly, the results revealed a high degree of conformity that the writers in all indices of the current category followed very similar patterns.

As Table 13 shows NPs in indirect object positions do not provide balanced results in indices.

Table 13

EFL TR Group: Indirect Objects in UoA 2

Indices	Results (<i>M</i>)	Examples
dependents per indirect object	0.34	The agreements also provided for complex power sharing arrangements between the two communities and granted veto powers to the Turkish Cypriot community , which proves to be important to understand the 1963 December incident.
dependents per indirect object (no pronouns)	0.41	Same as the regular index
determiners per indirect object	0.14	Two of these objectives were related to foreign relations: make the EU decision making more efficient and give the EU more power to address foreign relations.
adjectival modifiers per indirect object	0.09	This lead to the USA –not wanting any conflicts between two NATO-ally countries- to send former US Secretary of State Cyrus Vance to conduct shuttle diplomacy between Greece and Turkey in order to make a ceasefire agreement possible.
prepositions per indirect object	0	NO EXAMPLES
possessives per indirect object	0	NO EXAMPLES
verbal modifiers per	0	NO EXAMPLES

Indices	Results (M)	Examples
indirect object		
nouns as an indirect object dependent per indirect object	0.07	The Senators recommended that the United States had to give full consideration to Soviet proposals if the chief aim was to achieve a good agreement and the quest for arms control opportunities had to be pursued otherwise, each side would be exposed to severe outcomes.
relative clause modifiers per indirect object	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object	0	NO EXAMPLES
determiners per indirect object (no pronouns)	0.17	Same as the regular index
adjectival modifiers per indirect object (no pronouns)	0.03	Same as the regular index
prepositions per indirect object (no pronouns)	0	NO EXAMPLES
possessives per indirect object (no pronouns)	0	NO EXAMPLES
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object (no pronouns)	0.11	Same as the regular index
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Although the table lists dependents per indirect object as the highest, individual results vary significantly. The average scores of 0.34 and 0.41 are reached

because the UoA 2 theses of seven writers fostered high frequency in this index. Writers 44, 53, 55, 56, 57, and 66 had results between 1.0 and 1.25. By comparison, the highest result was 2.0 scored by Writer 60. The example of dependents per indirect object was taken from Writer 60. In a revised version to improve clarity, the sentence is “The agreements granted veto powers to the Turkish Cypriot community.”, showing “veto powers” as the direct object and “the Turkish Cypriot community” as the indirect object. As an NP, “the Turkish Cypriot community” consists of a determiner and two adjectives modifying the noun community. Apart from these writers, the remaining twenty-four writers did not include any dependents in the indirect objects.

Determiners, adjectives, and nouns differed across writers as well. Although determiners are this category's most frequently employed modifiers, only ten writers use them with and without pronouns. Among them, nine of the results were below 0.5, while Writer 51 had a 1.0 score in both indices, and the no-pronoun index also had another 1.0 by Writer 62. Similarly, the result of adjectival modifiers comes from five writers, most of whom had scored lower than 0,5. Two writers, 60 and 66, scored 1.0. They also had the same result in the no-pronoun index.

The table indicates that adjectival modifiers and possessives had not been used. Nonetheless, only Writer 44 shows some samples of this structure, scoring 0.16 in both indices. There were no examples of relative clauses or verbal modifiers in the indirect object position in any of the selected theses. Therefore, the results are 0. Eight writers contributed to the data collected for nouns as dependents in the indirect object position. However, all of them scored lower than 0.5, which makes the index infrequently used. In addition, writer 45 showed a 1.0 score in the no-pronoun version of the index.

In a similar manner, there were not any traces of non-clausal adverbials, scoring 0, but it should be mentioned that writer 56 included this structure even though it was around 0.13.

Nominalizations. Focusing on nominal structures, this category resulted in higher scores for nominal complements. The dependents per nominal indices scored 1.42 and 1.44 without a significant change due to pronoun use whereas dependents per nominal complement indices averaged 2.97 and dropped by 0.11 without pronouns. The results might emphasize a high complexity as it might be inferred from the provided example by Writer 60 in the table. The part “as an area in which a sovereign state has special rights regarding the exploration and use of marine resources” in the sentence functions as a nominal complement. Considering that the complete sentence is “The exclusive economic zone is defined in the United Nations Convention on the Law of the Sea as an area in which a sovereign state has special rights regarding the exploration and use of marine resources, whether they be living or non-living.”, it is also possible to add that “whether they be living or non-living” is a part of the nominal complement too. In the most general sense, the structure is determiner + noun + relative clause + prepositional phrase + dependent clause. Including several layers, this example provides a valid representation of the modifications of nominal complements of UoA 2 in the TR group as the clauses and phrases embedded in the nominal complement have multiple modifiers. To clarify, the head noun is “area”, followed by a relative pronoun “in which” introducing the relative clause. The relative clause is composed of another NP, which is “a sovereign state” with determiner + adjective + noun structure, then, as the predicate of the relative clause there is a verb phrase “has special rights”. Adding more on the layers, “rights” is modified by a prepositional phrase that includes a noun phrase functioning

as an object of the preposition. Thus, the preposition “regarding” is modified by the NP “the exploration and use of marine resources”. The structure starts with a determiner and compound nouns, and ends with another prepositional phrase modifying the compound nouns. “Marine resources” acts as an object of the preposition with the structure of adjective + noun. The last component is the dependent clause, “whether they be living or non-living”. Although it is not a noun phrase, it is a noun clause modifying an NP embedded in a prepositional phrase which is embedded in another structure, all of which initially form the nominal complement.

Table 14

EFL TR Group: Nominalizations in UoA 2

Indices	Results (M)	Examples
dependents per nominal	1.42	The procedures for preparation of the annual budgets pursuant to Article 15 of the law of SPO were not carried out.
dependents per nominal complement	2.97	The exclusive economic zone is defined in the United Nations Convention on the Law of the Sea as an area in which a sovereign state has special rights regarding the exploration and use of marine resources , whether they be living or non-living.
dependents per nominal (no pronouns)	1.44	The principle of confidentiality may be suspended in the investigation of major offenses violating international law.
dependents per nominal complement (no pronouns)	2.86	As a matter of fact, this agreement had been regarded as a promising development towards a solution to the conflict.
nouns as a nominal dependent per nominal	0.17	After the announcement of curfew in Istanbul on May 1 by Martial Law Command , the preparations for the protest march were made for Izmir.
nouns as a nominal dependent per nominal (no pronouns)	0.17	The establishment of the Irish Republican Army also coincides with this period namely 1910s.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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The table illustrates that nominal complements are the most complex structures of this category, with 2.97 and 2.86 scores. The individual results mostly seem to be similar, but Writers 45 and 60 scored above the average, 3.49 and 3.32 in the no-pronoun version of the index, which suggests the existence of longer and more complicated sentences corresponding to this index as it was presented as an example in the table and explained earlier.

Dependents assigned to nominals and nouns as nominal dependents mildly differed in the use of pronouns but showed almost no discrepancy across the writers.

Passives. Analyzing the NPs in passive sentences or in agent roles, this category provides relatively consistent results across writers.

Table 15

EFL TR Group: Passives in UoA 2

Indices	Results (<i>M</i>)	Examples
dependents per passive nominal subject	1.29	The European Council's proposal for a worldwide pandemic pact was backed by more than 25 heads of state.
dependents per agent	1.64	This signified that it was to be led by a Greek Cypriot president who is also the religious leader of the community.
dependents per passive nominal subject (no pronouns)	1.40	The geography created by NATO is based on common interests such as economic and political development.
dependents per agent (no pronouns)	1.60	The Resolution 186 was adopted unanimously by the Security Council.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of

syntactic sophistication [Doctoral dissertation, Georgia State University].

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According to the table, the highest score belongs to the NPs acting as agents. Writers 45 and 60 differed from other writers of the index for scoring 2.14 and 2.47, which may suggest that agent NPs might be more elaborated.

NPs modified by passives demonstrate a consistent distribution except for Writer 61. While the group averages of the indices are 1.29 and 1.40, Writer 61 is below the averages with 0.78 and 0.93. This may indicate that the writer's reliance on passive structures is less frequent than others. In addition, when the pronouns are excluded, an observable increase is present. This may highlight that dependents per passive nominal subject are simpler, while the no-pronoun version offers an insight into more complex structures.

Modifications. This category presents the results of different modifiers such as determiners, adjectives, prepositions, possessives, verbs, relative clauses, and adverbs by focusing on both nominals and NPs as prepositional objects.

Table 16

EFL TR Group: Modifications in UoA 2

Indices	Results (M)	Examples
dependents per object of the preposition	1.44	This chapter aims to explain some of the key definitions regarding the delimitation of marine zones in the Eastern Mediterranean.
dependents per object of the preposition (no pronouns)	1.40	Turkey lies in a very important geographical and geopolitical position in the world.
determiners per nominal	0.39	Some of the practices fulfilled by JDP are sort of those that can only be achieved by a country that does regard itself as a strong middle or regional power.
adjectival modifiers per	0.28	The particularity of this decision is that

Indices	Results (<i>M</i>)	Examples
nominal		it demonstrates how the second Turkish military operation in Cyprus is viewed.
prepositions per nominal	0.26	So on 15th June 1996, Russia, China, Kazakhstan, Kyrgyzstan, and Tajikistan come together in the city of Shanghai in China to solve the issue.
possessives per nominal	0.04	The EU's inability to integrate effectively in the Kosovo Crisis, and its inability to interfere with humanitarian aims in the post-Kosovo period pushed the EU leaders to act considerably on the CSDP.
verbal modifiers per nominal	0.02	In this sense, the very first goal of conflict resolution lies in its capabilities to help to parties in analyzing the reasons of the conflict and develop methods for changes in the conflictual environment.
relative clause modifiers per nominal	0.03	Nevertheless, at times, countries frame their reference point well-above status-quo which might lead the key individuals in these countries to have a constant perception of loss from their aspiration point and, thereby, prompt them to take higher risks in the international system.
(non-clausal) adverbial modifiers per nominal	0.01	These newly emerging state elites used diplomacy as a modern method of carrying foreign relations to defense not only the interest of the Empire but the territories also.
determiners per nominal (no pronouns)	0.40	The SCO also started the procedures for Iran's accession , which would take a considerable amount of time .
adjectival modifiers per nominal (no pronouns)	0.30	The Mediterranean is an ancient geography that has witnessed many civilizations and contributed to the scientific, artistic, and cultural progress of humanity .
prepositions per nominal (no pronouns)	0.26	The modern states in the area are generally post-colonized ones who still are under the influence of tribe, ethnicity, and religion.
possessives per nominal (no pronouns)	0.04	Same as the regular index
verbal modifiers per nominal (no pronouns)	0.02	With these techniques, the parties have the utility of going beyond arguing about positions by searching for underlying interests of each conflicting parties .

Indices	Results (M)	Examples
relative clause modifiers per nominal (no pronouns)	0.03	On the basis of the definitions provided by most dictionaries , discourse may appear in different forms of communication.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	Similar examples to the regular index
determiners per object of the preposition	0.41	There is still a lack of literature on the dynamics of its foreign policy .
adjectival modifiers per object of the preposition	0.29	Prior to his victory, the kernel of his program was based on pursuing a two-pronged pattern .
prepositions per object of the preposition	0.24	Constructivism claims that such anarchy is the result of the actors' perception .
possessives per object of the preposition	0.03	Although Oman has become scholarly attractive concurrently with the rise in its peaceful diplomatic initiatives as good office missions between conflicting parties in the Middle East and beyond, there is still a lack of literature on Oman, its foreign policy, and particularly on the dynamics of its foreign policy.
verbal modifiers per object of the preposition	0.02	During the process of building a foreign policy , a choice is made among various policy instruments by evaluating the pros and cons of all alternative foreign policy instruments, their results and their long-term returns.
nouns as an object of the preposition dependent per object of the preposition	0.17	The self is not the only actor behind its decisions .
relative clause modifiers per object of the preposition	0.03	Likewise, the scope of politics and the realities that exist might cover platforms ranging from institutions to places where wars, conflicts or peace can be observed .
(non-clausal) adverbial modifiers per object of the preposition	0	NO EXAMPLES
determiners per object of the preposition (no pronouns)	0.41	The rationale behind the decision was based upon the idea of solidifying European deterrence .
adjectival modifiers per object of the preposition (no pronouns)	0.29	Turkey signed agreements with neighboring countries .
prepositions per object of the preposition (no	0.24	Although they addressed that SALT II was adequate to satisfy critical demands of

Indices	Results (M)	Examples
pronouns)		European allies.
possessives per object of the preposition (no pronouns)	0.03	Regarding the origins of Oman's independent foreign policy , several views are expressed in the literature.
verbal modifiers per object of the preposition (no pronouns)	0.02	With the USA, UK and other Allied states implementing similar legal regulations to punish those who do business with Axis states, territories where sanctions would have legal consequences rapidly expanded and Axis states were successfully isolated.
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.17	This thesis will contribute to the literature by drawing a comprehensive framework of domestic and systemic factors.
relative clause modifiers per object of the preposition (no pronouns)	0.03	Van Dijk also states that individuals improve themselves and learn by interacting with others in contexts providing opportunities for dialogue.
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Dependents per object of the prepositions are 1.44 and 1.40 for the no-pronoun index. According to the individual analysis results, the writers share common tendencies in the index with less than 0.5 difference. The first example in the table “This chapter aims to explain some of the key definitions regarding the delimitation of marine zones in the Eastern Mediterranean.” presents a valid sentence for the dependents per of the preposition, including two prepositional phrases. The head noun is “definitions”, a part of an NP with determiner + preposition +

determiner + adjective + noun structure. Then, it is modified by the prepositional phrase “regarding the delimitation of marine zones”. The object of the preposition here is “the delimitation,” which is also modified by a determiner and a following prepositional phrase with its own object consisting of adjective + noun (marine zones). Another prepositional phrase modifying the previous NP as a prepositional object, “in the Eastern Mediterranean”, includes an NP as an object of the preposition. “Mediterranean” acts as a head noun, modified by a determiner and an adjective. Shortly, having the highest average of the category, it is likely that prepositional objects might have multiple layers.

The results also revealed that indices of determiner use share common patterns. Determiners modifying nominals are 0.39 and 0.40, the no-pronoun index being the higher. Similarly, determiners modifying the object prepositions are 0.40 and 0.41. The writers in all four indices seem to show similar levels of complexity as the average discrepancy in each writer is less than 0.3.

Nominals modified by adjectives seem to be the second most common structure, scoring 0.28 and 0.30 without pronouns. A similar result arose when adjectives per object prepositions were calculated, both indices scoring 0.29. Results also show that the discrepancy between writers in all indices is less than 0.3.

Prepositional modifiers per nominals are 0.26 with and without pronouns, while the same modifiers show a mild decrease in object prepositions by 0.24. In addition, it is significant to highlight that these four indices had a discrepancy of less than 0.1. That is, the writers were highly consistent, and almost all employed similar complexity levels in these structures.

As shown in the table, possessives, verbs, and relative clauses were rarely employed by the group in each index of this category. Possessives are 0.04 in both

nominal indices, while they foster a slight decrease in the object preposition scoring 0.03. Verbal modifiers, regardless of their functions, whether per nominal or object of the preposition and the pronoun use, scored 0.02, the same as the relative clause modifiers with 0.03. In four categories, the highest discrepancy was less than 0.03 indicating a strong consistency of the use.

Unlike the rare use of other modifiers, the results for nouns modifying prepositional objects scored 0.17 with and without pronouns, showing only a 0.09 discrepancy. However, non-clausal adverbials in the same modifying positions did not provide generalizable results due to rare use.

Embedding. Analyzing relative clause modifiers in NPs with various functions, this category yielded relatively low scores.

Table 17

EFL TR Group: Embedding in UoA 2

Indices	Results (<i>M</i>)	Examples
relative clause modifiers per nominal subject	0.02	From my point of view, the Cold War atmosphere, which creates the bi-polar world , can be explained through neo-realist theory because it is the theory that explains emerging disagreements stemming from the clash of interests among states.
relative clause modifiers per nominal subject (no pronouns)	0.02	The natural resources discovered in the region in the 1990s and 2000s further increased the actual geostrategic and geo-economic importance of the Eastern Mediterranean.
relative clause modifiers per direct object	0.04	There have been some positive prospects for the MINT in that they have all future plans to be in the top ten economies of the world by the end of the first half of this century and although Turkey experienced hard times in the past, there are some economics analysts who are optimistic about

Indices	Results (M)	Examples
		Turkey's current position as viable in terms of investments due to Turkey's latest precautions of averting the times with depression.
relative clause modifiers per direct object (no pronouns)	0.04	The political reforms during the second half of 2010 in Turkey, had effects on the European Commission Progress Report, especially the accomplishment of the Copenhagen Criteria about the new Constitutional amendments carried out by AK Party.
relative clause modifiers per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per nominal	0.03	Nevertheless, at times, countries frame their reference point well-above status-quo which might lead the key individuals in these countries to have a constant perception of loss from their aspiration point and, thereby, prompt them to take higher risks in the international system.
relative clause modifiers per nominal (no pronouns)	0.03	On the basis of the definitions provided by most dictionaries , discourse may appear in different forms of communication.
relative clause modifiers per object of the preposition	0.03	Likewise, the scope of politics and the realities that exist might cover platforms ranging from institutions to places where wars, conflicts or peace can be observed.
relative clause modifiers per object of the preposition (no pronouns)	0.03	Van Dijk also states that individuals improve themselves and learn by interacting with others in contexts providing opportunities for dialogue.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Relative clause use in noun phrases is not a common feature in UoA 2 of the EFL TR group. As all writers consistently preferred rare use of the structure, the highest frequency could be observed in relative clauses modifying the NPs in object position by 0.04 while the object of the preposition follows them with a decrease to 0.03 and nominals as 0.02. Lastly, there was not any use of relative clauses to modify NPs as indirect objects.

Unit of Analysis 3

Positions. This category will present results of NPs which function as subjects or objects within the sentences, and their modifiers.

Subjects. This subcategory focuses on noun phrases with the subject function. The primary findings suggested the possibility of using more academic language as the no-pronoun indices consistently scored higher in all indices and among all writers.

Table 18

EFL TR Group: Subjects in UoA 3

Indices	Results (<i>M</i>)	Examples
dependents per nominal subject	0.9	The multilateral diplomatic negotiations shaped Turkey's approach to international conflicts.
dependents per nominal subject (no pronouns)	1.44	The analysis of migration trends in Europe was presented in detail.
determiners per nominal subject	0.30	The political context of Turkey's ruling elite from the beginning of the conflict to date is important to study in order to understand the foreign policy decisions that were made regarding the developments on the international scene.
determiners per nominal subject (no pronouns)	0.36	The official website of the Republic of Turkey Ministry of Foreign Affairs offers a vast archive consisting of official

Indices	Results (M)	Examples
adjectival modifiers per nominal subject	0.17	ministry statements. The official government statements regarding the issue framed the foreign policy discourse in a securitization context.
adjectival modifiers per nominal subject (no pronouns)	0.20	The comprehensive foreign policy framework laid out by Ankara marked a significant change in its international stance.
prepositions per nominal subject	0.18	The framework of Turkey's approach to regional conflicts has evolved significantly over the last decade.
prepositions per nominal subject (no pronouns)	0.21	The assessment of security risks highlighted gaps in the framework.
possessives per nominal subject	0.02	In the second part, Oman's geopolitics and its hydrocarbon-based economy will be analyzed in terms of their limitations imposed and opportunities provided for Oman's foreign policy-making process.
possessives per nominal subject (no pronouns)	0.02	Sultan Qaboos's determining role in foreign policy decisions of his country is an undeniable fact that many scholars have agreed on it.
nouns as a nominal subject dependent per nominal subject	0.15	The policy decisions framework lacked clarity.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.18	The foreign policy agenda in recent years has prioritized regional stability.
verbal modifiers per nominal subject	0.01	The Iraqi Turkmen Front, having offices in all places where Turks live in Iraq , and representations in important centers abroad, has held 5 Great Turkmen Congresses since 1997.
verbal modifiers per nominal subject (no pronouns)	0.02	The Turkmen Brotherhood Association, established in Baghdad in 1960 , continued to function until 1977.
relative clause modifiers per nominal subject	0.02	The Iranian administration, which was already in a difficult situation , was stuck in a corner as a result of these developments.
relative clause modifiers per nominal subject (no pronouns)	0.02	The sanctions targeting specific individuals and sectors enabled the JCPOA negotiations to be successful.
(non-clausal) adverbial modifiers per nominal subject	0	NO EXAMPLES
(non-clausal) adverbial	0	NO EXAMPLES

Indices	Results (<i>M</i>)	Examples
modifiers per nominal subject (no pronouns)		

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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To reiterate, the majority of the findings in this category suggest a steady increase in the phrasal complexity in no pronoun indices. Dependents per nominal subjects scored 0.9, and the writers did not differ from each other in use; however, when the pronouns are not included, this score increases to 1.44. Determiners attached to nominals were 0.30 and 0.36 without pronouns, in the subject position, writers did not show any variations in use. Adjectives modifying the nominal subjects are relatively used less frequently in this unit of analysis by 0.17 and 0.20 without pronouns, with the writers following a consistent use. Prepositions are 0.18 and 0.21, with the complexity increasing slightly in the no-pronoun index again. Although the use of prepositions is around 18-20 instances per 100 noun phrases in the subject position, contrary to other writers following a consistent manner, Writer 44 did not use any examples of the index by scoring 0. Unlike the common pattern observed in this unit of analysis with the mild increase of complexity in no-pronoun indices, the use of possessives did not show any difference between the indices or the writers due to scoring 0.02 in both. The use of nouns also differed with regard to pronouns by 0.03. While the score is 0.15, it increases to 0.18 in the no-pronoun index. Verbal modifiers, although their use is infrequent, showed a similar increase by 0.01. Hence, while the score of 0.01 was observed, the non-pronoun index

showed 0.02, with all writers sharing the same characteristics except Writer 64, who never used verbal modifiers in nominal subjects. Relative clauses in the same position scored 0.02 in both indices and the writers were consistent in use except for the Writer 40. The results of adverbials were shown as 0 even though some theses included around 2-3 instances per 1000 phrases.

Objects. As a subcategory of the positions, objects analyze the NPs as direct and indirect objects. Similar to the previous units, direct and indirect objects showed different results but compared to the nominal subjects, it might be observed that direct objects were more elaborated.

Table 19

EFL TR Group: Direct Objects in UoA 3

Indices	Results (<i>M</i>)	Examples
dependents per direct object	1.74	Turkey regards exclusive economic zone delimitation agreements as the usurpation of its rights under international law.
dependents per direct object (no pronouns)	1.73	Turkey considers the exclusion of hydrocarbon resources from projects to international markets as a hostile attitude.
determiners per direct object	0.41	The USA announced the suspension of military aid to Turkey after the Cyprus intervention.
adjectival modifiers per direct object	0.40	Turkey views important hydrocarbon discoveries as opportunities for international cooperation.
prepositions per direct object	0.38	Turkey considers the allocation of hydrocarbon resources to international markets as an essential policy goal.
possessives per direct object	0.08	Turkey had to consider its extensive defense requirements because of having sea and land border with the Soviet Union, long border with Iraq and Syria and naval arms need for protecting very long sea costs from the Mediterranean to the Black Sea.
verbal modifiers per direct object	0.04	The policy targets individuals attempting to cross the border illegally .

Indices	Results (M)	Examples
nouns as a direct object dependent per direct object	0.18	The administration emphasized policy measures for regional stability as crucial for the peace process.
relative clause modifiers per direct object	0.03	Turkey has also demonstrated these defense breakthroughs with the S-400, which offered an important advantage to protect itself from the dangers around it.
(non-clausal) adverbial modifiers per direct object	0.01	The policy targets individuals attempting to cross the border illegally.
determiners per direct object (no pronouns)	0.42	Turkey highlighted the importance of safeguarding Cypriot Turks' rights during negotiations.
adjectival modifiers per direct object (no pronouns)	0.41	On the other hand, they experienced critical times and serious crises when a disagreement broke out between the two.
prepositions per direct object (no pronouns)	0.39	After the first golden age, the first serious crisis was the disagreement in the 1960s due to the Cyprus issue, which resulted in the Johnson Letter on 5 June 1964 and US embargo in 1975.
possessives per direct object (no pronouns)	0.09	Foreign Minister Tevfik Rüştü Bey expressed Turkey's desire to join in Pact to the US Ambassador.
verbal modifiers per direct object (no pronouns)	0.04	The referendum held in Turkey on April 16, 2017, resulted in constitutional changes modifying the structures of the state.
nouns as a direct object dependent per direct object (no pronouns)	0.19	The USA imposed trade sanctions on Turkey during the crisis.
relative clause modifiers per direct object (no pronouns)	0.04	The only systems supplied in this class to date are the MIM-3 Nike Ajax transferred from the US in 1955 and the Nike Hercules missiles transferred in 1959.
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Being relatively complicated due to scoring 1.74, dependents of direct objects show a mild decrease in the no-pronoun index by 1.73. The average score of the group might be represented as in the following example in the individual results: Turkey regards exclusive economic zone delimitation agreements as the usurpation of its rights under international law. “Exclusive economic zone delimitation agreements” is the object of the sentence. Being an NP, it includes two adjectives and 2 nouns modifying the head noun “agreements”.

However, determiners in the same position are slightly less frequent in no-pronoun index by 0.42 while the other is 0.40; followed by adjectives, prepositions, and possessives in an opposite manner. Adjectival modifiers are 0.40 and 0.41 while prepositions are 0.38 and 0.39. Possessives are 0.08 and 0.9. Verbal modifiers, on the other hand, did not vary between indices both of them being 0.04, same as the non-clausal adverbial modifiers which scored 0.01, being the least frequently used structure of the category. Although writers shared similar characteristics in the use of the mentioned indices, only the use of verbal and adverbial modifiers was not employed by Writer 44.

For the indirect object position, the occurrence of the similar structures decreases drastically as it could be inferred from the results below.

Table 20

EFL TR Group: Indirect Objects in UoA 3

Indices	Results (M)	Examples
dependents per indirect object	0.23	First, the reasons such as Turkey being one of the founding members of the United Nations and then joining NATO in 1952 by sending soldiers to the Korean

Indices	Results (M)	Examples
		War made the country a part of the Western Bloc, especially during the Cold War, and defense diplomacy activities were used in this context.
dependents per indirect object (no pronouns)	0.27	Same as the regular index
determiners per indirect object	0.13	However, this approach would have cost the Soviets more than they imagined because President Reagan, adept at public diplomacy and image, articulated that the Soviet Union came up with a proposal of fifty percent reductions which put pressure on them because turning back from this offer would cause ebbing of Soviet image throughout the world on arms reductions as a side that did not want an agreement.
adjectival modifiers per indirect object	0.04	This issue became a fixed notion of a diverse range US related statement giving even neutral statements a reactive twist.
prepositions per indirect object	0	NO EXAMPLES
possessives per indirect object	0	NO EXAMPLES
verbal modifiers per indirect object	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object	0.04	After having convinced the Turkish and Turkish Cypriot public opinions of the urgency of the situation, Turkey signed a Continental Shelf Delimitation Agreement and an EEZ agreement with TRNC in September and November 2011 respectively, the latter granting Turkish Petroleum Corporation the license to search for hydrocarbons in TRNC's jurisdiction.
relative clause modifiers per indirect object	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object	0	NO EXAMPLES
determiners per indirect object (no pronouns)	0.18	The aftermath of the 1960 coup d'état got the military a seat on the foreign policy-making table.
adjectival modifiers per indirect object (no pronouns)	0.04	Same as the regular index
prepositions per indirect	0	NO EXAMPLES

Indices	Results (M)	Examples
object (no pronouns) possessives per indirect object (no pronouns)	0	NO EXAMPLES
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object (no pronouns)	0.05	Same as the regular index
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Indirect objects include 23 dependents per 100 phrases with a score of 0.23, while the no-pronoun index is 0.27. Although these numbers may suggest a mediocre level of complexity, the writers differ from each other drastically. Among 31 writers, 21 of them did not present any dependents in indirect object. Nevertheless, Writers 52 and 63 scored 1.0 and Writer 60 scored 2.0 while the rest varied between 0.2 and 0.5. Although there was a common pattern in the no-pronoun index, Writers 53 and 67 doubled their use from 0.5 and 0.3 to 1.0. Determiners, scoring 0.13, similarly showed a variation in use both among the writers and between the indices. The no-pronoun index is 0.18. Writers 52 and 63 employed determiners significantly more frequently than other writers, scoring 1.0. 23 writers did not use determiners; the rest varied between 0.1 and 0.5. For the use of determiners with no pronouns, a similar

variation occurred between the writers. Same as the other index, 23 writers did not use the index. However, Writers 52, 53, 63 and 67 applied the index frequently by scoring 1.0 while the remaining four other writers ranged from 0.25 to 0.5.

Adjectival modifiers were found 4 times per 100 phrases, being 0.04 and stayed the same in the no-pronoun index, but this is a result of Writers 54 and 60 as the first one scored 0.5 and the second one is 1.0 while other writers did not provide any results for the relevant indices. In addition, prepositions, possessives, verbs, relative clauses, and non-clausal adverbials were not present in the indirect object positions used in the current unit whereas nouns were adopted by three writers resulting in 0.04. Writer 46 scored 0.33, Writer 56 scored 0.14 and 0.25, and Writer 60 scored 1.0 indicating a frequent use of the structure.

Nominalizations. This category shares the results regarding the indices analyzing nominalizations. The results revealed various structures that could be classified under different indices as well. Starting from one of the most general indices, dependents per nominal, the example given in the table indicates that the target structures might be complex. To elaborate, the sentence “The emergence of the USA as the only global power and its attempt to define and implement its hegemony in terms of politics, military, and economy within the context of the 'New World Order' are some of the important factors in this change.” includes many nominal dependents that could be analyzed. “The emergence of the USA as the only global power” and “its attempt to define and implement its hegemony in terms of politics, military, and economy within the context of the “New World Order” are the nominals in the sentence. The first one’s head noun is “emergence”. The structure is determiner (the) + noun (emergence) + prepositional phrase (in the USA). The prepositional phrase consists of an NP with the structure of determiner + noun. Then,

the same head noun “emergence” is modified by another prepositional phrase “as the only global power”, which has an NP as its object. This prepositional phrase has preposition (as) + determiner (the) + adjective (only) + adjective (global) + noun (power) structure. Thus, in total, the first nominal has 4 dependents.

The second and a relatively long nominal is “its attempt to define and implement its hegemony in terms of politics, military, and economy within the context of the New World Order”. The head noun is “attempt”. It has two direct dependents and eight more due to modifying structures, consequently having 10 dependents in total. To expand on this point, the head noun is modified by a possessive (its) and an elaborated infinitive clause. The infinitive clause is also internally a verb phrase that adds to the complexity. The verb phrase in the infinitive clause is “to define and implement”. Its direct object is “its hegemony”, an NP of possessive + noun. The object is further modified by two prepositional phrases, each of which included its own dependents. The first prepositional phrase is “in terms of politics, military, and economy” as the head preposition “in terms of” is followed by a coordinated NP that has no modifiers. The second prepositional phrase “within the context of the New World Order” starts with a preposition and followed by an NP object. The head noun is “context” modified by a determiner (the) and a prepositional phrase (of the New World Order), which could be divided into preposition + determiner + adjective + compound noun structure. The sentence also contributes to the complexity of nominal complements as these analyzed examples can also function as complements due to their meanings.

Table 21*EFL TR Group: Nominalizations in UoA 3*

Indices	Results (M)	Examples
dependents per nominal	1.43	The emergence of the USA as the only global power and its attempt to define and implement its hegemony in terms of politics, military, and economy within the context of the 'New World Order' are some of the important factors in this change.
dependents per nominal complement	3.06	Russia was not accepted as an equal power in this new political order despite Russia's expectation to be seen as such.
dependents per nominal (no pronouns)	1.44	The Agreement included the principle of respect for the autonomy and cultural equality of each community .
dependents per nominal complement (no pronouns)	2.93	An important reason behind the inability of IRA to gradually disarm after the Agreement was the idea that disarmament would be accepted as a defeat for the Republicans .
nouns as a nominal dependent per nominal	0.17	The Agreement also addressed freedom of religion and freedom of worship , emphasizing equal opportunities.
nouns as a nominal dependent per nominal (no pronouns)	0.18	Efforts by both local and central authorities were important in rebuilding trust between the two communities.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Dependents assigned to nominals scored 1.43 and 1.44 in the no-pronoun index, posing a relatively frequent use, while writers did not differ in use. Nominal complements, being the most modified structures in this unit of analysis, were followed by 3 dependents on average, scoring 3.06 but decreasing to 2.93 in the no-

pronoun index, though writers did not vary in use. Nouns as nominal dependents modifying other nominals scored 0.17 and 0.18, not varying again.

Passives. This category presents the results of NPs in passive constructions by focusing on nominal subjects and agents.

Table 22

EFL TR Group: Passives in UoA 3

Indices	Results (<i>M</i>)	Examples
dependents per passive nominal subject	1.28	Such progress gained through Egypt was expected to create a domino effect in the region.
dependents per agent	1.57	The sanctions were supported by European nations.
dependents per passive nominal subject (no pronouns)	1.39	The Israeli right of free passage was guaranteed by Egypt.
dependents per agent (no pronouns)	1.55	Six of the attackers were killed by Israeli Defense Forces.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The dependents following passive nominal subjects were 1.28 and 1.39 for the no-pronoun index, and the writers were consistent with each other. Yet, dependents per agents, scoring 1.57 and 1.55, showed approximately 0.5 discrepancy in five writers, all of whom scored above 2.0. Writer 40 scored 2.2, while Writers 54 and 66 both scored 2.11 in addition to Writers 55 and 67 who scored 2.06 and 2.04. None of the writers followed a different pattern in the no-pronoun index.

Modifications. Presenting detailed insights into NP complexity with different modifiers, this category yielded consistent results among the writers when analyzed

individually. In addition, the average scores for dependents per object of the preposition suggested a potential for multi-layered structures due to scoring 1.45. For instance, “The breakdown between different types of statements has the potential to offer insights about the shaping of the public discourse of the Ministry throughout the decade.” shows three prepositional objects. These are “the breakdown between different types of statements”, “insights about the shaping of the public discourse of the Ministry”, and “throughout the decade”. Each occurrence shows a different level of complexity. To explain further, the structures of the provided examples consist of various components that affect their complexity. The first occurrence “...between different types of statements” is composed of a preposition followed by an adjective + preposition + noun structure, “types” acting as the head noun while it is modified by adjective “different” and another prepositional phrase “of statements”. The second instance “...about the shaping of the public discourse of the Ministry” includes an NP as its object which is elaborated more compared to other instances in the sentence. The head noun is “shaping” modified by a determiner and another prepositional phrase. This modifying prepositional phrase also has its own NP object which is further modified by another prepositional phrase with an NP as its object. That is, in addition to a determiner (the), the head noun is modified by a prepositional phrase composed of a preposition (of) + determiner (the) + adjective (public) + discourse (noun). The object of this prepositional phrase is further modified by a preposition (of) + determiner (the) + noun (Ministry). The third, and relatively a simple occurrence is “throughout the decade”, with the head noun “decade” and determiner “the” modifying it. Hence, the second instance is the most complex NP as an object of the preposition while the first instance is the second most complex and the third is the least complex one in the sentence, all of which

contributed to the collected average score for the dependents per object of the preposition.

Table 23

EFL TR Group: Modifications in UoA 3

Indices	Results (M)	Examples
dependents per object of the preposition	1.45	The breakdown between different types of statements has the potential to offer insights about the shaping of the public discourse of the Ministry throughout the decade.
dependents per object of the preposition (no pronouns)	1.40	The main task of this Council is to establish and develop the relations between the North and South of the Irish island.
determiners per nominal	0,39	Turkey's developing relations with its neighbors signify an important transformation.
adjectival modifiers per nominal	0,28	The increasing numbers of overall press releases and changing frequencies of QAs could signify a greater effort by the Turkish Foreign Ministry to steer the public perception in its favor and to react to the fast-paced international developments.
prepositions per nominal	0,28	The Pact represented a removal of a constant source of anxiety on Turkey's eastern frontiers.
possessives per nominal	0,04	Turkey's economic and political rise, and its relative recognition within its region and in the international organizations were misread by the state elites and brought about quixotic expectations for the future of the country.
verbal modifiers per nominal	0,02	Japan announced plans to contribute 500 million yen for the establishment of the Human Security Fund.
relative clause modifiers per nominal	0,03	On the one hand, the great ancient civilizations or empires had the vertical and hierarchic rule of governing within their realms; on the other hand, the modern single international system has established a decentralized and anarchic order which compels the states to interact with one another in harmony with their sovereignty principle.

Indices	Results (M)	Examples
(non-clausal) adverbial modifiers per nominal	0,01	Such a sensitive experience and an approval of settlements in this area carry a potential of affecting the positive steps to peace in an adverse way.
determiners per nominal (no pronouns)	0,40	The Haagerup Report is the very first initiative of the EU in the resolution of Northern Ireland conflict.
adjectival modifiers per nominal (no pronouns)	0,29	The increased polarization of the statements could be better contextualized in the backdrop of a growing number of US-related statements.
prepositions per nominal (no pronouns)	0,27	The Agreement has openly stressed the issues on power sharing in management, proportion in elections, social autonomy, equality, minority rights as well as veto power of the parties.
possessives per nominal (no pronouns)	0,04	International security cooperation became imperative in after 1930, Turkey's interest in the League of Nations also increased.
verbal modifiers per nominal (no pronouns)	0,02	Obuchi stated Japan's readiness to contribute funds for projects implemented by UN organisations.
relative clause modifiers per nominal (no pronouns)	0,18	The concept of the structure is simply defined as the arrangement/positions of parts in the system constraining and disposing force across the units/states.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0,01	Same as the regular index
determiners per object of the preposition	0,41	The most remarkable attempt on the road to democratization was set with the implementation of a new constitution , which was drafted mainly by the United States.
adjectival modifiers per object of the preposition	0,28	This loan was granted to Turkey at 4.25% interest, with the condition of repayment over 19 years after a 7-year interval.
prepositions per object of the preposition	0,25	This thesis aims to understand the EU's identity through its words.
possessives per object of the preposition	0,04	Sultan Qaboos's determining role in foreign policy decisions of his country is an undeniable fact that many scholars have agreed on it.
verbal modifiers per object of the preposition	0,02	It is reported that under Donald Trump's proposal, the illegal Jewish settlements on Palestinian lands will become part of Israel, showing the Jewish settlements behind the wire fences.

Indices	Results (M)	Examples
nouns as an object of the preposition dependent per object of the preposition	0,17	In this thesis I have argued that Armenia's experience in the 2020 Artzakh war is can be understood in terms of several themes that could be identified throughout my interviews: how Armenian family history is shaped by ethnic cleansing, cyber warfare, mental and physical health challenges, possibilities for peace, and modes of resilience.
relative clause modifiers per object of the preposition	0,03	The first association established by Iraqi Turks was the Iraqi Turks Culture and Solidarity Society, founded by Iraqi Turkish students who came to Turkey to study.
(non-clausal) adverbial modifiers per object of the preposition	0	NO EXAMPLES
determiners per object of the preposition (no pronouns)	0,41	Another relationship developed with Syria during this period was related to the terrorists who fled to Syria after the 12 September 1980 coup d'état.
adjectival modifiers per object of the preposition (no pronouns)	0,28	The number of principled pragmatism statements in this report is more than double of pragmatic and value-based statements combined.
prepositions per object of the preposition (no pronouns)	0,25	Principled pragmatism is not a new concept but there are still some gaps in the literature in the context of foreign relations of the EU.
possessives per object of the preposition (no pronouns)	0,04	One of the reasons behind Qaboos' principle of non-interference in internal affairs of other countries was that he did not want to attract any hostility from any sect or group that could affect his country's national security.
verbal modifiers per object of the preposition (no pronouns)	0,02	It is seen that Al Arabiya tries to explain the plan especially to the Muslim and Arab public, by giving a voice to the sources close to the plan.
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0,17	Given the current levels of hatred , aided and abetted by the governments of Turkey and Azerbaijan, such a suggestion in all but wild fantasy.
relative clause modifiers per object of the preposition (no pronouns)	0,03	Same as the regular index
(non-clausal) adverbial modifiers per object of	0	NO EXAMPLES

Indices	Results (M)	Examples
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the preposition (no
pronouns)

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The results of dependents per object of the preposition suggested 1.45 while 1.40 was observed without pronouns and there was only a 0.1 discrepancy between the writers. Determiners were found 39 times in every 100 phrases and the number became 0.40 in the no-pronoun index. Adjectives and prepositions per nominals had been adopted in the same frequency, both of which scored 0.28 but they differed without pronouns. Adjectives showed a 0.1 increase, while the contrary was observed in the prepositions. Although possessives, verbal, non-clausal adverbials, and relative clause modifiers were encountered less frequently and did not differ based on pronoun use compared to other indices by scoring less than 0.05 in most cases, the use of relative clause modifiers per nominal without pronouns revealed a drastic difference in use by increasing from 0.03 to 0.18. However, the writers did not have a significant discrepancy in any of the mentioned indices. Adverbials, sharing a similar result as the previous units, became the least frequently used structure among the nominals, presenting 1 instance per 100 phrases.

The prepositional objects were mostly modified by determiners compared to other indices by scoring 0.41 without a difference when pronouns are excluded. Adjectival modifiers being the second most common modifier on prepositional objects were observed as 0.28 in both indices, followed by prepositions with 0.25,

and nouns as an object of the preposition dependent by 0.17. Possessives, verbal, and relative clause modifiers reported less complicated results in both indices, without discrepancies between writers. Non-clausal adverbials scored 0 on average.

However, each writer employed them around once per one thousand phrases.

Embedding. Adding depth to the sentences by creating multiple layers in the structures, this category solely focuses on relative clause modifiers modifying NPs in different functions such as nominal subjects, prepositional objects, direct objects, indirect objects, or just nominals.

Table 24

EFL TR Group: Embedding in UoA 3

Indices	Results (<i>M</i>)	Examples
relative clause modifiers per nominal subject	0.02	The Iranian administration, which was already in a difficult situation , was stuck in a corner as a result of these developments.
relative clause modifiers per nominal subject (no pronouns)	0.02	The sanctions targeting specific individuals and sectors enabled the JCPOA negotiations to be successful.
relative clause modifiers per object of the preposition	0.03	Turkey has also demonstrated these defense breakthroughs with the S-400, which offered an important advantage to protect itself from the dangers around it.
relative clause modifiers per object of the preposition (no pronouns)	0.03	The only systems supplied in this class to date are the MIM-3 Nike Ajax transferred from the US in 1955 and the Nike Hercules missiles transferred in 1959.
relative clause modifiers per direct object	0.03	On the one hand, the great ancient civilizations or empires had the vertical and hierarchic rule of governing within their realms; on the other hand, the modern single international system has established a decentralized and anarchic order which compels the states to interact with

Indices	Results (M)	Examples
		one another in harmony with their sovereignty principle.
relative clause modifiers per direct object (no pronouns)	0.04	The concept of the structure is simply defined as the arrangement/positions of parts in the system constraining and disposing force across the units/states.
relative clause modifiers per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per nominal	0.03	The first association established by Iraqi Turks was the Iraqi Turks Culture and Solidarity Society, founded by Iraqi Turkish students who came to Turkey to study.
relative clause modifiers per nominal (no pronouns)	0.18	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Relative clause modifiers of this UoA were observed to be less complex and infrequent in general. Nominal subjects scored 0.02 in both indices but only Writer 40 did not provide any results. Prepositional objects scored 0.03 with no change when pronouns were excluded. Relative clause modifiers per direct objects scored 0.03 and 0.04 without pronouns. While indirect objects did not show any results, nominals resulted in considerably different scores due to pronoun use. The score was 0.03 but increased to 0.18 when pronouns were excluded. Writers did not differ from each other using the indices of this category.

Unit of Analysis 4

Positions. This category shares the results of indices analyzing the NPs functioning as subjects or objects of the sentences by studying the overall number of dependents on average and modifiers such as determiners, adjectives, prepositions, possessives, verbs, nouns, relative clauses, and non-clausal adverbs.

Subjects. The focus of this subcategory is to study the complexity of nominal subjects. The major tendency revealed an increase in complexity as the results of no-pronoun indices were slightly higher in the majority of the indices. To visualize the general picture, examples of dependents per nominal subject indices in the table could be used. The first example “their strategic partnership” includes two dependents while the second one “the accumulated concerns regarding arms race in the aftermath of the Cuban Missile Crisis” includes four. If, the first example is revised to avoid pronoun use, its complexity would increase as a potential nominal subject could be “The strategic partnership of/between X and Y”, adding more layers to the structure. Similarly, the example of no pronoun index is more complex than the first one. The head noun “concerns” is modified by a determiner, adjective, and two prepositional phrases. The prepositional phrases further include their own NPs as objects of the preposition, signifying embedded complexity.

Table 25

EFL TR Group: Subjects in UoA 4

Indices	Results (M)	Examples
dependents per nominal subject	1.06	Their strategic partnership is far beyond of being only about defense issues, but also in economic and social level.
dependents per nominal subject (no pronouns)	1.21	The accumulated concerns regarding arms race in the aftermath of the Cuban Missile Crisis led the two nations to set the standards for less hostile affairs.
determiners per nominal	0.34	The nuclear race had been the major

Indices	Results (<i>M</i>)	Examples
subject		component of the Cold War.
determiners per nominal subject (no pronouns)	0.40	The Soviet government recognized the importance of disarmament negotiations during the Cold War era.
adjectival modifiers per nominal subject	0.20	New diplomatic channels were opened following the summit.
adjectival modifiers per nominal subject (no pronouns)	0.23	The heightened tensions between the nations resulted in a prolonged conflict.
prepositions per nominal subject	0.19	The committee on international cooperation finalized the report last year.
prepositions per nominal subject (no pronouns)	0.22	Efforts for peace and reconciliation were intensified during the crisis.
possessives per nominal subject	0.02	Israel's declaration of Jerusalem as its capital a few weeks before the coup caused the September 12 government's relations with Israel to be formed in an unhealthy environment from the beginning.
possessives per nominal subject (no pronouns)	0.02	Among the core dynamics, Qaboos's personality, worldview, and life experiences have been accepted as the most prominent determinants of Oman's foreign policy decision-making process.
nouns as a nominal subject dependent per nominal subject	0.13	The treaty organization became a crucial entity in global security.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.16	The policy choices of regional actors determine the balance of power in the region.
verbal modifiers per nominal subject	0.02	The powers given by the central government reforms to the prime minister were of great importance in the rapid passage of this law.
verbal modifiers per nominal subject (no pronouns)	0.02	The changing dynamics of the Asia-Pacific region has forced Japan to reconsider its foreign and security policy disposition.
relative clause modifiers per nominal subject	0.02	The Gulf Crisis in the early post-Cold War period, which resulted in the adoption of Peacekeeping Operations Law by Japan , was aprecedented event in terms of policy changes.
relative clause modifiers per nominal subject (no pronouns)	0.02	The powers given by the central government reforms to the prime minister were of great importance in the rapid passage of this law.

Indices	Results (M)	Examples
(non-clausal) adverbial modifiers per nominal subject	0	NO EXAMPLES
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	One of the prominent features of Turkey, especially in the last fifteen years, has been its defense industry.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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As shown in Table 25, dependents per nominal subjects resulted in 1.06 and 1.21 with an increase in the no-pronoun index, indicating that each phrase is modified at least once. Returning to a previous point, the general tendency in this category is to foster a slight increase in no-pronoun indices. Therefore, starting from determiners; adjectives, prepositions, nouns, and adverbs followed this tendency while possessives, verbs, and relative clauses did not change. The determiners scored 0.34 and 0.40. Adjectival modifiers and prepositions both showed a 0.03 increase in no-pronoun indices, scoring from 0.20 and 0.19 to 0.23 and 0.22. Nouns started from 0.13 to 0.16, while adverbials are again among the least frequently used structures, scoring 0 and 0.01 in the no-pronoun index. The 0.01 frequency is a result of 18 writers employing the structure once or twice in a hundred or a thousand instances. Similar to other units, possessives, verbal modifiers, and relative clauses were observed rarely and all of them showed 2 instances per 100 phrases. The approaches of writers to these indices also varied. Five writers did not use possessives, three writers scored 0 in verbal modifiers and seven writers in relative clauses. Thirteen writers did not provide any results for non-clausal adverbial modifiers.

Objects. The subcategory of objects presents the results of NPs as direct and indirect objects. The key findings suggested that direct objects were more likely to score higher compared to indirect objects. Direct objects also showed close scores between different versions of the indices, meaning that the pronoun use was generally not a fundamental contributor to the complexity of studied indices in this category and in this unit of the theses.

Table 26

EFL TR Group: Direct Objects in UoA 4

Indices	Results (M)	Examples
dependents per direct object	1.76	The theoretical literature review on sectarianism analyzed different perspectives over sectarianism arguments.
dependents per direct object (no pronouns)	1.76	Iran abstained from using sectarian policies and discourses in its foreign policy.
determiners per direct object	0.43	The lack of definition and its linguistic incoherence make the term contradictory and distortive in academic studies.
adjectival modifiers per direct object	0.43	AK Party implemented significant political reforms to meet EU standards during its first term.
prepositions per direct object	0.40	Turkey maintained a commitment to European values in domestic politics throughout its EU bid.
possessives per direct object	0.08	Consequently, it has been observed that under Qaboos's administration, Oman has always maintained its neutrality and prioritized diplomatic solutions while approaching the problems related to Iraq.
verbal modifiers per direct object	0.04	On the one hand, a stable international system can increase the capacity of structural factors to affect the national interest, on the other hand, the unstable international system enables the state-level to play a more important role to determine the interest of nations.
nouns as a direct object dependent per direct object	0.16	As a consequence, AK Party's motivation regarding the accession negotiations started to falter after 2005, however,

Indices	Results (M)	Examples
		Erdoğan still affirmed that he would continue implementing the Copenhagen Criteria.
relative clause modifiers per direct object	0.04	As I mentioned in Chapter 3, the spirit has its own ultimate objective which is to achieve self-esteem.
(non-clausal) adverbial modifiers per direct object	0.01	The aftermath of the coup has caused concern among western allies of Turkey.
determiners per direct object (no pronouns)	0.44	Turkey achieved the implementation of EU policies during this time.
adjectival modifiers per direct object (no pronouns)	0.44	The negotiations required comprehensive policy adjustments in several areas.
prepositions per direct object (no pronouns)	0.41	Turkey maintained a commitment to European values in domestic politics.
possessives per direct object (no pronouns)	0.08	Acknowledging Qaboos was the sole and the top decision-maker, and at the core of the Omani political system, this thesis has claimed that some internal and structural variables have impacted Oman's foreign policy decisions during Qaboos's era.
verbal modifiers per direct object (no pronouns)	0.04	Same as the regular index
nouns as a direct object	0.16	The period witnessed regional cooperation efforts during accession talks.
dependent per direct object (no pronouns)		
relative clause modifiers per direct object (no pronouns)	0.04	Starting from the beginning of the 2000s, this thesis demonstrates numerous major foreign policy agendas pursued to attain a higher status in the international system.
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Direct objects included the same number of dependents in both relevant indices with the score of 1.76. The frequency of determiners and adjectives were equal to each other in both indices. The first results were 0.43, and the number increased by 0.01 without pronouns. Possessives were used more often in this unit compared to the previous unit of analysis by scoring 0.08 with no change in the no-pronoun index. Verbal and relative clause modifiers showed a similar pattern scoring 0.04 in all indices. However, Writer 59 did not show any instances of verbal modifiers and Writers 37, 40, and 49 did not use relative clause modifiers in the direct object NPs. Nouns as direct object dependents were observed as 0.16 without showing a change without pronouns or among the writers, except Writer 52, who scored 0. At last, non-clausal adverbial modifiers were found to be the least frequently used structures just as the other units of the theses with the score of 0.01. and never addressed by nine writers.

Contrary to the direct objects, indirect objects in Unit of Analysis 4 of the TR group resulted in a completely different consequence, differing not only from the direct objects of the current unit, but also from the other units and from some of the other indirect object indices.

Table 27

EFL TR Group: Indirect Objects in UoA 4

Indices	Results (<i>M</i>)	Examples
dependents per indirect object	0	NO EXAMPLES
dependents per indirect object (no pronouns)	0	NO EXAMPLES
determiners per indirect object	0	NO EXAMPLES
adjectival modifiers per indirect object	0	NO EXAMPLES
prepositions per indirect object	0	NO EXAMPLES

Indices	Results (M)	Examples
possessives per indirect object	0	NO EXAMPLES
verbal modifiers per indirect object	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object	0	NO EXAMPLES
determiners per indirect object (no pronouns)	0	NO EXAMPLES
adjectival modifiers per indirect object (no pronouns)	0	NO EXAMPLES
prepositions per indirect object (no pronouns)	0	NO EXAMPLES
possessives per indirect object (no pronouns)	0	NO EXAMPLES
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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This category did not yield any results. There were not any instances of targeted indices in any of the writers. The whole category scored 0.

Nominalizations. Analyzing the indices that measure the complexity of nominalizations, this category covers dependents per nominal and nominal complement, as well as nouns as a nominal dependent per nominal. As shown in the table below, the results revealed a higher score in the no-pronoun index only in the nominal complements, whereas the rest had slightly lower scores in the same versions of the relevant indices.

Table 28

EFL TR Group: Nominalizations in UoA 4

Indices	Results (M)	Examples
dependents per nominal	1.48	It can be understood that, as in the contradictory statements about Trump's plan , a complete consensus could not be reached.
dependents per nominal complement	3.06	With this in mind, Turkey has undeniable potential which it can use for its struggle .
dependents per nominal (no pronouns)	1.50	Plan; representing the Israeli extreme right, the Netanyahu government, contrary to international law and fundamental human rights , took away the right of Palestinians to have a sovereign state.
dependents per nominal complement (no pronouns)	2.93	This step was evaluated as creating a combined facade with Israel against Iran .
nouns as a nominal dependent per nominal	0.16	Since the establishment of the Republic of Turkey in 1923 , Turkish-American relations have been headed by the interest of two states.
nouns as a nominal dependent per nominal (no pronouns)	0.17	In his speech, 'iron curtain,' which stated the ideological difference between the Soviet Union and Western allies , went down in history in 1946.

Note. Indices from Kyle, K. D. (2016), *Measuring syntactic development in L2*

writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Nominals with dependents scored 1.48 with a 0.02 increase without pronouns. Nominal complements presented similar results to other units due to scoring the highest frequency indicating a high complexity with the result of 3.06 although there is a mild decrease without pronouns becoming 2.93. Additionally, although in all cases writers followed common levels of complexity, in nominal complements, three writers differed from the average by showing higher levels of complexity in the index. Writer 37 scored 4.0, Writers 39 and 54 resulted in 3.85 and 3.66. Nouns as nominal dependents also yielded close results to previous chapters for resulting 0.16 and 0.17 without pronouns.

Passives. Capturing the complexity of passive nominal subjects and agents, this category suggested differing uses in pronouns.

Table 29

EFL TR Group: Passives in UoA 4

Indices	Results (M)	Examples
dependents per passive nominal subject	1.36	In this thesis, the foreign policy decisions are examined with the “security interdependency” concept of the RSC theory.
dependents per agent	1.60	The Iranian role in Yemen was formed by the actions of Saudi Arabia and its allies.
dependents per passive nominal subject (no pronouns)	1.48	The crisis in Yemen was impacted by regional actors.
dependents per agent (no pronouns)	1.55	Iran was accused by the Western media and Saudi Arabia of expanding its influence.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Passive nominal subjects included 1.36 dependents on average while the number increased to 1.48 without pronouns. The increase in the no-pronoun index was due to the fact that two writers scored higher than the average although there were two other writers who scored lower than others. The results of Writers 43 and 46 were 2.0 and 2.34 while Writers 48 and 62 were 0.86 and 0.66. For agents, however, the no pronoun index showed a 0.05 decrease in complexity by scoring 1.55 while the other was 1.60. It is also difficult to argue the existence of a generalizable pattern in dependents per agent index as ten writers differed from the average. Writers 37, 38, and 57 scored between 0.66 and 0.8 whereas Writers 39, 46, 48, 49, and 52 resulted in 1.0. Signaling the use of more complex structures, Writers 45 and 65 scored 2.5 and 2.3. The discrepancy between other writers was also worth noting even though it was less than 0.5; excluding those who differed from the average score, the discrepancy among each writer from the closest to further varied from 0.16 to 0.4, the mean being 0.43.

Modifications. Providing details about the complexity features of the dependents, this category addresses the modifiers such as determiners, adjectives, prepositions, possessives, verbs, relative clauses, nouns, and adverbs. Starting with prepositional objects, the table shows that the components of the regular index might occur more often in the texts, with at least one dependent. For instance, "...in a situation where it had to find a way out." "Situation" is the head noun of the prepositional phrase and includes two dependents, a determiner, and a relative clause.

Table 30*EFL TR Group: Modifications in UoA 4*

Indices	Results (<i>M</i>)	Examples
dependents per object of the preposition	1.50	Under these circumstances, it would be right to say that the USA found itself in a situation where it had to find a way out.
dependents per object of the preposition (no pronouns)	1.45	The third chapter analyzes the period of the AK Party's second government as a slow-down in Turkey-EU relations was visible after the European Commission froze 8 chapters in the accession negotiations.
determiners per nominal	0.41	Japanese prime ministers have a tradition of announcing their policies either immediately upon their arrival or, if the policy pursued by their predecessor has been accepted, after it has been settled especially on the New Year's Eve.
adjectival modifiers per nominal	0.32	The period when Turkey adopted the 'one-sided' foreign policy was over.
prepositions per nominal	0.28	The political discourses of refugees and migration in Poland influenced the Europeanisation concept's political dimension and direction.
possessives per nominal	0.04	Turkey remained a NATO member after the coup and its relations with the United States continued.
verbal modifiers per nominal	0.03	The efforts to restrain the unbridled Soviet tendency that expands their nuclear capabilities was the underlying premise of SALT II.
relative clause modifiers per nominal	0.03	Although the solution had not been achieved in her term of office, the HR/VP Mogherini exercised an exemplary rhetoric and contributed to a creation of a peaceful, prosperous, reassuring and supportive discourse which emerged with the help of the policies that were put into practice and plans that were discussed in detail.
(non-clausal) adverbial modifiers per nominal	0.01	The improving relations between Turkey and Russia has been on the increase in terms of energy matters throughout the JDP period , even though there have been some ideational conflicts in the

Indices	Results (<i>M</i>)	Examples
determiners per nominal (no pronouns)	0.43	lands of Syria. The threat perception of the states in the Middle East Iran and Saudi Arabia as two rivals, seemingly for either Islamic or regional leadership, funding and arming to the ones who are on their parts cannot be reduced to an endemic everlasting sectarian conflict.
adjectival modifiers per nominal (no pronouns)	0.33	The most frequently repeated concepts are Turkey's 'history,' 'culture,' 'strategic position,' 'identity consciousness,' and others.
prepositions per nominal (no pronouns)	0.28	This analysis was a critical examination seeking to reveal how and with what consequences Cem used civilizational discourse in Turkey's foreign policy.
possessives per nominal (no pronouns)	0.04	Turkey's relations with some Western countries were strained during the military regime.
verbal modifiers per nominal (no pronouns)	0.03	Putin refuses to blame the sins of the USSR on Russia, on the grounds that the Russians are the first victims of the Soviets.
relative clause modifiers per nominal (no pronouns)	0.03	It would also be interesting to assess the role of the HR/VP or other roles played in other EU institutions in the light of multimodality by working on video-recordings of speeches on various topics to contribute to different fields of studies by incorporating a selection of methodologies.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	Same as the regular index
determiners per object of the preposition	0.43	There is still a lack of literature on the dynamics of its foreign policy.
adjectival modifiers per object of the preposition	0.33	Turkey began to work hard to improve its relations with these countries.
prepositions per object of the preposition	0.25	In chapter 4 of my work, I examined the current situation and future of sanctions in US foreign policy through the recent sanction cases.
possessives per object of the preposition	0.04	Rather, there still exist some differences of opinion among IR theorists both on the definition of middle powers and the way of their acts in the global politics.
verbal modifiers per object of the preposition	0.02	If we look at the Koizumi government, it can be inferred from Koizumi's speeches

Indices	Results (M)	Examples
nouns as an object of the preposition dependent per object of the preposition	0.17	that he wanted to reduce human security to the level of bureaucracy or development aid and made efforts to implement his own policies. Reports provided by the Department of Defense recommended that although that position was welcomed, arms control functions as a complementary component to American military posture.
relative clause modifiers per object of the preposition	0.03	However, in recent years, a new generation of scholars has revived realism by examining it in a broader context that includes internal dynamics and changes in the international system.
(non-clausal) adverbial modifiers per object of the preposition	0	NO EXAMPLES
determiners per object of the preposition (no pronouns)	0.43	Numerous harmonization packages were handled and the relations between Turkey and the EU proved to be a very close one as the majority of the European countries encouraged Turkey to carry on with the EU accession negotiations.
adjectival modifiers per object of the preposition (no pronouns)	0.33	Afterwards, I examined two major sanctions implemented in the US foreign policy in the last period.
prepositions per object of the preposition (no pronouns)	0.26	The flexibilization of the EU standards and thus, differentiated treatment of Turkey in terms of the European rules can become a way for the restoration of the EU-Turkish dialogue.
possessives per object of the preposition (no pronouns)	0.04	In addition to this general understanding of middle power countries, this study included the potential of Turkey and the improvements in certain fields in Turkey in the period of JDP government in the concept of Turkey's being a strong middle power and regional power.
verbal modifiers per object of the preposition (no pronouns)	0.02	The concept of human security itself has been criticised for being vague and lacking clear boundaries, with actors addressing only threats to existence, though not today.
nouns as an object of the preposition dependent per object of the	0.17	In addition to this, although this study explores the source of the national interest in terms of the structure of the

Indices	Results (<i>M</i>)	Examples
preposition (no pronouns)		international system , regional politics and balance, as another analytical level, can also be considered to measure and evaluate as the alternative source of national interest .
relative clause modifiers per object of the preposition (no pronouns)	0.03	With the Rogers Plan prepared by NATO Supreme Commander William Rogers , Greece returned to NATO's military wing, and Turkey lost a significant advantage both internationally and in the Aegean.
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Prepositional objects scored 1.50, showing each structure was followed by at least one dependent even though the number decreased by 0.05 without pronouns.

Determiners appeared 0.41 and 0.43 without pronouns while adjectives were 0.32 and 0.33 per nominals. Prepositions did not show difference in pronouns so both scored 0.28. Possessives, verbal modifiers, relative clause modifiers, and non-clausal adverbial modifiers were listed among the least frequently addressed indices. Possessives were found 4 times in 100 phrases while the number is 3 for both verbal and relative clause modifiers. And adverbials were the least encountered structures found once in 100 phrases. Despite functioning differently, indices regarding prepositional objects yielded mostly close results to nominals. Determiners per object of the preposition were 0.43 and adjectives were 0.33, which also provided the same results without pronouns. Showing a slight decrease compared to nominals,

prepositions used to modify prepositional objects sampled 25 instances per 100 phrases and 26 without pronouns. Possessives showed the same frequency in the prepositional object as well by 0.04. Verbal modifiers including 2 instances in a hundred phrases were addressed similarly by all writers except writer 38 scoring 0. The nouns were 0.17 with no difference in pronouns or among the writers. Relative clause modifiers per prepositional object were observed to be 0.03 and adopted by writers commonly so, except for Writer 40 who did not have any examples. Non-clausal adverbial modifiers per prepositional objects might be seen as 0. However, only Writers 45, 49, 51, and 67 never included any instances, while the rest provided 1 or 2 instances per a thousand phrases.

Embedding. This category provides a general look at the relative clause modifiers to analyze embeddedness as a contributing factor to the NP complexity. Relative clauses continued following a similar fashion to other units in this unit of analysis as well staying among the rarest categories.

Table 31

EFL TR Group: Embedding in UoA 4

Indices	Results (<i>M</i>)	Examples
relative clause modifiers per nominal subject	0.02	The Gulf Crisis in the early post-Cold War period, which resulted in the adoption of Peacekeeping Operations Law by Japan , was aprecedented event in terms of policy changes.
relative clause modifiers per nominal subject (no pronouns)	0.02	The powers given by the central government reforms to the prime minister were of great importance in the rapid passage of this law.
relative clause modifiers per direct object	0.04	As I mentioned in Chapter 3, the spirit has its own ultimate objective which is to achieve self-esteem .
relative clause modifiers per direct object (no pronouns)	0.04	Starting from the beginning of the 2000s, this thesis demonstrates numerous major foreign policy

Indices	Results (M)	Examples
relative clause modifiers per indirect object	0	agendas pursued to attain a higher status in the international system. NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per nominal	0.03	Although the solution had not been achieved in her term of office, the HR/VP Mogherini exercised an exemplary rhetoric and contributed to a creation of a peaceful, prosperous, reassuring and supportive discourse which emerged with the help of the policies that were put into practice and plans that were discussed in detail.
relative clause modifiers per nominal (no pronouns)	0.03	It would also be interesting to assess the role of the HR/VP or other roles played in other EU institutions in the light of multimodality by working on video-recordings of speeches on various topics to contribute to different fields of studies by incorporating a selection of methodologies.
relative clause modifiers per object of the preposition	0.03	However, in recent years, a new generation of scholars has revived realism by examining it in a broader context that includes internal dynamics and changes in the international system.
relative clause modifiers per object of the preposition (no pronouns)	0.03	With the Rogers Plan prepared by NATO Supreme Commander William Rogers , Greece returned to NATO's military wing, and Turkey lost a significant advantage both internationally and in the Aegean.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The table suggests that nominal subjects averaged 0.02 but seven writers did not contribute to the results scoring 0. Direct objects had 4 instances per 100 phrases on average but Writers 37, 40, and 49 did not yield any results. The indirect object position did not show any results. Prepositional objects scored 0.03 with all writers following a consistent manner except Writer 40 scoring 0.

The ENG Group

This group consists of 36 theses written by English-language dominant writers.

Unit of Analysis 1

Positions. NPs as subjects or objects are covered in this category. Objects are also divided into two more subcategories as direct objects and indirect objects.

Subjects. Observable characteristics of nominal subjects were the fact that the scores of no pronoun indices were mostly higher than the regular indices, indicating a higher level of complexity in general even though the discrepancies might not have been high. The examples shown in the table might help illustrate the minor difference in complexity levels, especially the overall dependents per nominal subject indices. However, the examples also highlight a significant aspect that the number of dependents may not always indicate the levels of complexity without benefitting from other indices. The regular index of dependents per nominal is exemplified with the following sentence: Over two hundred American men and thousands of their Russian adversaries perished in a conflict fought in the final days and immediate aftermath of the First World War. The nominal subject is “Over two hundred American men and thousands of their Russian adversaries”. The subject

includes two head nouns which are “men” and “adversaries”. Both are modified with determiners, adjectives, and “adversaries” also had a prepositional phrase with a possessive pronoun. Then both are connected by a coordinating conjunction (and). In total, it has 6 dependents. The example of no-pronoun index is “The circulation of Pearl Harbor, and by extension the good war, as a unifying emblem of national defeat and eventual triumph offered a reassuring schema for the post-9/11 nation.” The nominal subject is “The circulation of Pearl Harbor, and by extension the good war, as a unifying emblem of national defeat and eventual triumph”. Unlike the previous example, there is only one head noun (circulation). It includes a determiner (the), a prepositional phrase with an NP as an object (of Pearl Harbor). Then, it is coordinated with another NP modified by a determiner (the) and an adjective (good). Lastly, it is followed by a nominal complement (as a unifying emblem of national defeat and eventual triumph). The head noun of the complement has a determiner, adjective, and a prepositional phrase with coordinated nouns as its dependents. In total, it has 4 dependents.

Although the number of dependents was higher in the regular index, the no-pronoun index is more complex because of embedding. Furthermore, the key difference between the examples is the source of complexity. The first example relies on coordination, which resulted in more numerical dependents, but in fact, it was more linear, whereas the second example was enriched with an embedded nominal complement.

Table 32

ENG Group: Subjects in UoA 1

Indices	Results (M)	Examples
dependents per nominal subject	0.99	Over two hundred American men and thousands of their Russian adversaries

Indices	Results (M)	Examples
		perished in a conflict fought in the final days and immediate aftermath of the First World War.
dependents per nominal subject (no pronouns)	1.15	The circulation of Pearl Harbor, and by extension the good war, as a unifying emblem of national defeat and eventual triumph offered a reassuring schema for the post-9/11 nation.
determiners per nominal subject	0.30	The American government began its program of influencing Saudi Arabia.
determiners per nominal subject (no pronouns)	0.36	The Soviet government signed the Treaty of Brest-Litovsk with the Germans, ending their role in the First World War and stranding the Czech-Legions in a neutral country.
adjectival modifiers per nominal subject	0.16	The newly formed Soviet Government fought each other in brutal close combat.
adjectival modifiers per nominal subject (no pronouns)	0.19	American policy planners of the 1950s had to face a quickly changing Middle East.
prepositions per nominal subject	0.16	The threat of a Soviet invasion into the Middle East loomed large for American planners.
prepositions per nominal subject (no pronouns)	0.19	The relationship between the two countries changed over the decades.
possessives per nominal subject	0.02	Furthermore, political corruption by the major Japanese parties and their large business backers , such as Mitsui and Mitsubishi, coupled with the global economic de- pression, strengthened the case of the militarists.
possessives per nominal subject (no pronouns)	0.03	Beginning in 1932, Japan's political parties lost their influence in appointing cabinet members.
nouns as a nominal subject dependent per nominal subject	0.18	The security threat from rival powers heightened tensions.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.22	Numerous public and private requests and pleas for intervention , combined with threats about what would happen during and after the First World War if America did not intervene litter communications between the Allies.
verbal modifiers per nominal subject	0.01	The Caribbean region; renowned for its idyllic tropical climate , welcoming citizens and overall 'island vibe'; consists of several island nations whose demographics, politics and economic

Indices	Results (<i>M</i>)	Examples
verbal modifiers per nominal subject (no pronouns)	0.02	systems are attributable to intimate, colonial relationships with Empire. Yet, the same approach to border openness and the political will to reduce immigration restrictions, as evidenced by multiple Caricom-enabling laws, is perplexingly lacking vis-à-vis refugee legislation (and Venezuelan refugees) among countries like Jamaica, Guyana and Trinidad and Tobago.
relative clause modifiers per nominal subject	0.02	Overall, the evidence that the US was not opposed to drug production and smuggling in Afghanistan is not ironclad, which is not unusual for such activity, as it is unlikely to be documented.
relative clause modifiers per nominal subject (no pronouns)	0.01	The timeframe I delineate below is bookended by major dates for US foreign policy actions in MENASA.
(non-clausal) adverbial modifiers per nominal subject	0	NO EXAMPLES
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	Merely relying on a “cultural restlessness” thesis is simplistic and reduces a massive, violent, and deeply theorized political movement down to youthful rebellion.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Consequently, the average number of dependents per nominal subject was 0.99 and 1.15 without pronouns, and there was not a significant difference among the writers' use. Without showing a variation across writers, determiners scored 0.30 and 0.36 in the no-pronoun index and both adjectival modifiers and prepositions scored 0.16 and 0.19 without pronouns. Possessives were observed 2 times per 100 phrases with a 0.01 increase without pronouns, excluding Writer 31 whose writing in UoA 1

did not yield any results of the use of possessives. Nouns scored 0.18 and 0.22, and the writers were consistent in their use. Verbal modifiers were adopted rarely too, with the numbers of 0.01 and increasing to 0.02 without pronouns in addition to showing a consistent approach across writers except for Writers 6, 25, and 32 whose scores were 0. Unlike the common tendency, relative clause modifiers presented a slight decrease from 0.02 to 0.01 when pronouns were excluded. As the use was already rare, the writers mainly showed similarity except for seven writers scoring 0. Although the average of non-clausal adverbial modifiers suggested that they were not sampled in the regular index, the actual results showed that it was possible to encounter the structure around once per a thousand phrases except in the UoA 1 of eight writers with the score of 0. In addition, following the main tendency in the category, the index without pronouns scored 0.01 even though the same writers continued not to include the structure; the rest showed an increased use.

Objects. This category consists of direct objects and indirect objects as subcategories. The differentiation between indices regarding pronouns did not show significant variations, and was mostly consistent in direct objects.

Table 33

ENG Group: Direct Objects in UoA 1

Indices	Results (M)	Examples
dependents per direct object	1.74	This study exposes the changes during this timeframe as an exploration of the actions by Congress as it emphasizes the role of the president.
dependents per direct object (no pronouns)	1.74	This act increased the size of the standing military in the United States following the post-war demobilization.
determiners per direct object	0.39	President Wilson supported the measure , and signed the bill into law on May 18, 1917.
adjectival modifiers per direct object	0.39	During the time their missions overlapped, 1937-1941. the dependence

Indices	Results (<i>M</i>)	Examples
		of the two ambassadors on each other for information would strengthen their professional relationship as they sought to defend the use of diplomacy against several challenges.
prepositions per direct object	0.39	This pact was designed to combat the spread of communism and prohibited direct treaties with the Soviet Union .
possessives per direct object	0.06	Historical grievances from its neighbors have kept its options for partners limited.
verbal modifiers per direct object	0.04	The first case hopes to prove NATO's relevance and show how rational choice restraint could reduce its US-centric agenda.
nouns as a direct object dependent per direct object	0.20	This request would on occasion clash with his department's priority of placating the US in order to tacitly encourage their economic and military assistance in Europe and—if necessary—Asia.
relative clause modifiers per direct object	0.05	He established a peace time loyalty program that provided a model for local governments to infringe on the civil liberties of the public .
(non-clausal) adverbial modifiers per direct object	0.01	This problem has provided undue credibility for an adventurist US foreign policy agenda .
determiners per direct object (no pronouns)	0.40	During his period as Ambassador to Japan, Craigie's focus was to keep Japan out of the war , which had broken out in Europe in September 1939.
adjectival modifiers per direct object (no pronouns)	0.40	Craigie became more favorably disposed to the imposition of economic sanctions against Japan in late 1938.
prepositions per direct object (no pronouns)	0.40	Conscription was then regularly used to quickly muster, train, and assemble men for military service in periods of declared war, undeclared war, and during times of peace .
possessives per direct object (no pronouns)	0.07	Collectively, the aristocracy interpreted the Tsar's murder as strong evidence that their privileged position atop Russian society was in jeopardy due to an upsurge of politically-motivated extremist violence.
verbal modifiers per direct object (no	0.05	These sources expose the role of the American presidency to elicit support

Indices	Results (<i>M</i>)	Examples
pronouns)		for conscription or even empathy for violators.
nouns as a direct object dependent per direct object (no pronouns)	0.21	In following the precedent set during the American Civil War, the Congress continued to pass conscription legislation and the president signed these bills into law.
relative clause modifiers per direct object (no pronouns)	0.05	However, Truman's policies themselves would further the ideas later associated with McCarthyism.
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Direct objects were followed by at least one dependent on average in both versions of the index scoring 1.74 except for Writer 21. Scoring 2.47 and 2.41 without pronouns, Writer 21 suggested a more complex use of NPs as direct objects. Determiners, adjectives, and prepositions resulted in 0.39 and increased by 0.01 without pronouns. In addition, the individual results of writers were close to each other, with the discrepancies in indices ranging from 0.03 to 0.08.

Possessives scored 0.06 and 0.07. Verbal modifiers were encountered 4 times per hundred phrases on average and increased by 0.01 without pronouns. Nouns averaged 0.20 and 0.21. In all three categories, the discrepancy between individual results was low, meaning the writers were consistent.

Relative clause modifiers scored 0.05 and stayed the same regardless of the pronoun use and were encountered in each UoA 1 of the theses except Writer 21. Being the least frequently employed indices in general, adverbial modifiers were

0.01. As the occurrence was already rare, it might be mentioned that Writers 11, 21, 28, and 33 scored 0.

The results of indirect objects were usually low or zero due to infrequent occurrences of the target structures.

Table 34

ENG Group: Indirect Objects in UoA 1

Indices	Results (M)	Examples
dependents per indirect object	0.28	This thesis is partially informed by my own experience (I served in Afghanistan for four years, first as a civilian counterintelligence officer, then as an adviser to the Afghan National Security Forces in Gardez and Kabul).
dependents per indirect object (no pronouns)	0.33	Same as the regular index
determiners per indirect object	0.14	The problem with an “America First”-centric alliance is that it weakens the other partners’ ability to say “no” to the United States .
adjectival modifiers per indirect object	0.02	I hope that this thesis will provide a valuable perspective to future policymakers about Afghanistan, and our war there.
prepositions per indirect object	0	NO EXAMPLES
possessives per indirect object	0	NO EXAMPLES
verbal modifiers per indirect object	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object	0.10	Men and women of all tribes could vote in an election every five years for a parliament and a new president .
relative clause modifiers per indirect object	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object	0	NO EXAMPLES
determiners per indirect object (no pronouns)	0.18	Same as the regular index
adjectival modifiers per indirect object (no pronouns)	0.02	Same as the regular index

Indices	Results (M)	Examples
prepositions per indirect object (no pronouns)	0	NO EXAMPLES
possessives per indirect object (no pronouns)	0	NO EXAMPLES
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object (no pronouns)	0.12	Same as the regular index
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Dependents for NPs functioning as indirect objects resulted in 0.28 and 0.33 without pronouns. As the numbers only suggest an average for the whole group, in this case, it was not possible to generalize the existence of target index in each first UoA of theses. Hence, the results showed that the general approach was to score 0, but 8 writers neither conformed to the approach nor the average, and they varied among each other. Writers 1, 2, 14, and 31 scored 1.0; only the Writer 14 increased to 2.0 without pronouns. Writer 4 scored 2.0, Writers 7 and 13 scored 0.66 and 0.5 while the scores changed to 1.0 for both in no-pronoun index. Finally, Writer 32 scored 3.0. The results provided by these writers indicated high levels of complexity.

Determiners showed a mild increase without pronouns, rising from 0.14 to 0.18. However, this average stemmed from 7 writers as they employed elaborated

use of determiners in NPs functioning as indirect objects. Writers 2, 4, 31, and 32 scored 1.0 while the scores of Writers 13 and 14 were the half of them by 0.5 and writer 7 scored 0.33. The only difference in excluded pronouns occurred in Writers 13 and 14 as their scores increased to 1.0.

Adjectives were relatively rare; they did not vary according to pronoun use and remained at 0.02. The reason behind the 0.02 average was that Writer 1 scored 1.0 in both indices, but the rest remained 0, which was a similar case for nouns. Nouns in this category scored 0.10 and increased by 0.02 when pronouns were excluded, yet the results belonged to four writers as the remaining 32 did not show any instances. Thus, Writer 4 scored 1, Writer 7 scored 0.33 and 0.5 without pronouns, and Writer 14 scored 0.5, which increased to 1.0 when pronouns were excluded, while Writer 32 significantly scored higher than their counterparts by scoring 2.0.

Prepositions, possessives, verbs, relative clauses, and adverbials did not provide any results in this category.

Nominalizations. The category presents the dependents per nominals, nominal complements, and nouns as nominal dependents. Although the averages seem close to each other between the regular and no-pronoun versions of the indices, the individual scores of writers revealed differences that could affect the overall averages of the group drastically.

Table 35

ENG Group: Nominalizations in UoA 1

Indices	Results (M)	Examples
dependents per nominal	1.46	These experiences encouraged Seong to return to South Korea and conduct a lecture tour, participate in workshops, and complete a book about elementary

Indices	Results (<i>M</i>)	Examples
dependents per nominal complement	3.09	education in the United States. He participated in a four-month program designed by members of several non-governmental organizations , such as the Central Education Research Institute, the Unitarian Service Committee, and the American-Korean Foundation.
dependents per nominal (no pronouns)	1.47	In January 1954, Seong Nae Un, a Korean professor of Education , traveled to the United States to learn more about American education systems through first-hand experiences.
dependents per nominal complement (no pronouns)	3.02	Mary Harbage, the Director of Elementary Education in Akron, Ohio, and chairman of the Unitarian Service Committee , recognized Seong Nae Un's unique knowledge of elementary education and requested that he assist the American team.
nouns as a nominal dependent per nominal	0.21	The TVA used existing and newly developed dams in the Tennessee Valley in order to manage regional flooding.
nouns as a nominal dependent per nominal (no pronouns)	0.22	Seong first traveled to an array of American elementary schools —in both urban and rural environments—to experience diverse approaches to education in America.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Dependents per nominal scoring 1.46 and nouns as nominal dependents scoring 0.21 displayed 0.01 increase without pronouns whereas a 0.07 decrease was observable in dependents of nominal complements from 3.09 to 3.02. Moreover, complements showed the highest discrepancy in the regular index. The discrepancy between the highest score and the lowest was 5.0 indicating a range in data from 0 to 5. Additionally, 28% of the writers posed differing uses of the target indices. From

highest complexity to the lowest, the writers and their scores could be listed as following: Writer 25 scored 5.0; Writer 3, 4.8; Writer 36, 4.04; Writer 28, 3.75; Writer 2, 3.66; Writers 7 and 12, 3.5; Writer 31, 2.0; Writer 26, 1.83; lastly Writer 21, 0.

Passives. Analyzing the NPs in relation to passive structures, the results of this category provided almost no difference due to pronoun use in the group averages. However, the individual scores of writers suggested an inconsistent manner in use.

Table 36

ENG Group: Passives in UoA 1

Indices	Results (M)	Examples
dependents per passive nominal subject	1.16	The false reports were spread by various media outlets during the crisis.
dependents per agent	1.69	The reports were smuggled by the imperial spies into the neighboring empires.
dependents per passive nominal subject (no pronouns)	1.17	The controversial policy was reversed following public outrage.
dependents per agent (no pronouns)	1.62	Decisions were influenced by a coalition of nations.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of

syntactic sophistication [Doctoral dissertation, Georgia State University].

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Dependents per passive nominal subjects averaged 1.16 and 1.17. Dependents per agent resulted in 1.69 and decreased to 1.62 in no-pronoun index. However, this category showed significant variation in tendencies of writers. First, three writers differed from the average in passive nominal subjects. Writers 1 and 17 scored 2.0

while Writer 2 scored 0. In addition, the score of Writer 17 dropped to 1.38 in no-pronoun index. For indices of agents, the distribution of dependents resulted in a discrepancy score of 2.88. Among 36 writers, approximately 28% of the writers scored significantly below or higher than the mean. Consequently, 10 writers showed inconsistent results compared to others. Writer 1, 21, and 31 had never addressed the target structure. Writer 3 scored only 0.5. However, the remaining 6 writers scored 2.5 and higher. Writer 7 scored 2.75, following closely, Writer 36 scored 2.7 and Writer 33 scored 2.6. Writers 13 and 32 both resulted in 2.5. Lastly, the highest frequency recorded belonged to Writer 30 with 2.88. Although majority of them did not differ in pronouns, Writers 30 and 36 decreased approximately 0.5.

Modifications. How NPs are modified is shown in this category by referring to determiners, adjectives, prepositions, possessives, verbs, relative clauses, nouns, and adverbs for nominals and NPs as prepositional objects in addition to a general average of dependents per object of the preposition.

Table 37

ENG Group: Modifications in UoA 1

Indices	Results (<i>M</i>)	Examples
dependents per object of the preposition	1.52	This paper specifically compares the decision-making processes for Japanese and Chinese foreign aid and investment with developmental implications since 2000.
dependents per object of the preposition (no pronouns)	1.44	Failed wars of democratization on nearly every continent have cost American taxpayers trillions of dollars, leading to resentment from both allies dragged into these operations and the local populations that find themselves caught in warzones.
determiners per nominal	0.36	The current strategy , liberal hegemony, does not work, has created more problems than it has solved, and is unsustainable.

Indices	Results (<i>M</i>)	Examples
adjectival modifiers per nominal	0.28	Attakullakulla became the most influential person connected to the 1730 delegation.
prepositions per nominal	0.26	These interviews also served as important sources of recommendations for primary and secondary sources.
possessives per nominal	0.04	This request would on occasion clash with his department's priority of placating the US in order to tacitly encourage their economic and military assistance in Europe and—if necessary—Asia.
verbal modifiers per nominal	0.03	'Greater Syria' is a term which when defined by Hafiz al-Asad's foreign policy can be taken to mean the current Syrian territory, in addition to the territories known today as Lebanon, complete with parcels of the Hashemite Kingdom of Jordan, and the territory encompassing the majority of the modern State of Israel and the territories which may someday become a Palestine state , such as the Gaza strip and parts of the West Bank.
relative clause modifiers per nominal	0.03	In other words, the former stable relationship of interdependence between Germany and Russia, which was portrayed through the construction and completion of the Nord Stream 2 pipeline , has been offset and destabilized due to Russia's actions in Ukraine.
(non-clausal) adverbial modifiers per nominal	0.01	Enduring Freedom ended ignominiously, with crowds of panicked Afghans swarming over the Kabul airport in the summer of 2021 , the massive Afghan National Army shedding their uniforms and going home, and Afghan President Ashraf Ghani fleeing to Uzbekistan.
determiners per nominal (no pronouns)	0.37	Kennedy also believed that the rise of Arab Nationalism was inescapable and it would be wise for the United States to support it from the beginning.
adjectival modifiers per nominal (no pronouns)	0.29	Interviews with officials and experts on Japanese and Chinese aid and investment policy provide direct

Indices	Results (M)	Examples
prepositions per nominal (no pronouns)	0.26	insight into the key questions examined throughout this thesis. Treaty negotiations, transcripts from diplomatic summits , official correspondence, published journals, and newspapers constitute a large base of the primary source material.
possessives per nominal (no pronouns)	0.04	Moreover, by 1941, the ability of designated US and British officials to decode Japan's diplomatic correspondence had displaced some of the reliance upon embassy intelligence. Same as the regular index
verbal modifiers per nominal (no pronouns)	0.03	Same as the regular index
relative clause modifiers per nominal (no pronouns)	0.03	The first two sections include the analysis of the two historical case studies, the 1982 Siberian pipeline, and the 2012 Nord Stream pipeline.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	Same as the regular index
determiners per object of the preposition	0.37	According to Berman, Nixon's goal in Vietnam was to continue the war beyond the end of his administration. "
adjectival modifiers per object of the preposition	0.29	The Russian Federation is strategic in utilizing gas to achieve its foreign policy initiatives , and arguably, the key factor in advancing Russia as a superpower, both during the Cold War and today, in the multipolar world order.
prepositions per object of the preposition	0.25	Because of Russia's history as a gas monopoly, and the increasing importance of energy security on the international stage , Nord Stream 2 was not and will not become the only Kremlin-operated pipeline.
possessives per object of the preposition	0.04	This thesis seeks to explore the significance of this diplomacy within its Indigenous contexts.
verbal modifiers per object of the preposition	0.02	By explaining the intricacies of his nation's gradual loss of territory at the hands of colonialism and Israeli militarism , while framing this information with an intimate and attentive approach to his sources, Seale makes a unique contribution to the literature of US/ Syria interaction.

Indices	Results (<i>M</i>)	Examples
nouns as an object of the preposition dependent per object of the preposition	0.23	To contextualize this debate, I engage with the scholarship on US modernization theory and its use of psychology and social science expertise.
relative clause modifiers per object of the preposition	0.03	The Ambassadors and America's Soviet Policy, also by David Mayers, argued that US ambassadors played a significant role in influencing US policy towards the Soviet Union and the course of US relations with the Soviets, which contradicts the idea that ambassadors are less important in an age where heads of state often negotiate directly with each other.
(non-clausal) adverbial modifiers per object of the preposition	0.01	Ultimately, what will it take, if anything, for Congress to reassert its authority over its constitutionally granted war powers?
determiners per object of the preposition (no pronouns)	0.37	This belief in addition to the vocal nature of the movement and the media attention brought to it influenced the negotiations between Secretary of State Henry Kissinger and North Vietnamese councilman Le Duc Tho.
adjectival modifiers per object of the preposition (no pronouns)	0.29	Hansberry reached out to Horace Mann Bond, an alumnus and the first black president of Lincoln University , to chair the inaugural IAAR Board of Directors.
prepositions per object of the preposition (no pronouns)	0.25	The formation of the SDS led to a backlash from the Federal Bureau of Investigation, under the banner of the Counterintelligence Program.
possessives per object of the preposition (no pronouns)	0.04	Recognizing the utility of siding with Britain's colonies (when convenient), Indigenous objectives and local interests held greater influence over the maintenance of these alliances than some imperial agents were willing to acknowledge.
verbal modifiers per object of the preposition (no pronouns)	0.02	In the course of attempting to regain these lost areas by force, once Asad had taken power, the Syrian state under the rule of the Asad family was to redefine its relationship with the rising superpower in the Middle East region: The United States.

Indices	Results (<i>M</i>)	Examples
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.23	While highlighting the divisions Nord Stream 2 has deepened within Europe and the transatlantic alliance, this thesis also brings to light the limitations of interdependence theory.
relative clause modifiers per object of the preposition (no pronouns)	0.03	The practice of appointing ambassadors based on the spoils system predictably led to the appointment of some subpar ambassadors.
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	During periods of unified government, Congress will seek to avoid critiquing their partisan ally in the White House to ensure a unified war policy or to focus on other issues of the time (like domestic issues).

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Dependents allocated to prepositional objects on average scored 1.52 and 1.44 without pronouns. This may show that more causal expressions were present in the prepositional objects or the writers avoided repetitions by using pronouns.

Determiners resulted in 0.36 increasing by 0.01 when pronouns were excluded. Showing the same rate of increase as determiners in no-pronoun index, adjectives scored 0.28 in regular index.

Prepositions remained unchanged between regular and no-pronoun indices and scored 0.26. Possessives were present in 4 instances in 100 phrases on average. Verbal and relative clause modifiers shared the same results which was 0.03 while non-clausal adverbials were 0.01. Possessives, verbs, relative clauses, and adverbs did not change based on pronoun use.

Per object of the prepositions, determiners scored 0.37. Adjectives were observed 29 times in 100 phrases while prepositions were 0.25. Possessives resulted in 0.04. Verbs were employed rarely thus they were present 2 times in 100 phrases on average. Nouns as an object of prepositional objects averaged 0.23. Relative clauses scored 0.03. Non-clausal adverbs averaged 0.01. None of the modifiers differed due to the exclusion of pronouns.

Additionally, the writers performed a strong consistency in their use of target items as there was no significant difference observed in any items as well as the highest discrepancy being less than 0.4.

Embedding. Highlighting the embeddedness, this category focuses on relative clauses modifying NPs functioning in various roles.

Table 38

ENG Group: Embedding in UoA 1

Indices	Results (<i>M</i>)	Example
relative clause modifiers per nominal subject	0.01	Overall, the evidence that the US was not opposed to drug production and smuggling in Afghanistan is not ironclad, which is not unusual for such activity, as it is unlikely to be documented.
relative clause modifiers per nominal subject (no pronouns)	0.01	The timeframe I delineate below is bookended by major dates for US foreign policy actions in MENASA.
relative clause modifiers per object of the preposition	0.03	He established a peace time loyalty program that provided a model for local governments to infringe on the civil liberties of the public.
relative clause modifiers per object of the preposition (no pronouns)	0.03	However, Truman's policies themselves would further the ideas later associated with McCarthyism.
relative clause modifiers per direct object	0.05	In other words, the former stable relationship of interdependence between Germany and Russia, which was portrayed through the construction and completion of the Nord Stream 2 pipeline, has been offset and destabilized

Indices	Results (M)	Example
relative clause modifiers per direct object (no pronouns)	0.05	due to Russia's actions in Ukraine. The first two sections include the analysis of the two historical case studies, the 1982 Siberian pipeline, and the 2012 Nord Stream pipeline.
relative clause modifiers per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per nominal	0.03	The Ambassadors and America's Soviet Policy, also by David Mayers, argued that US ambassadors played a significant role in influencing US policy towards the Soviet Union and the course of US relations with the Soviets, which contradicts the idea that ambassadors are less important in an age where heads of state often negotiate directly with each other.
relative clause modifiers per nominal (no pronouns)	0.03	The practice of appointing ambassadors based on the spoils system predictably led to the appointment of some subpar ambassadors.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Table 38 above fosters that relative clause modifiers scored 0.01 in nominal subjects and did not change without pronouns. However, seven writers did not contribute to the results. Similarly, when modifying prepositional objects and nominals, all indices scored 0.03. For direct objects, relative clauses scored 0.05 with no difference in the no-pronoun index. All writers were consistent except Writer 21 whose score was 0. Indirect objects did not show any results.

Unit of Analysis 2

Positions. Divided into subjects and objects categories, this category provides the results of NPs in different roles in a sentence.

Subjects. Acting as subjects, NPs in this category of UoA 2 scored higher in almost all no-pronoun indices except the relative clauses.

Table 39

ENG Group: Subjects in UoA 2

Indices	Results (M)	Examples
dependents per nominal subject	0.98	The secret diplomacy of nineteenth century , according to a former US ambassador to China, Paul Reinsch, was "dominated entirely by the tactics and stratagems of war...a continuous struggle for political advantage and power.
dependents per nominal subject (no pronouns)	1.10	A majority of the diplomatic posts were in Europe and Latin America, while a few in Asia and Africa, such as Japan and Morocco.
determiners per nominal subject	0.29	The nuance here is that Middle Eastern women are often believed to be the subjects of patriarchal authoritarianism because of their religion or culture.
determiners per nominal subject (no pronouns)	0.34	The “uncivilized” and “oppressed” archetypes each manifest in the policies of counterterrorism and counterinsurgency, respectively.
adjectival modifiers per nominal subject	0.15	American counterterrorism and counterinsurgency activities in MENASA are inextricable from these racialized, gendered paradigms both in theory and in practice.
adjectival modifiers per nominal subject (no pronouns)	0.18	Middle Eastern men were not just cast as misogynistic brutes but as barbaric, inhuman terrorists.
prepositions per nominal subject	0.16	The interlocking of these paradigms translates to CT and COIN because the two missions are accordingly connected in their perceptions of local populations and their resulting formulations of military policy and methods.
prepositions per nominal subject (no pronouns)	0.19	The “uncivilized” and “oppressed” archetypes at the crux of this chapter are

Indices	Results (M)	Examples
possessives per nominal subject	0.02	well established and have contributed to extensive further scholarship on the subject across disciplines. Its first meeting occurred on August 4th, 1913, in Paris with scientists from the United States, Britain, Belgium, Denmark, France, Germany, Italy, and Norway.
possessives per nominal subject (no pronouns)	0.02	Laughlin's American Peace Award submission was not his first attempt at crafting a world government.
nouns as a nominal subject dependent per nominal subject	0.19	The amateurism of the early diplomats abroad was evident in their lack of language skills and general knowledge of the areas they served.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.22	The Committee on Public Information shifted the individual's relationship with the state.
verbal modifiers per nominal subject	0.01	The practices of direct imperial government, taxation, and military control by essentially banning governments from ruling another country outwardly , allowed for the establishment of new forms of influence.
verbal modifiers per nominal subject (no pronouns)	0.02	American money permeating the daily lives of FRG citizens in the long-term allowed the United States to maintain its influence without its negative consequences readily apparent.
relative clause modifiers per nominal subject	0.02	Even European countries which were not members of NATO , like Sweden and Switzerland, would join ISAF, as would Asian countries like Mongolia and New Zealand.
relative clause modifiers per nominal subject (no pronouns)	0.01	The Scots Guards enlisted ranks are almost 100% Scottish; the Welsh Guards are similarly composed almost primarily of Welshmen.
(non-clausal) adverbial modifiers per nominal subject	0	NO EXAMPLES
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	Fully available to the public, the newspaper sources were easily accessible for data collection on Nord Stream 2.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of

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The average number of dependents per nominal subject was 0.98 and 1.10 without pronouns. As reiterated in an earlier point, there was a common tendency to employ more elaborated structures due to increased use of relevant indices in no pronoun versions, except possessives which remained the same in both versions and relative clauses which dropped by 0.01 without pronouns. Thus, determiners scored 0.29 and increased to 0.34 when pronouns were excluded. Adjectival modifiers, prepositions per nominal subjects, and nouns shared the same level of increase by 0.03 while adjectives scored 0.15 in regular index, prepositions scored 0.16, nouns scored 0.19. Unlike the general tendency, possessives did not show any change between the indices and scored 0.02 in both. Verbal modifiers scored 0.01 but increased to 0.02 without pronouns. In contrast, relative clause modifiers scored 0.02 but decreased to 0.01 without pronouns. Non-clausal adverbial modifiers remained the least frequently encountered index of the current category in UoA 2 by scoring 0 and 0.01 without pronouns. Except for Writer 31 who scored 0 in relevant relative clause indices and Writer 3 who had the same result in relevant adverbial modifier indices, all writers employed the indices of this category similar to each other without any significant discrepancies.

Objects. This category included NP complexity indices of direct objects and indirect objects. The NPs as direct objects, as shown in the table below, did not vary significantly based on pronoun use.

Table 40*ENG Group: Direct Objects in UoA 2*

Indices	Results (M)	Examples
dependents per direct object	1.63	The United States would deploy troops overseas very sparingly, as mentioned above, but would foster its relationships with other governments and law enforcement agencies to keep a handle on transnational problems.
dependents per direct object (no pronouns)	1.62	The UN still has majority support but considerably less support than the alliances studied in this report.
determiners per direct object	0.37	Restrainers' assertions about ending all alliances fail to account for the credibility gained from membership in lasting organizations like NATO.
adjectival modifiers per direct object	0.36	The voters, like their representatives in government, tend to hold favorable views of maintaining alliances.
prepositions per direct object	0.35	The post-WWII geopolitical landscape saw Europe as a continent decimated by war and the United States with only one competitor , the United Soviet Socialist Republics, which eventually succumbed to economic problems and left the United States as the global hegemon.
possessives per direct object	0.07	Roughly six weeks later, by June 20, they were in London. Upon their arrival, and throughout the entirety of their stay, they were followed intensely by London's public and its print media.
verbal modifiers per direct object	0.05	The security forces savagely attacked the Tudeh crowds resulting in the Tudeh leadership ordering its agitators to stand down.
nouns as a direct object dependent per direct object	0.20	Political stability in these regions often required the support of external powers.
relative clause modifiers per direct object	0.04	As a result, both countries' aid-bureaucracies have promoted "dual-benefit" aid, which is intended to promote both foreign nations' economic development and domestic businesses' market access.
(non-clausal) adverbial modifiers per direct object	0.01	Before Nixon could even enter the university building, he was forced back into his car by the secret service and

Indices	Results (M)	Examples
determiners per direct object (no pronouns)	0.38	driven away. Terrorism, international crime, and related issues cannot destroy a state, but policymakers need a plan through which to address them.
adjectival modifiers per direct object (no pronouns)	0.37	This chapter outlines these widespread international actions and seeks to explain them as a new form of imperialism .
prepositions per direct object (no pronouns)	0.36	By projecting power through a large global military presence, the United States foments popular resentment in certain regions , especially the greater Middle East.
possessives per direct object (no pronouns)	0.07	This personal history with English settlers may help explain Tomochichi's eagerness to befriend the new Georgia colonists , as well as his separation of sorts from the Lower Mvskoke.
verbal modifiers per direct object (no pronouns)	0.05	Tudeh demonstrations, however, continued unabated, with the offices of the Iran Peoples Party ransacked and shops looted .
nouns as a direct object dependent per direct object (no pronouns)	0.20	Both powers could establish multiple lines of control that either went around the definition of traditional imperialism or simply justified more obvious management through the claims of long-term rebuilding and stability efforts.
relative clause modifiers per direct object (no pronouns)	0.04	Pierson conceptualizes path dependence as a phenomenon occurring when “the costs of exit – or switching to some previously plausible alternative – rise.”
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	This distancing was larger than just the name change, as it also signified a shift to the 'new left,' what the FBI saw as radical leftist.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Direct objects had 1.63 dependents on average, while a slight decrease of 0.01 was observable in the no-pronoun version. Determiners scored 0.37 and 0.38 without pronouns. Adjectival modifiers averaged 0.36 and 0.37 without pronouns. Possessives and verbal modifiers did not show any differences based on pronoun use and they scored 0.07 and 0.05. Similarly, nouns as a direct object dependent per direct object, relative clauses, and adverbial modifiers followed a no-change pattern in no-pronouns indices. Nouns were observed 20 times per 100 phrases while this number was restricted to 4 times on average per 100 phrases for relative clauses. Non-clausal adverbial modifiers were the least commonly used indices again, scoring 0.01. The writers did not vary in using the indices of this category while writing UoA 2 of their theses.

While indirect objects were still not as common as the direct objects, the results suggested an increased complexity and number of instances compared to the UoA 1 and TR group. However, it is important to underline that the results were not consistent.

Table 41

ENG Group: Indirect Objects in UoA 2

Indices	Results (<i>M</i>)	Examples
dependents per indirect object	0.46	These economic considerations gave the North Yemen War a high level of importance in the American government and helped to place Saudi Arabia as a centerpiece of the American Middle East strategy.
dependents per indirect object (no pronouns)	0.65	Same as the regular index
determiners per indirect object	0.18	A cable from the Joints Chief reveals how much material was on hand to offer support to the Saudi government during the escalation of the conflict with the United Arab Republic.
adjectival modifiers per	0.05	While this presidential discretion offered

Indices	Results (M)	Examples
indirect object		the executive branch a degree of freedom, there was still a great deal of concern within president's office over the potential implications of this legislation.
prepositions per indirect object	0	NO EXAMPLES
possessives per indirect object	0.01	The start of North Yemen Civil War came at a time when the Kennedy administration began sending economic aid to Saudi Arabia's belligerent, the United Arab Republic.
verbal modifiers per indirect object	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object	0.17	Saudi Arabia played an important role in the fight directed at Kennedy not simply because of their discriminatory policies, but also because the Saudis represented a potential threat to the continued existence of Israel.
relative clause modifiers per indirect object	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object	0.01	Which gives Congress alone the final decision on how to appropriate the Government's money.
determiners per indirect object (no pronouns)	0.30	Same as the regular index
adjectival modifiers per indirect object (no pronouns)	0.04	Same as the regular index
prepositions per indirect object (no pronouns)	0	NO EXAMPLES
possessives per indirect object (no pronouns)	0.01	Same as the regular index
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object (no pronouns)	0.25	Same as the regular index
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Hence, the averages in this category might be misleading. The dependents per indirect objects were measured 0.46 and 0.65 without pronouns on average among 36 writers. The results of 17 writers were 0 while the discrepancy between them was 2.66. Writers 10, 12, and 13 scored 1.0 and Writer 32 provided a slightly higher result which was 1.33. Writers 28 and 33 scored 2.0. Writer 17 showed the highest result by scoring 2.66. Excluding pronouns also affected the results as the variation between writers increased, and some differed significantly from the results of the other index. Thus, the number of 0 scores increased to 18 writers. The scores of Writers 12 and 32 rose to 2.0. In addition, Writers 16 and 34 scored 2.0 without pronouns while their scores were 0.66 in the other version of the index. Writer 24 also scored higher in the no-pronouns index by scoring 1.5, but the other index suggested 0.75 and was followed by Writer 25, whose score increased to 1.0 from 0.66, and Writer 29, rising from 0.83 to 1.25. The rest did not differ due to pronouns.

Determiners scored 0.18 yet the score increased to 0.30 without pronouns. However, 19 writers did not provide any results. The writers from whom the results were collected also varied among each other. Although 15 of them were relatively consistent compared to each other, Writers 17 and 28 scored 1.0. For the no-pronoun index, in addition to Writers 17 and 28, the scores of Writers 12, 16, 24, and 34 increased to 1.0.

Adjectival modifiers scored 0.05 and 0.04 but only 5 writers contributed to the results. Possessives remained the same in both indices by 0.01 because of Writer 33 whose score was 0.5. Non-clausal adverbial modifiers also scored 0.01 as Writer 10 scored 0.5 while the rest did not show any results. Nouns were also affected by the pronouns, the regular index scored 0.17 but when pronouns were excluded, the score reached to 0.25. The data was collected from 12 writers and they were mostly consistent among each other; however, Writers 13 and 28 scored 1.0 in addition to Writer 17 with the score of 1.33. Significant changes were observed when pronouns were excluded in the results of Writers 12 and 34 as their scores were almost doubled by rising to 1.0. Prepositions, verbal, and relative clause modifiers did not show any results.

Nominalizations. This category analyzes NPs both syntactically and semantically by focusing on dependents per nominals, nominal complements, and nouns as nominal dependents. The results suggested that the pronoun use was not a significant contributor of the complexity. In addition, individual averages of the writers did not indicate high discrepancies except in nominal complement indices.

Table 42

ENG Group: Nominalizations in UoA 2

Indices	Results (M)	Examples
dependents per nominal	1.39	In the first part of this chapter, I provide a brief background on the Group's history, introduce key individuals , and describe its various operational support structures .
dependents per nominal complement	2.95	In a letter addressed to the other Trustees back in Britain, Oglethorpe mentioned having contacted "a little Indian nation the only one within fifty miles."
dependents per nominal (no pronouns)	1.39	The "uncivilized" and "oppressed" archetypes at the crux of this chapter are well established and have contributed

Indices	Results (M)	Examples
dependents per nominal complement (no pronouns)	2.86	to extensive further scholarship on the subject across disciplines. The Yamacraw’s central position in wider Indigenous-settler diplomacy through the region is indicative that their standing vis-à-vis neighboring peoples was not entirely tarnished.
nouns as a nominal dependent per nominal	0.20	Prigozhin operates as the Russian Federation’s ‘Minister of Hybrid Warfare’ of sorts , holding a position of power over the Russian hybrid warfare initiative equal to that of the GRU, Russia’s military intelligence agency.
nouns as a nominal dependent per nominal (no pronouns)	0.21	The Alawis were found mostly within or close to the coastal mountains, and this unique geography allowed the sect to exist mostly apart from the rest of the citizens of Syria.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The average score for dependents per nominal was 1.39 regardless of the pronoun use. Nominal complements on average included at least two dependents as the scores were 2.95 and 2.86 without pronouns. Nouns as nominal dependents per nominals scored 0.20 and 0.21. Writers did not show a significant discrepancy in this category, apart from three writers in the use of nominal complements. Writers 3, 21, and 28 scored 3.7; 3.65; and 3.35 in both indices of dependents per nominal complements.

Passives. This category fosters the results of subject NPs that are modified with passive words or act as agents, such as “the comprehensive reforms,” an NP

with a determiner and adjectival modifier, being the nominal subject of a passive sentence as shown in Table 43.

Table 43

ENG Group: Passives in UoA 2

Indices	Results (M)	Examples
dependents per passive nominal subject	1.14	The comprehensive reforms were implemented after intense political debates and public consultations.
dependents per agent	1.14	The initiatives were endorsed by respected economic experts from various countries.
dependents per passive nominal subject (no pronouns)	1.20	The revised legal framework was introduced following extensive consultations.
dependents per agent (no pronouns)	1.60	The controversial decision was overturned by a coalition of regional leaders.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Both dependents per passive nominal subject and per agent scored 1.14, however the numbers differed in pronouns. Without pronouns, passive nominal subjects showed relatively higher level of complexity as there was a mild increase by 0.06. Furthermore, Writer 3 scored above the average in both indices by scoring 2.0 and 2.2 while the rest performed a consistent approach in their writing. For passive agents, the difference was 0.46 indicating a more visible increase in complexity. The individual results suggest that the no-pronouns index increased proportionately as the writers did not differ in their use of the target structure. To explain further, Writers 1, 3, and 10 scored 1.9, 0, and 2.0 in order. Nevertheless, this difference was not

observed in the no-pronoun index except for Writer 3, still scoring 0 as the scores of Writers 1 and 10 decreased while the rest increased, reducing the discrepancy.

Modifications. The category of modifications presents results of indices that reveal the types of dependents. The group averages indicated in the table below were also supported by the individual scores of writers, as their writings were consistent with each other.

Table 44

ENG Group: Modifications in UoA 2

Indices	Results (M)	Examples
dependents per object of the preposition	1.44	López Obrador recognized the binational imperative of creating predictable immigration policies that facilitate the authorized movement of persons across their shared terrestrial border , and ease the suffering endured by refugees and asylum seekers attempting to cross into the United States through Mexico.
dependents per object of the preposition (no pronouns)	1.37	This awareness of these transitional costs may result in further adverse selection in terms of information sharing by aid agents regarding their conformity to upper-level strategies .
determiners per nominal	0.35	The ordinance went into effect on August 1st, 1838, and paved the way for the other groups to migrate into the island under the British's racialized immigration/labor model .
adjectival modifiers per nominal	0.27	Classic restraint's policy prescriptions provide the best existing alternatives to the status quo.
prepositions per nominal	0.25	The Yamacraw were instrumental in the establishment of the colony of Georgia and in facilitating the connection of this colony with the wider network of Indigenous politics within the region .
possessives per nominal	0.04	For Oglethorpe's part , he also saw the benefit in sponsoring a Yamacraw delegation to London, conscious of its predecessors such as that of the Cherokees in 1730.
verbal modifiers per	0.03	The Shah advised Mosaddeq that he

Indices	Results (<i>M</i>)	Examples
nominal		intended to leave his wife Queen Soraya on 28 February for a trip to Europe.
relative clause modifiers per nominal	0.03	The Oprichniks, or 'Oprichniki,' formed a personal cult who always wore black attire and purposefully rode black horses.
(non-clausal) adverbial modifiers per nominal	0.01	The longer a conflict rages, the angrier the public become, and the chance for congressional pull back increases.
determiners per nominal (no pronouns)	0.36	The death of Tooanahowi signaled a period of decline for the Yamacraw.
adjectival modifiers per nominal (no pronouns)	0.28	The organization of the domestic bureaucracy behind foreign aid policymaking is underexamined, yet critical to shaping development assistance.
prepositions per nominal (no pronouns)	0.24	While markets and avenues for trade are resilient, another world war that engulfs the entirety of Eurasia could cause major supply chain disruptions.
possessives per nominal (no pronouns)	0.04	Though ultimately unsuccessful in securing the Yamacraw's status within the Southeast for the long term, Tomochichi's diplomatic strategies exemplified efforts to incorporate Britain into Indigenous alliance networks to guard regional interests centered on trade and defense.
verbal modifiers per nominal (no pronouns)	0.03	However, the realities of gaining an economic foothold in Iran without the requisite geopolitical influence proved to be insurmountable.
relative clause modifiers per nominal (no pronouns)	0.03	The Third Section was another incarnation of these Tsarist secret agent organizations, created to spy on members of Russian aristocracy the Tsar did not trust.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	Same as the regular index
determiners per object of the preposition	0.35	In the first part of this chapter, I provide a brief background on the Group's history , introduce key individuals, and describe its various operational support structures.
adjectival modifiers per object of the preposition	0.28	Signature strikes are the most pervasive and most contentious category and are thus the specific focus of this chapter because of the overtly gendered way

Indices	Results (M)	Examples
		that signature targets are selected as Middle Eastern men and therefore threatening.
prepositions per object of the preposition	0.23	Coming out of its colonial past, T&T inherited a liberal economic system from its former colonial masters .
possessives per object of the preposition	0.04	Afterward, several of the Georgians ventured to the Yamacraws' town to stay for the night at the house of the traders stationed there, the Musgrove family, where they were entertained for the evening by their dance .
verbal modifiers per object of the preposition	0.03	President Bush conveyed information in the manner he preferred to receive : simplistic, value-laden, decisive and with conviction.
nouns as an object of the preposition dependent per object of the preposition	0.21	Kennedy expressed his desire for mutual respect and understanding with Arab nations.
relative clause modifiers per object of the preposition	0.03	Congress possesses a wide array of powers in which to check the president without legal means .
(non-clausal) adverbial modifiers per object of the preposition	0.01	Domestic legislative and public agenda is an important element to consider when looking to how important a priority a war is in the country at the time .
determiners per object of the preposition (no pronouns)	0.35	Following the failed Bay of Pigs invasion , the Egyptian President joined with Yugoslavian President Josip Broz Tito and publicly promised aid to Cuba.
adjectival modifiers per object of the preposition (no pronouns)	0.28	According to the FCO's January review, the UK had become, as the FCO's January review put it, an 'instrument of American strategic purpose '.
prepositions per object of the preposition (no pronouns)	0.24	Prigozhin operates as the Russian Federation's 'Minister of Hybrid Warfare' of sorts, holding a position of power over the Russian hybrid warfare initiative .
possessives per object of the preposition (no pronouns)	0.04	The expansion of Britain's imperial networks into southeastern North America was one of the catalysts for Tomochichi's transatlantic journey.
verbal modifiers per object of the preposition (no pronouns)	0.03	The war on terrorism opened new avenues to legitimately strike at Saddam and extend American hegemony under the guise of humanitarian interventionism.
nouns as an object of the	0.21	The conceptualization of men as

Indices	Results (M)	Examples
preposition dependent per object of the preposition (no pronouns)		inherent agents of violence results in the exclusion of men from victimhood.
relative clause modifiers per object of the preposition (no pronouns)	0.03	Congress deemed the legislation necessary at the time given the various bombing campaigns Nixon had undertaken in Southeast Asia throughout the Vietnam War.
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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The findings suggested that prepositional objects were modified by at least 1 dependent on average since the scores were 1.44 and 1.37 without pronouns. The writers did not show any difference.

Per nominals, determiners scored 0.35 and 0.36 without pronouns. Adjectives averaged 0.27 and 0.28. The averages calculated for prepositions were 0.25 and 0.24 in the no-pronoun index. Possessives resulted in 0.04 and remained the same without pronouns. Verbal and relative clause modifiers scored 0.03 in the regular indices. In addition, they did not differ in no-pronoun indices. Non-clausal adverbial modifiers also remained in the same number when pronouns were excluded, maintaining the score of 0.01. There was not an observable discrepancy between the individual scores of writers in indices regarding per nominals as the discrepancy was low.

Per object of the preposition, determiners scored 0.35 and remained the same without pronouns. Adjectives also did not change in the no-pronoun index and scored

0.28. Prepositions averaged 0.23 but increased by 0.01 to 0.24 without pronouns.

Possessives scored 0.04 and did not change due to pronoun use. Verbs were observed 3 times per 100 phrases remaining the same without pronouns. Nouns as an object of the preposition dependent per prepositional objects scored 0.21 in both versions of the index. Relative clauses scored 0.03 in prepositional objects without a change in the no-pronoun index. Adverbs averaged 0.01 and were not affected by pronouns. The writers were also consistent in this category; thus, they did not show any significant differences.

Embedding. This category explores NP complexity through relative clauses.

Table 45

ENG Group: Embedding in UoA 2

Indices	Results (M)	Examples
relative clause modifiers per nominal subject	0.01	Even European countries which were not members of NATO , like Sweden and Switzerland, would join ISAF, as would Asian countries like Mongolia and New Zealand.
relative clause modifiers per nominal subject (no pronouns)	0.01	The Scots Guards enlisted ranks are almost 100% Scottish; the Welsh Guards are similarly composed almost primarily of Welshmen.
relative clause modifiers per direct object	0.04	As a result, both countries' aid-bureaucracies have promoted " dual-benefit " aid, which is intended to promote both foreign nations' economic development and domestic businesses' market access.
relative clause modifiers per direct object (no pronouns)	0.04	Pierson conceptualizes path dependence as a phenomenon occurring when "the costs of exit – or switching to some previously plausible alternative – rise."
relative clause modifiers per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per nominal	0.03	The Oprichniks, or 'Oprichniki,' formed a personal cult who always wore black

Indices	Results (M)	Examples
relative clause modifiers per nominal (no pronouns)	0.03	attire and purposefully rode black horses. The Third Section was another incarnation of these Tsarist secret agent organizations, created to spy on members of Russian aristocracy the Tsar did not trust.
relative clause modifiers per object of the preposition	0.03	Congress possesses a wide array of powers in which to check the president without legal means.
relative clause modifiers per object of the preposition (no pronouns)	0.03	Congress deemed the legislation necessary at the time given the various bombing campaigns Nixon had undertaken in Southeast Asia throughout the Vietnam War.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Based on the presented results, relative clause modifiers per nominal subjects scored 0.01 without a change in no pronoun index. Only the Writer 31 scored 0 while other writers were consistent. In the object position, the number increased to 0.04 and remained the same for both indices. However, the indirect object position did not show any results. The rest of the indices, per nominals and prepositional objects scored 0.03 with no change when excluding the pronouns. Writers also followed similar patterns while employing the relevant indices.

Unit of Analysis 3

Positions. Presenting the results of subjects and objects, this category addresses NP complexity through how NPs function in the sentences.

Subjects. The nominal subjects usually showed higher averages in no-pronoun indices, which could be seen in the table below. Among the dependents, the

difference might be illustrated by two examples. The first example is “his detractors” and the second one is “the actions of the police at protests in the winter of 1970”.

Both are nominal subjects. While the first one is modified only by a possessive pronoun, the latter has a determiner and three prepositional phrases as its dependents. However, although the average score of the regular version of dependents per nominal subject suggested that almost all NPs have one dependent and the individual averages of the writers were consistent, it could also be inferred that there might have been some nominal subjects without any dependents despite being rare.

Table 46

ENG Group: Subjects in UoA 3

Indices	Results (M)	Examples
dependents per nominal subject	0.97	While his detractors condemned the impromptu answer at Des Moines as a transparent appeal to Iowa’s evangelical base, Bush fundamentally believed that his service as commander-in- chief was tied to his faith.
dependents per nominal subject (no pronouns)	1.10	The actions of the police at protests in the winter of 1970 were seen as overly aggressive by SDS members.
determiners per nominal subject	0.30	The decision to invade Cambodia caused widespread protests.
determiners per nominal subject (no pronouns)	0.36	The National Guard actions in the Commons escalated the situation.
adjectival modifiers per nominal subject	0.15	The violent reactions the United States—and its proxy governments like the FRG— had against people, both domestically and abroad, undercut the narrative of America’s commitment to human rights and democracy.
adjectival modifiers per nominal subject (no pronouns)	0.17	The complete control that the United States and Soviet Union had over the world during the Cold War meant that terrorism was one of the only ways that people could assert the actual will of the people.
prepositions per nominal subject	0.15	The reactions from the SDS factions in 1970 reflected their anger.
prepositions per nominal	0.18	The arrest of SDS leaders in San

Indices	Results (M)	Examples
subject (no pronouns)		Antonio led to further protests.
possessives per nominal subject	0.02	Specifically, the nodes of individual scientists and their connective edges amassed a large scientific network by which information was transferred.
possessives per nominal subject (no pronouns)	0.02	The tactic's pointedness helps draw the link between neo-imperialism and terrorism because it intended to only harm the system, not people.
nouns as a nominal subject dependent per nominal subject	0.19	The legacy of colonial exploitation continues to shape postcolonial societies.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.22	The violent reactions to state-sponsored oppression exemplify the need for resistance.
verbal modifiers per nominal subject	0.01	The ability to respond to virtual threats will determine the durability of the Alliance because this future evolution of peril will likely continue to dominate the security landscape in the 21st century.
verbal modifiers per nominal subject (no pronouns)	0.02	The Anglophone Caribbean SIDMS, having gone through the decolonization process as recently as 1983 , have had much less time to tinker with immigration policy.
relative clause modifiers per nominal subject	0.01	Despite the trouble the president's rhetoric has caused within the Alliance, the explicit policy of the country towards NATO is to continue to support operations.
relative clause modifiers per nominal subject (no pronouns)	0.01	Same as the regular index
(non-clausal) adverbial modifiers per nominal subject	0	NO EXAMPLES
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	Mutually beneficial relationships provide the framework that Tokyo can use to increase its cooperation with its neighbors.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Nominal subjects scored 0.97 and 1.10 without pronouns in the number of dependents indices. As the overall tendency of the category is towards a slight increase in no-pronoun indices, apart from possessives and relative clause modifiers, all items conformed to show an increase. Determiners scored 0.30 and 0.36 without pronouns. Adjectives scored 0.15 and 0.17. Prepositions were 0.15 but increased to 0.18 by 0.03. Nouns scoring 0.19 in the regular index increased similarly to prepositions in number, thus being 0.22. Verbal modifiers scored 0.01 and 0.02. Non-clausal adverbials were not observed in the regular index but resulted in 0.01 when pronouns were excluded. Possessives and relative clause modifiers did not show any change according to pronouns; hence they scored 0.02 and 0.01. Although all writers were consistent in each index of this category, only Writer 26 scored 0 in the no-pronoun relative clause modifier index.

Object. Referring to both direct and indirect objects, this subcategory shares the results of NPs in those positions. Overall, the dependents of NPs as direct objects did not show any difference. Nevertheless, the potential difference due to the contributing factors to complexity could be observed in the examples provided below. One of the examples is “the atypical nature of the omission”. The head noun is “nature”. The structure of the NP is determiner (the) + adjective (atypical) + noun (nature) + prepositional phrase (of the omission) with preposition + determiner + noun structure. The second example is “three dynamics which often determined either the success or failure of the Foreign Agentura’s counter-revolutionary initiatives in Europe during that timeframe”. The head noun is “dynamics”. The structure is determiner (three) + relative clause (which often determined either the success or failure of the Foreign Agentura’s counter-revolutionary initiatives in Europe during that timeframe). In terms of the number of dependents, the first has 3

dependents, while the latter has 2. However, the second one is more complex due to the use of a relative clause modifier with coordinated NPs and prepositional phrases. Both are direct objects without pronouns and they share the same group average scores as each other, but embedding interferes with the nature of complexity if analyzed manually, as could be seen from the examples.

Table 47

ENG Group: Direct Objects in UoA 3

Indices	Results (M)	Examples
dependents per direct object	1.59	Over this period, the fact that Italy challenged Russian hegemony in the Balkans further accentuates the atypical nature of the omission.
dependents per direct object (no pronouns)	1.59	By using Italy as a case study, this chapter will investigate three dynamics which often determined either the success or failure of the Foreign Agentura's counter-revolutionary initiatives in Europe during that timeframe.
determiners per direct object	0.38	The Russian government could not establish an agency in Italy due to its lack of influence.
adjectival modifiers per direct object	0.34	Throughout this third chapter, my intentions are to use this historical analysis to help isolate the specific reasons for Russia's inability to put the Okhrana in Italy.
prepositions per direct object	0.34	Italian geopolitical hostility toward Russia hindered the tsarist bureaucracy's ability to formulate a police alliance with Italy that was advantageous to St Petersburg.
possessives per direct object	0.07	This polishing of the chain of friendship did not come without its negative consequences , however.
verbal modifiers per direct object	0.05	The story garnered widespread media attention after 60 Minutes II aired a news segment detailing cases of detainee abuse at the notorious prison , including excerpts from an Army investigative report, headed by General Antonio Taguba.
nouns as a direct object dependent per direct object	0.19	The actions of the United States and Soviet Union allowed for the creation of new ideological power structures within

Indices	Results (M)	Examples
relative clause modifiers per direct object	0.04	Europe. The administration's demonization of Hussein heavily relied on the dictator's adoption of torture practices, which Bush condemned as a "grave violation of human rights."
(non-clausal) adverbial modifiers per direct object	0.01	It is important in the adoption of restraint to physically back away from Japan to highlight the unwillingness to sacrifice US troops to defend uninhabited islands, but maintaining the relationship will help contain further Chinese aggression.
determiners per direct object (no pronouns)	0.39	The Shah adopted an equally lenient approach to other National Front leaders and activists.
adjectival modifiers per direct object (no pronouns)	0.35	The loyalty of the security forces ensured an effective transition of power in the government.
prepositions per direct object (no pronouns)	0.35	The new government also encouraged the growth of "quasi-military fascist-type groups" to counter any Tudeh revival.
possessives per direct object (no pronouns)	0.07	Worries surrounding the attitudes of other Cherokee leaders toward the British preoccupied Ostenaco's mind , and the headman was ready to return home and continue his efforts.
verbal modifiers per direct object (no pronouns)	0.05	Same as the regular index
nouns as a direct object dependent per direct object (no pronouns)	0.20	The Italian government hindered the formation of a meaningful alliance with Russia due to historical enmity.
relative clause modifiers per direct object (no pronouns)	0.04	On the other side was the deposed government of Yemen, led by toppled Prince Hassan , as well as its Saudi and British backers.
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Dependents per direct object resulted in 1.59 regardless of the pronoun use. Determiners were listed as 0.38 and 0.39 without pronouns. Adjectives and prepositions both scored 0.34 and 0.35. Possessives were 0.07 without showing a change in the no-pronoun index. Verbal modifiers scored 0.05 and did not change without pronouns. 0.19 and 0.20 were the results for nouns. Relative clauses scored 0.04 on average. Non-clausal adverbial modifiers were the least frequently used indices scoring 0.01 in both versions. The writers showed complete consistency in this category.

Indirect objects became the less frequent occurrences in UoA 3 too, which could be seen in the table below.

Table 48

ENG Group: Indirect Objects in UoA 3

Indices	Results (M)	Examples
dependents per indirect object	0.23	Lawrence Pezzullo was much less willing than his predecessor to give the Uruguayan military officials the benefit of the doubt and much more likely to hold their feet to the fire.
dependents per indirect object (no pronouns)	0.32	Same as the regular index
determiners per indirect object	0.16	These missile defense systems will help the state survive an initial assault and give the Americans time to deploy.
adjectival modifiers per indirect object	0.04	Its large contributions and strong leadership role give domestic politicians the feeling that they should have a high level of control over the organization.
prepositions per indirect object	0	NO EXAMPLES
possessives per indirect object	0.01	Walmart raised its starting wage to \$ 11, gave its workers a \$ 1,000 bonus, and expanded parental leave benefits.
verbal modifiers per indirect object	0	NO EXAMPLES
nouns as an indirect object dependent per	0.01	These goals and needs of the West German government were carried out

Indices	Results (M)	Examples
indirect object		when Germany lent the Soviet Union \$ 4,75 billion towards the Siberian pipeline s total cost of \$ 10 to \$ 15 billion in July 1980.
relative clause modifiers per indirect object (non-clausal) adverbial modifiers per indirect object	0	NO EXAMPLES
determiners per indirect object (no pronouns)	0.22	Same as the regular index
adjectival modifiers per indirect object (no pronouns)	0.05	Same as the regular index
prepositions per indirect object (no pronouns)	0	NO EXAMPLES
possessives per indirect object (no pronouns)	0	NO EXAMPLES
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object (no pronouns)	0.03	Same as the regular index
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The average scores observed for dependents of indirect objects were 0.23 and 0.32 without pronouns. However, this result stemmed from the differences between writers as the discrepancy is 1.0. In addition, 22 writers did not contribute to the results due to scoring 0. Except for the zero scores, the distribution of scores from

lowest to highest was also inconsistent. Writer 9 scored 0.14, being the lowest among those who incorporated dependents to modify indirect objects, followed by Writers 10 with the score of 0.26, Writers 7 and 18, whose scores were 0.33. Writer 25 scored 0.42. Writers 1, 13, and 21 resulted in 0.5; with a slight decrease Writers 8 and 28 showed 0.75. Being the highest, Writers 5, 10, 20, and 35 scored 1.0. Furthermore, the results drastically changed when pronouns were excluded. The same 22 writers continued not including the index; however, those who previously scored provided increased results. The score of Writer 1 increased to 0.8. Writer 9 scored 0.25 and Writer 10 resulted in 0.5. Writer 25 increased to 0.6. Only Writer 21 remained the same score. The rest was increased to 1.0.

Determiners scored 0.16 and 0.22. Nevertheless, the averages were collected from 13 writers as others did not provide any examples. The results suggested divergent approaches to the use of the structure both between the indices and among the writers. The lowest scores belonged to Writers 7 and 9 being 0.14 and 0.16. Following with a slight increase, Writers 1 and 25 scored 0.25 and 0.28. Writers 18 and 21 averaged 0.33 and 0.37. Writers 8, 31, and 35 scored 0.5 and Writer 28 were 0.75. The highest scores were collected from Writers 5 and 21, recorded as 1.0. When pronouns were excluded, a slight increase was observed in each writer's use while the highest-scoring writers remained unchanged; however, Writer 18 reached the score of 1.0 with increasing by 0.7.

Adjectives and nouns scored 0.04 and 0.01 but the numbers changed due to the exclusion of pronouns. Similar to other indices, the scores were collected from a minority of the writers in the group for both adjectives and nouns. Adjectives were employed by Writers 1, 8, 13, 31, and 35. The lowest score was recorded as 0.12 while the highest was 0.5 without showing a significant variation. Nouns were

adopted by five writers, which were Writers 1, 10, 13, 21, and 25. The discrepancy between the writers was less than 0.04, the lowest being 0.06 and the highest 0.25. Adjectives rose to 0.05 and nouns to 0.03. For adjectives, the same writers retained their use of the structure but their individual scores were increased approximately by 0.02. Similar to adjectives, individual use of nouns increased consistently among the writers, except for Writer 10, whose score moved from 0.06 to 0.12. Prepositions, possessives, verbs, relative clauses, and adverbs did not provide any instances or relevant indices in regular versions. However, possessives scored 0.01 without pronouns while the rest remained zero in no-pronoun indices too. The results did not suggest any use of the relevant indices. Hence, the zero score was completely consistent among the writers, except in possessives indices because Writer 10 adopted the structure. As the score was 0.16, it did not impact the total average but after increasing to 0.5 without pronouns, the score affected the overall average of the group resulting in 0.01.

Nominalizations. Presenting the results of average number of dependents per nominals, nominal complements, and nouns as nominal dependents, this category highlights mostly consistent scores in pronoun use.

Table 49

ENG Group: Nominalizations in UoA 3

Indices	Results (<i>M</i>)	Examples
dependents per nominal	1.37	The US did not pressure the USSR on the issue of Afghanistan.
dependents per nominal complement	2.96	The sanctions imposed on the USSR included cancellation of cultural exchanges.
dependents per nominal (no pronouns)	1.37	The withdrawal of troops from Vietnam in 1975 and the Iranian Revolution in 1979 were major blows to US foreign policy objectives.
dependents per nominal	2.87	Following the theoretical perspectives

Indices	Results (<i>M</i>)	Examples
complement (no pronouns)		of path dependency , I examine T&T's immigration policymaking process, and submit the following reactive event chain as the bedrock of T&T's path dependence vis-à-vis immigration control.
nouns as a nominal dependent per nominal	0.20	Amnesty International's report led Congress to place itself at the center of US-Uruguay policy.
nouns as a nominal dependent per nominal (no pronouns)	0.21	The Carter administration's military assistance requests will be taken as the single most important signal of this Administration's policies on human rights.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Nominals were assigned approximately one dependent on average as the score was 1.37 and it did not change without the pronouns. Dependents per nominal complements scored 2.96 and slightly decreased to 2.87 without pronouns. Nouns scored 0.20 and 0.21. The results presented a strong consistency in each index among the writers as no significant discrepancy was observed.

Passives. Referring to NPs in passive structures, this category shares the results of dependents per passive nominal subject and per agent.

Table 50

ENG Group: Passives in UoA 3

Indices	Results (<i>M</i>)	Examples
dependents per passive nominal subject	1.08	The delicate state of US interests in the conflict was reassured to its leaders.
dependents per agent	1.63	The survey was conducted by leading members of African and African Diaspora communities.

Indices	Results (M)	Examples
dependents per passive nominal subject (no pronouns)	1.14	The rejection of democratic reforms by entrenched political elites with military backing was criticized for undermining popular movements.
dependents per agent (no pronouns)	1.57	The actions were undertaken by non-governmental organizations in the region.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Dependents following NPs as passive nominal subject scored 1.08 and 1.14 without showing any significant discrepancy between writers. Although the group averages and individual scores indicated that the writers were consistent in their adoption of the dependents per passive nominal subjects, it could be noted that the depth of complexity might still differ as it could be inferred from the examples of the indices given in Table 50. The first example “The delicate state of US interests in the conflict was reassured to its leaders.” has four dependents. The nominal subject is “the delicate state of US interests in the conflict”. The head noun is “state”. Its dependents are a determiner, an adjective, and two prepositional phrases, both of which consist of NPs with one modifier. The second sentence “The rejection of democratic reforms by entrenched political elites with military backing was criticized for undermining popular movements.” has a passive nominal subject, which is “the rejection of democratic reforms by entrenched political elites with military backing”. Same as the first example, this has four dependents too. “rejection” is the head noun. The dependents are a determiner and three prepositional phrases with NPs. However,

the complexity of the second example is higher than the first one as it includes adjectival modifiers in prepositional phrases, adding more depth.

Dependents per agents resulted in 1.63 accompanied by a slight decrease in no-pronoun index scoring 1.57. Though four writers differed from the group, the discrepancy was 1.54 in both indices. Writer 6 scored 0.71 and Writers 12, 14, and 21 ranged between 2.02 and 2.25 while 2.02 dropped to 2.0 in no pronoun index.

Modifications. This category presents the results of NP modifiers per nominals and nominal prepositions.

Table 51

ENG Group: Modifications in UoA 3

Indices	Results (M)	Examples
dependents per object of the preposition	1.43	The Prefecture's commissioner, who was given the bureaucratic title of the Prefect of Paris, served as the most important non-military security official in the French empire.
dependents per object of the preposition (no pronouns)	1.35	Realizing that the El Al fleet was quite poorly equipped to manage the type of cargo being sent in and taking further desperate pleas for assistance from the government of Prime Minister Golda Meir , Kissinger and Nixon mobilized the US Military Airlift Command and its heavy-lift aircraft assets on 12 October 1973.
determiners per nominal	0.35	The goal of the resolution was to use the resolution as a weapon against Soviet propaganda , and after the resolution passed, Truman would send it to the Soviets.
adjectival modifiers per nominal	0.25	This presents the second 'part' of the Korean War as an interesting case study because it shows that Congress possesses the ability to act and respond based on popular sentiment from their constituents.
prepositions per nominal	0.24	The Prefect of Paris was also given tremendous executive powers to apply and enforce the execution of laws as

Indices	Results (<i>M</i>)	Examples
possessives per nominal	0.04	well as regulations concerning public health, public morality, and public security. The department instructed its ambassador in Cairo , John Badeau, to inform the Egyptian government that the United States knew of Egyptian troop movements toward Yemen and that the United States looked upon this action with disapproval.
verbal modifiers per nominal	0.03	As the prospect of Afghanistan becoming an SSR was threatened by civil war and the emergence of Hafizullah Amin, the Soviet Union intervened on behalf of the PDPA in an effort to legitimize Afghanistan's nationhood.
relative clause modifiers per nominal	0.03	Embedded in the historical institutionalist literature is the assumption that policymaking systems tend to be conservative and therefore find ways of defending pre-existing patterns of policy, as well as the institutions that make and enforce those policies.
(non-clausal) adverbial modifiers per nominal	0.01	There were no arrests initially , but one of Arbery's assailants captured the entire incident on video.
determiners per nominal (no pronouns)	0.36	The pact was called the Bilateral Security Pact.
adjectival modifiers per nominal (no pronouns)	0.26	These efforts, he mused further, precluded grave economic and political imbalance for the majority of the industrialized Western world.
prepositions per nominal (no pronouns)	0.24	Former Ambassador Neumann criticized President Obama's troop surge because it called for a withdrawal of US forces on a specific timetable.
possessives per nominal (no pronouns)	0.04	Yet after the long process of rapprochement discussed in the previous chapter, Nasser's position now held considerable sway in the Kennedy administration.
verbal modifiers per nominal (no pronouns)	0.03	Specially trained Spetsnaz troops entered the palace and killed anyone who refused to surrender.
relative clause modifiers per nominal (no pronouns)	0.03	However, owing to the limits imposed on this thesis, I will confine my examination of the Laws to specific Acts taken from sections one and three and some of the

Indices	Results (<i>M</i>)	Examples
		more significant immigration policies enabled by them.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	Same as the regular index
determiners per object of the preposition	0.35	Bush and his advisers found themselves in an administration-defining public relations battle.
adjectival modifiers per object of the preposition	0.26	With the scandal drawing international condemnation , Bush and his advisers found themselves in an administration-defining public relations battle.
prepositions per object of the preposition	0.23	After purging the administration of their Parcham rivals , Taraki and Amin consolidated their control over the radical socialist reform across the country.
possessives per object of the preposition	0.04	While partial to the moderates, Craigie and Grew certainly became more suspicious of the hardline, military element in Japan and its influence on the country's behavior.
verbal modifiers per object of the preposition	0.03	Continued conflict would ensure instability and discredit the PDPA, the Politburo, and the Mujahideen's ability to govern themselves.
nouns as an object of the preposition dependent per object of the preposition	0.21	Eugenicists both actively transmitted their own conclusions and interacted with the work of their fellow eugenicists overseas.
relative clause modifiers per object of the preposition	0.03	By February 27th, 2006, Chen had announced the end of the unification council which was one of the promises he stated in the 4 No's to not get rid of.
(non-clausal) adverbial modifiers per object of the preposition	0.01	Over half a million people were estimated to have protested in the United States alone.
determiners per object of the preposition (no pronouns)	0.36	Though Amin had reassured Afghans the PDPA had no intent on collectivizing agriculture, multiple land reforms indirectly contributed towards the collectivization.
adjectival modifiers per object of the preposition (no pronouns)	0.26	Traditional Republicans advocated for an unobtrusive federal government, frugal fiscal policies, and an isolationist foreign policy.
prepositions per object of the preposition (no	0.23	While Davenport sailed the thousands of miles across the Pacific Ocean , his

Indices	Results (M)	Examples
pronouns)		eugenic ideals had evidently already arrived on the Oceanic continent.
possessives per object of the preposition (no pronouns)	0.04	Nevertheless, Grew held mostly a positive appraisal of Craigie's professional effort.
verbal modifiers per object of the preposition (no pronouns)	0.03	As the prospect of Afghanistan becoming an SSR was threatened by civil war and the emergence of Hafizullah Amin, the Soviet Union intervened on behalf of the PDPA in an effort to legitimize Afghanistan's nationhood.
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.21	Eisenhower gave the CIA unrestrained permission to subvert the efforts of enemies of the United States , which resulted in the overthrow of the Iranian government in 1953.
relative clause modifiers per object of the preposition (no pronouns)	0.03	This led to the referendum by Chen with the people of Taiwan voting if the government should attempt again to apply under the name Taiwan.
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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As shown in the table above, prepositional objects were modified by at least one dependent per phrase as the average was 1.43 and 1.35 without pronouns.

Per nominal, determiners scored 0.35 and 0.36. Adjectives were observed 25 times per 100 phrases and 26 times without pronouns. Prepositions showed 24 instances per 100 phrases and remained the same in the no-pronoun index. Possessives scored 0.04 and did not change in the no-pronoun index. Verbal and relative clause modifiers both scored 0.03 without changing when pronouns were

excluded. Non-clausal adverbials were used once per 100 phrases regardless of pronouns.

Modifiers per object of the preposition showed similar tendencies as except for determiners, none was affected by pronoun-use therefore they scored the same in both versions of the relevant indices. Determiners averaged 0.35 and increased to 0.36 without pronouns. Adjectival modifiers scored 0.26. Prepositions resulted in 0.23. Possessives were present in 4 instances per 100 phrases. Verbs scored 0.03. Nouns averaged 0.21. Adverbs resulted in being the least frequently used indices of the category scoring 0.01.

All writers performed similarly on average in each index.

Embedding. This category provides insights into the depth of NP complexity through analyzing relative clauses.

Table 52

ENG Group: Embedding in UoA 3

Indices	Results (<i>M</i>)	Examples
relative clause modifiers per nominal subject	0.01	Everyone who had attended dinner with President Amin had become violently ill.
relative clause modifiers per nominal subject (no pronouns)	0.01	The CIA's concern the Soviet Union was using d'tente to their advantage proved to be warranted.
relative clause modifiers per direct object	0.04	The administration's demonization of Hussein heavily relied on the dictator's adoption of torture practices, which Bush condemned as a "grave violation of human rights."
relative clause modifiers per direct object (no pronouns)	0.04	On the other side was the deposed government of Yemen, led by toppled Prince Hassan , as well as its Saudi and British backers.
relative clause modifiers per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Indices	Results (M)	Examples
relative clause modifiers per nominal	0.03	Embedded in the historical institutionalist literature is the assumption that policymaking systems tend to be conservative and therefore find ways of defending pre-existing patterns of policy, as well as the institutions that make and enforce those policies.
relative clause modifiers per nominal (no pronouns)	0.03	However, owing to the limits imposed on this thesis, I will confine my examination of the Laws to specific Acts taken from sections one and three and some of the more significant immigration policies enabled by them.
relative clause modifiers per object of the preposition	0.03	By February 27th, 2006, Chen had announced the end of the unification council which was one of the promises he stated in the 4 No's to not get rid of.
relative clause modifiers per object of the preposition (no pronouns)	0.03	This led to the referendum by Chen with the people of Taiwan voting if the government should attempt again to apply under the name Taiwan.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Relative clause modifiers were observed in a low frequency regardless of the function of the root they modified or the pronouns according to the results listed in Table 52. Hence, per nominal subjects, the score was 0.01. In direct objects, the higher frequency of the current UoA was observed as the result was 0.04. Per nominals and prepositional objects, the results were 0.03 while relative clause modifiers did not appear in indirect objects. And prepositional objects scored 0.04 but decreased 0,01 without pronouns while the rest did not differ in no-pronoun indices. Writers generally adopted a similar pattern to each other in using the relevant

indices, yet, Writer 26 scored 0 in NPs as nominal subjects modified by relative clauses.

Unit of Analysis 4

Positions. This category includes two other subcategories as subjects and objects, indicating the functions of NPs in the sentences.

Subjects. The NPs with subject role are covered in this subcategory.

Table 53

ENG Group: Subjects in UoA 4

Indices	Results (M)	Examples
dependents per nominal subject	1.01	Rugged individualism was a romanticist combination of frontier mentality of conquering new lands and constitutionality.
dependents per nominal subject (no pronouns)	1.17	The traditional Republican Party was comprised of multiple factions with differing viewpoints, but common interests.
determiners per nominal subject	0.30	The Reagan Presidency served as its dénouement.
determiners per nominal subject (no pronouns)	0.36	The constitutional crisis pertaining to the President may be necessary to force drastic change in legislation regarding war powers.
adjectival modifiers per nominal subject	0.18	Post-Cold War Republican actions are also antithetical to traditional Republicanism.
adjectival modifiers per nominal subject (no pronouns)	0.21	The divided government posed significant challenges to legislative change.
prepositions per nominal subject	0.17	The expansion of military authority the president possesses does not appear to be going anywhere.
prepositions per nominal subject (no pronouns)	0.20	Immigration control in the SIDMS is heavily influenced by colonial legislation.
possessives per nominal subject	0.02	For the Yamacraw, their remarkable influence as a diasporic community ceased following the deaths of two of their most prominent transatlantic diplomats.
possessives per nominal subject (no pronouns)	0.03	The Yamacraw's policy of holding firm to their alliance with Britain effectively secured their defensive and trade interests

Indices	Results (M)	Examples
nouns as a nominal subject dependent per nominal subject	0.16	throughout the remainder of these two individuals' lives. The history of Congress since World War II shows a pattern of deference to the president.
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.20	The Immigration Division's operational responsibilities include overseeing migrant inflows.
verbal modifiers per nominal subject	0.01	Nixon's infamous 'war on drugs,' born out of his law-and-order 1968 presidential campaign , refocused the US federal bureaucracy on a supply-reduction ethos that envisaged malign foreign actors seeking to undermine 'traditional' American values by infecting Americans with dangerous narcotics.
verbal modifiers per nominal subject (no pronouns)	0.02	Scholarship deciphering the history of US drug control policy often mentions Operation 'Intercept' as a minor incident in the context of a larger drug policy story, or an ill-advised policy tussle unique to the dynamics of a shared border that resulted in few tangible changes to US foreign policy.
relative clause modifiers per nominal subject	0.01	Future researchers who take on rational choice restraint can delve into these other bilateral and multilateral institutions to which the United States is a party.
relative clause modifiers per nominal subject (no pronouns)	0.01	Though Kennedy never fully severed ties with the Egyptian leader, the final letter the American President sent to the Arab leader made clear that the bond between them was approaching a breaking point.
(non-clausal) adverbial modifiers per nominal subject	0.01	Therefore, even some within Kennedy's Middle East team , who were appointed by the President, did not initially share in the New Frontier aspirations in the Arab World, yet Kennedy proceeded with reimagining America's involvement in Middle East politics.
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	In addition to further studying Japan and China's aid and investment bureaucracies, particularly after the release of Japan's 2023 Development Cooperation Charter, future research in this area could examine the organization of other foreign aid institutions in developmental states

Indices	Results (M)	Examples
		such as South Korea and Taiwan.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Nominal subjects included 1.01 and 1.17 dependents on average, scoring higher without pronouns and writers did not show inconsistency. The scores of determiners were 0.30 and 0.36 without pronouns. Adjectival modifiers scored 0.18 and 0.21 without pronouns closely followed by prepositions resulting in 0.17 and 0.20 in no pronoun index. Although all other writers included samples for the preposition index, Writer 7 scored 0 in both indices. Nouns averaged 0.16 and increased to 0.20 when pronouns are excluded. Verbal modifiers, relative clauses, and non-clausal adverbial modifiers were observed rarely as they scored 0.01. Although the no pronoun indices remained the same for relative clause and adverbial modifiers, verbal modifiers increased to 0.02. However, individual scores of writers in possessives, verbs, relative clauses, and adverbial modifiers demonstrated diverse patterns in use unlike the scores shown in Table 53. Seven writers did not employ possessives in NPs as nominal subjects in their writings of UoA 4. Four writers scored 0 in verbal modifiers of the category. Ten writers did not produce any results in relative clause indices and nine writers scored 0 in adverb indices. The numbers did not change in the no-pronoun indices.

Object. NPs as direct and indirect objects are analyzed under this category.

Below is a table showing the results.

Table 54*ENG Group: Direct Objects in UoA 4*

Indices	Results (<i>M</i>)	Examples
dependents per direct object	1.61	Wallace was critical of the Truman administration years after the 1948 election.
dependents per direct object (no pronouns)	1.60	Georgia's economic position compared to Armenia's provides further foreign policy options , as Armenians are heavily dependent on Russia for most of their trade.
determiners per direct object	0.37	The Armenian case demonstrates the influence of diaspora political interference on national policy decisions .
adjectival modifiers per direct object	0.36	The European Union provides substantial economic aid to Georgia to support its EU aspirations.
prepositions per direct object	0.34	The rejection of the EU-Armenia Association Agreement in 2013 marked a turning point in Armenian politics .
possessives per direct object	0.07	In reality, the international community disagrees, and the distance between his rhetoric and actions further exacerbate his problems .
verbal modifiers per direct object	0.05	Still, the eugenic policy embedded within his proposal was not only his attempt to codify international eugenics, but it was also his foolproof method of correcting the mistakes made by the League .
nouns as a direct object dependent per direct object	0.19	The Armenian rejection of the Association Agreement highlighted its dependency on Russian trade networks .
relative clause modifiers per direct object	0.04	The founders of NATO foresaw a multilateral alliance in which member-states contributed equally .
(non-clausal) adverbial modifiers per direct object	0.01	Moreover, -LRB- as discussed in chapter one -RRB- certain countries were given more senators based on how significant he found them to be in the world .
determiners per direct object (no pronouns)	0.38	South Korea officially dedicated a \$73 million Olympic Stadium that contained 100,000 seats and a roller-coaster roof.
adjectival modifiers per direct object (no pronouns)	0.37	South Korea created new subway lines , an airport expansion, and cleaned up the Han River.

Indices	Results (<i>M</i>)	Examples
prepositions per direct object (no pronouns)	0.35	The South Korean brain drain both created and severed connections between American policymakers and Korea's populace.
possessives per direct object (no pronouns)	0.07	Human rights also played to Carter's strengths and were consistent with his foreign policy outlook throughout his term.
verbal modifiers per direct object (no pronouns)	0.05	He had witnessed the exchange of information during Congresses and the international collaboration during Commissions and would shortly view the ability of sterilization policy to transcend national boundaries.
nouns as a direct object dependent per direct object (no pronouns)	0.19	These concrete buildings stood as demonstrations of Korea's success in becoming members of the developed world.
relative clause modifiers per direct object (no pronouns)	0.04	As foreign policy choices increasingly moved to the White House from the State Department, National Security staffers gained added influence, because they were able to screen information from the other departments and shape the way the President received documents.
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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NPs functioning as direct objects included 1.61 dependents on average with a 0.01 drop in no pronoun index. Similarly, determiners and prepositions increased 0.01 without pronouns. Determiners scored 0.37 and prepositions were 0.34 in regular indices. Possessives, verbal modifiers, nouns, relative clauses, and adverbs did not change based on the pronouns. Thus, possessives scored 0.07 and verbal

modifiers were 0.05. Nouns remained 0.19 and relative clauses scored 0.04. Non-clausal adverbial modifiers became the least frequently employed index due to scoring 0.01.

In this category of UoA 4, writers remained consistent in adopting dependents in general, determiners, adjectives, and prepositions regardless of the pronouns. Conversely, indices of possessives, verbs, nouns, relative clauses, and adverbials resulted in some irregular scores despite the low discrepancy. Three writers did not provide any results for possessives while only Writer 18 did not refer to verbs and Writer 19 to nouns. There were no available results for four writers in relative clauses and eight writers in the adverbials. This approach of writers remained unchanged in the no-pronoun index as well.

Similar to previous results of the same subcategory, indirect objects remained being relatively less frequent. The number of indices where target structures occurred at least once was equal to those scored 0.

Table 55

ENG Group: Indirect Objects in UoA 4

Indices	Results (<i>M</i>)	Examples
dependents per indirect object	0.19	This could be accomplished by authorizing the State Department to determine the appropriate length ambassadors should serve in a particular country, subject to the president's approval, and giving the State Department the authority to appoint ambassadors to fixed length terms.
dependents per indirect object (no pronouns)	0.21	Same as the regular index
determiners per indirect object	0.10	Kissinger had given the invasion his clandestine blessing and although many within the State Department doubted the efficacy of the Secretary's decision, the hands of most US officials seeking a different resolution to the security situation in the Levant were tied.

Indices	Results (M)	Examples
adjectival modifiers per indirect object	0	NO EXAMPLES
prepositions per indirect object	0.02	However, the potential benefits to giving ambassadors a longer tenure in postings such as Afghanistan suggest that the idea should at least be considered.
possessives per indirect object	0.02	Even Whitehouse appeared to have given her time in Switzerland a more positive reappraisal, for she left no words of reflection or constructive criticism for future publicity agents, I am not going to end by drawing any conclusions from this they seem to me either too obvious or too confused, I shall simply leave the record as it is.
verbal modifiers per indirect object	0	NO EXAMPLES
nouns as an indirect object dependent per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object	0	NO EXAMPLES
determiners per indirect object (no pronouns)	0.10	The boycott, though it may have denied the Soviets the opportunity to achieve a propaganda victory, left the USSR with a large platform to promote the alleged benefits of its way of life to a global audience.
adjectival modifiers per indirect object (no pronouns)	0.01	In order to fully establish the link between Cold War imperialism and terrorism, this thesis broke down how the effects of dual-power foreign policy trickled down to negatively impact , and therefore motivate, the individuals and wider movements comprised the New Left.
prepositions per indirect object (no pronouns)	0.02	Same as the regular index
possessives per indirect object (no pronouns)	0.02	Although Merriam overstepped his bounds often, Creel failed to properly establish Merriam's authority to those in the Embassy and to Merriam.
verbal modifiers per indirect object (no pronouns)	0	NO EXAMPLES
nouns as an indirect	0	NO EXAMPLES

Indices	Results (M)	Examples
object dependent per indirect object (no pronouns)	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0	NO EXAMPLES
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	NO EXAMPLES

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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As the table suggested, the results of dependents modifying indirect objects showed 0.19 and 0.21 without pronouns. Determiners scored 0.10, and adjectival modifiers did not include any instances to be counted and thus scored 0, whereas prepositions and possessives averaged 0.02. Although almost all indices remained the same in no-pronoun versions, only adjectives increased to 0.01. Verbs, nouns, relative clauses, and adverbs did not yield any results.

As the results were based on the group averages per indices, the individual results that showed significant differences could be considered for affecting the average scores of the group. As the discrepancies remained relatively high in this category, it might be difficult to report a generalizable score for each index. Consequently, the data for dependents per indirect objects was collected from six writers whereas the remaining 30 did not provide any results. Among the writers who employed the index, the lowest score was 0.66 belonging to Writer 13. It was followed by Writers 11, 28, and 36 with the score of 1.0 as well as Writer 16 with the score of 1.33. Writer 34 scored 2.0 and provided the highest frequency in the index.

The majority of the results remained unchanged without pronouns; however, the result of Writer 16 increased to 2.0.

Determiners scored 0.10 due to five writers. Writers 11, 28, and 36 scored 1.0 while Writers 13 and 16 scored 0.33. Except for Writer 16 whose score increased to 0.5, the results remained the same when pronouns were excluded. Although adjectives averaged 0, Writer 16 continued scoring the same numbers, 0.33 and 0.5, in adjectives too. The average of prepositions was affected by only Writer 34, who scored 1.0 in both versions of the index while the rest remained 0. The same writer scored 1.0 in possessives indices resulting in the 0.02 average for the group. Verbs, nouns, relative clauses, and non-clausal adverbs averaged 0; however, Writer 13 scored 0.33 in both indices of nouns, while Writer 16 scored 0.5.

Nominalizations. This category measures NP complexity through indices analyzing the dependents per nominals, nominal complements, and nouns as a nominal dependent. The table below provides the average number of dependents per relevant indices for UoA 4.

Table 56

ENG Group: Nominalizations in UoA 4

Indices	Results (<i>M</i>)	Examples
dependents per nominal	1.39	The good war reminded Americans of an exceptional past, and the nation's duty to continue on in that tradition through yet another conflict.
dependents per nominal complement	3.28	The loyalty to the Democratic machine in Kansas City defined Truman's career.
dependents per nominal (no pronouns)	1.40	Individual committees or members of Congress can take action during periods of unified government, like Fulbright in 1966 or the Intelligence committee's investigation in 2004.
dependents per nominal complement (no pronouns)	3.24	Secondly, the conditions faced by the arrested RAF members leading up to and during the trial further enforced the

Indices	Results (M)	Examples
nouns as a nominal dependent per nominal	0.19	idea that the United States and Federal Republic of Germany proclaimed themselves bastions of liberty but ultimately would act in their own interests. Taiwan's image management in the US tries to promote ideas and identities that resonate with American value and ideology.
nouns as a nominal dependent per nominal (no pronouns)	0.20	The struggle for decolonization, self-determination, and liberation from racial oppression was at the heart of their advocacy.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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According to the results, each nominal included at least one dependent, as the scores were 1.39 and 1.40 without pronouns. Nominal complements consisted of 3 dependents on average scoring 3.28 and 3.24. Nevertheless, the individual scores of writers showed a significant variation with the discrepancy being 3.8. The lowest score was 2.2 by Writer 15, followed by Writer 4 with 2.4 and Writers 1 and 17 with 2.5. In addition to the writers scoring below the average, there were four writers who scored considerably higher than the rest. Writers 13 and 21 scored 4.0 and 4.2. The scores of 6.5 and 6.0 were recorded as being the highest in the category provided by Writers 5 and 31. As the category included frequent inconsistencies between writers, a sentence taken from Writer 10, scoring in between Writers 13 & 21 and Writers 5 & 31 could provide insights. The sentence is “The problem is that Congress has delegated a large amount of power to the president, and based on major wars the US has been involved in, taking back that power is not simple.” For instance, “a large

amount of power to the president” is a nominal complement with multiple layers, including 5 dependents. The head noun is “amount” and its dependents are a determiner (a), an adjective (large), and two prepositional phrases (of power, to the president). This example is more complex than the group average but less compared to the highest scores.

Nouns as nominal dependents modifying nominals scored 0.19 and 0.20 when pronouns were excluded.

Passives. Showing the average numbers of dependents per passive nominal subject and agent for UoA 4 of the ENG group, the individual averages per index did not align with the group average.

Table 57

ENG Group: Passives in UoA 4

Indices	Results (M)	Examples
dependents per passive nominal subject	1.17	The violence caused by the civil wars within the country was perpetuated by foreign interventions.
dependents per agent	1.61	The mission was considered successful by foreign policymakers seeking to expel the Soviets.
dependents per passive nominal subject (no pronouns)	1.15	The attempts to resolve the Lebanese security situation were hampered by foreign interests.
dependents per agent (no pronouns)	1.59	The arms deal was finalized by British negotiators involved in the agreement.

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The table shows that dependents attached to passive nominal subjects averaged 1.17 in regular index while per agents, the score was 1.61. Dependents of

both passive nominal subjects and agents decreased by 0.02 without pronouns. The writers mostly did not follow common patterns in using both dependents per passive nominal subjects and per agents indices.

Seven writers scored either below or above the average in passive nominal subjects. Writers 5 and 33 did not employ the target structure in their writings of UoA 4, by scoring 0 while Writers 9 and 29 closely followed them with the scores of 0.44 and 0.5. Writers 1 and 4 scored 2.0 in addition to Writer 2 scoring 2.64. The highest score recorded was 3.0 by Writer 7. Some results also changed in the no-pronoun index. The score of Writer 2 dropped to 2.21, similar to Writer 4, who scored 1.44. Writer 9 scored higher by reaching 0.75 whereas Writer 14 scored slightly lower decreasing from 0.6 to 0.3. The rest did not show a change without pronouns.

The individual scores of dependents per agents were drastically inconsistent as 17 writers differed from the group average of 1.61 and each other, the discrepancy was 3.0. Writers 3, 7, 9, 18, and 31 did not include the structure in their writing. Writers 5 and 17 scored 0.5 while Writers 15 and 33 scored 1.0. Doubling their scores, Writers 11, 16, 26, and 35 resulted in scores ranging from 2.33 to 2.8. Additionally, 3.0 was recorded as the highest score belonging to the Writers 1, 12, 23, and 32. The scores did not change when pronouns were excluded.

Modifications. This category explores the types of modifiers attached to prepositional objects and nominals. The table below presents the group averages of each index.

Table 58*ENG Group: Modifications in UoA 4*

Indices	Results (M)	Examples
dependents per object of the preposition	1.44	Contrasting subtle control in democratic societies with more international influence and military-heavy policies in less democratic regions could highlight the effectiveness of stability narratives.
dependents per object of the preposition (no pronouns)	1.35	This development served the purpose of making the resources easier to exploit and to build bridges between the Saudi and American governments.
determiners per nominal	0.35	These actions could all be for nothing as political unrest under the continued rule of an authoritarian government increased student protests and political opposition throughout the 1980s.
adjectival modifiers per nominal	0.27	The reluctant men considered any form of retreat a betrayal to their Russian allies .
prepositions per nominal	0.24	The lack of attention from Wilson explains why the intervention failed almost as soon as it arrived.
possessives per nominal	0.04	During his speech , Darwin reminded his audience of the movement's organizer and its founding principles .
verbal modifiers per nominal	0.03	In the age of Trump, the president's eagerness to hit his political opponents below the belt , and dismissal of criticism as "fake news," has resulted in a distorted political-media discourse where public attitudes reign supreme and facts rarely matter.
relative clause modifiers per nominal	0.03	They were isolationists who prioritized trade over military conflict .
(non-clausal) adverbial modifiers per nominal	0.02	US allies in Western Europe, collectively as the EU , have a larger population and gross domestic product than the United States.
determiners per nominal (no pronouns)	0.36	The boom in the number of NGOs operating in the 1980s and 1990s was possible because the Carter Administration provided the space for them to gain credibility in the public eye, and practice in policy-making in Washington.
adjectival modifiers per nominal (no pronouns)	0.29	As discussed in the previous chapters, one of the key goals for Latin American

Indices	Results (<i>M</i>)	Examples
		development was sustainability—moving toward projects that were less about handouts and more about longer term, infrastructure-related projects.
prepositions per nominal (no pronouns)	0.24	In conjunction with achieving its goals for sustainability, the continued and increased participation of NGOs in the policy-making and execution process also points to Carter's successes.
possessives per nominal (no pronouns)	0.04	After utilizing Laughlin's model sterilization law to craft his legislation in Virginia, lawyer and politician Aubrey Strode would mercilessly battle the Buck family in court.
verbal modifiers per nominal (no pronouns)	0.03	Nixon's infamous "war on drugs," born out of his law-and-order 1968 presidential campaign, refocused the US federal bureaucracy on a supply-reduction ethos that envisaged malign foreign actors seeking to undermine "traditional" American values.
relative clause modifiers per nominal (no pronouns)	0.03	Both men were loyal to the beliefs they were instilled with early in their political careers.
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	Same as the regular index
determiners per object of the preposition	0.36	South Korea prepared to host the 1988 Summer Olympics in the midst of internal political divisions and the continued tension with their northern neighbors.
adjectival modifiers per object of the preposition	0.28	This was also constituted by a period of divided government , with the Democrats staunchly opposed to Nixon's overreach of power, both foreign and domestic.
prepositions per object of the preposition	0.22	The primary purpose of this essay is to isolate the historical reasons for Russia's failure to establish an outpost of the Okhrana's Foreign Agentura in Italy between 1900 and 1914.
possessives per object of the preposition	0.04	Years of US dominance in all of its relationships have overextended the military at the cost of domestic needs.
verbal modifiers per object of the preposition	0.02	Same as the no-pronoun index
nouns as an object of the preposition dependent	0.21	These concrete buildings stood as demonstrations of Korea's success in

Indices	Results (<i>M</i>)	Examples
per object of the preposition		becoming members of the developed world.
relative clause modifiers per object of the preposition	0.04	The Republican Party ceased to practice rugged individualism as they preached it and instead made it exclusive to the idea that they alone were its rightful heirs.
(non-clausal) adverbial modifiers per object of the preposition	0.01	As shown through the cases of NATO, the US-Japan alliance, and the UN, rational choice restraint proves itself to be the best alternative grand strategy to liberal hegemony by appropriately addressing classic restraint's institutions problem.
determiners per object of the preposition (no pronouns)	0.36	During this timeframe, the tsarist government under Nicholas II gradually added new divisions in order to increase the agency's spy activities throughout Europe.
adjectival modifiers per object of the preposition (no pronouns)	0.28	The Syrian force was organized from some of the best units in the Syrian Arab Army.
prepositions per object of the preposition (no pronouns)	0.22	Only about 15% of the 100 billion the US spent to rebuild Afghanistan was actually spent rebuilding the country.
possessives per object of the preposition (no pronouns)	0.04	Modern warfare is expensive and often self-defeating, as seen in the recent examples of Afghanistan's and Iraq's conflicts.
verbal modifiers per object of the preposition (no pronouns)	0.02	The books outlined truly heinous activity by the federal agencies, including assassination attempts on Cuban President Fidel Castro and President of South Vietnam Ngo Dinh Diem.
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.21	Koreans observed the function of the 1964 Tokyo Olympics for Japan as its 'emergence as a global economic force.
relative clause modifiers per object of the preposition (no pronouns)	0.04	Same as the regular index
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	Same as the regular index

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Dependents per object of the preposition averaged 1.44 and 1.35 without pronouns.

Per nominals, determiners were adopted 35 times per 100 phrases and 36 times without pronouns. Adjectival modifiers scored 0.27 and increased by 0.02 when pronouns were excluded. Prepositions were not affected by pronoun use; thus, they scored 0.24 in both indices. 4 instances per 100 phrases were observed on average in possessives regardless of pronoun use. Both verbal and relative clause modifiers resulted in 0.03 showing no change without pronouns. Adverbs scored 0.02 but decreased to 0.01. Only Writer 32 scored 0 in non-clausal adverbs indices while the others show consistency.

Modifiers did not differ in terms of pronouns in prepositional objects. Each index shared the same score as its no-pronoun counterpart. Hence, determiners were included 36 times per 100 phrases without fostering a difference when pronouns were excluded. Adjectives scored 0.28. Prepositions averaged 0.22. Both possessives and relative clauses were present in 4 instances per 100 phrases. Verbs scored 0.02. However, Writers 7 and 9 did not yield any results. The average frequency of nouns was observed as 0.21. Adverbs resulted in 0.01. Although most writers provided consistent scores for the index, Writers 28, 31, 32, and 33 did not include any examples of the structures in both versions of the index.

Embedding. The embeddedness of NPs is explored in this category through the analysis of relative clauses modifying NPs in different functions.

Table 59

ENG Group: Embedding in UoA 4

Indices	Results (M)	Examples
relative clause modifiers per nominal subject	0.01	Future researchers who take on rational choice restraint can delve into these other bilateral and multilateral institutions to which the United States is a party.
relative clause modifiers per nominal subject (no pronouns)	0.01	Though Kennedy never fully severed ties with the Egyptian leader, the final letter the American President sent to the Arab leader made clear that the bond between them was approaching a breaking point.
relative clause modifiers per direct object	0.04	This thesis has examined the correspondence between Kennedy and Nasser, as well as the external and internal forces that pushed the American Executive to largely abandon his policy of rapprochement with Nasser and Arab Nationalism.
relative clause modifiers per direct object (no pronouns)	0.04	As foreign policy choices increasingly moved to the White House from the State Department, National Security staffers gained added influence, because they were able to screen information from the other departments and shape the way the President received documents.
relative clause modifiers per indirect object	0	NO EXAMPLES
relative clause modifiers per indirect object (no pronouns)	0.01	In order to fully establish the link between Cold War imperialism and terrorism, this thesis broke down how the effects of dual-power foreign policy trickled down to negatively impact, and therefore motivate, the individuals and wider movements comprised the New Left.
relative clause modifiers per nominal	0.03	They were isolationists who prioritized trade over military conflict.
relative clause modifiers per nominal (no pronouns)	0.03	Both men were loyal to the beliefs they were instilled with early in their political careers.
relative clause modifiers per object of the preposition	0.04	The Republican Party ceased to practice rugged individualism as they preached it and instead made it exclusive to the idea that they alone were its rightful heirs.

Indices	Results (M)	Examples
relative clause modifiers per object of the preposition (no pronouns)	0.04	Southeastern North America could be a dizzying environment for anyone not versed in the complicated alliance networks.

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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As seen in Table 59, relative clause modifiers scored between 0 and 0.04. Per nominal subjects, relative clause modifiers did not change due to their pronoun use and resulted in 0.01 as 10 writers scored 0. Similarly, they remained the same in pronoun use per direct objects without showing any change, hence the score was 0.04 for both indices but Writers 5, 21, 31, and 33 did not provide any results. Although the result was 0 per indirect objects, the no-pronoun index scored 0.01 because of Writer 16 who scored 0.5. Per nominals and prepositional phrases, the results of both versions of the indices were equal. The first one scored 0.03 and the latter was 0.04.

Comparison of Noun Phrase Complexity Features between the EFL TR and ENG Groups

This question aims to see whether the averages of the EFL TR group and ENG group show any resemblances or differences. Hence, two sets of scores were placed side by side in tables for comparative analysis.

Unit of Analysis 1

Positions

This category covers NPs as subjects and objects, showing the results of both groups.

Subjects. This subcategory focuses on NPs as subjects. It shows the general dependents, determiners, adjectives, prepositions, possessives, nouns, verbs, relative clauses, and adverbs. As Table 60 shows both groups provided similar average scores in general with minor differences.

Table 60

Comparison: Subjects in UoA 1

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal subject	1.03	0.99
dependents per nominal subject (no pronouns)	1.19	1.15
determiners per nominal subject	0.33	0.30
determiners per nominal subject (no pronouns)	0.39	0.36
adjectival modifiers per nominal subject	0.18	0.16
adjectival modifiers per nominal subject (no pronouns)	0.22	0.19
prepositions per nominal subject	0.20	0.16
prepositions per nominal subject (no pronouns)	0.24	0.19
possessives per nominal subject	0.01	0.02
possessives per nominal subject (no pronouns)	0.02	0.03
nouns as a nominal subject dependent per nominal subject	0.13	0.18
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.16	0.22
verbal modifiers per nominal subject	0.01	0.01
verbal modifiers per nominal subject (no pronouns)	0.01	0.02
relative clause modifiers per nominal subject	0.02	0.02
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01
(non-clausal) adverbial modifiers per nominal subject	0	0
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The highest discrepancy between groups was recorded as 0.06 in the nouns as a nominal subject dependent per nominal subject without pronouns; the ENG group scored 0.22, while the EFL TR group had a lower score of 0.16. Although there were no significant differences between the groups, the EFL TR group averaged slightly higher in both versions of dependents per nominal subject, determiners, adjectives, and prepositions indices, whereas only the no-pronoun index of relative clauses was higher than the ENG group. Indices of possessives with and without pronouns, nouns with and without pronouns, and verbal modifiers without pronouns were employed slightly more often by the ENG group. The groups shared the same average scores for verbs, relative clauses, and adverbs with and without pronouns indices. It could be inferred that the EFL TR group may use longer nominal subjects compared to the ENG group. Even though the scores are close to each other, the TR group prefers determiners, adjectives, and prepositions slightly more than the other group, suggesting slightly denser nominal subjects.

Object. This subcategory focuses on NPs in the object positions with the data collected from two groups.

Table 61

Comparison: Direct Objects in UoA 1

Indices	EFL TR Group (M)	ENG Group (M)
dependents per direct object	1.83	1.74
dependents per direct object (no pronouns)	1.83	1.74
determiners per direct object	0.44	0.39
adjectival modifiers per direct object	0.44	0.39
prepositions per direct object	0.43	0.39
possessives per direct object	0.07	0.06
verbal modifiers per direct object	0.04	0.04

Indices	EFL TR Group (M)	ENG Group (M)
nouns as a direct object dependent per direct object	0.17	0.20
relative clause modifiers per direct object	0.04	0.05
(non-clausal) adverbial modifiers per direct object	0.01	0.01
determiners per direct object (no pronouns)	0.45	0.40
adjectival modifiers per direct object (no pronouns)	0.45	0.40
prepositions per direct object (no pronouns)	0.44	0.40
possessives per direct object (no pronouns)	0.07	0.07
verbal modifiers per direct object (no pronouns)	0.04	0.05
nouns as a direct object dependent per direct object (no pronouns)	0.17	0.21
relative clause modifiers per direct object (no pronouns)	0.04	0.05
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The average use of target structures in NPs functioning as objects did not vary significantly. The highest discrepancy between the groups was 0.09 in the number of dependents indices. The EFL TR group slightly scored higher in both indices of dependents, determiners, adjectives, prepositions indices, and regular version of possessives index while the ENG group provided higher scores for both indices of nouns, relative clauses, and only verbal modifiers without pronoun index. Both groups resulted in the same average in verbal modifiers, adverbs, and possessives without pronouns. The TR group included slightly more modifiers than the ENG group and the distribution of indices suggested that although the TR group had a higher number of dependents, it is possible to infer that the ENG group relied on more compressed constructions as they scored higher in nouns, relative clauses, and verbal modifiers.

As shown in the table below, the groups showed moderate differences in the use of indirect objects.

Table 62

Comparison: Indirect Objects in UoA 1

Indices	EFL TR Group (M)	ENG Group (M)
dependents per indirect object	0.06	0.28
dependents per indirect object (no pronouns)	0.06	0.33
determiners per indirect object	0.03	0.14
adjectival modifiers per indirect object	0.03	0.02
prepositions per indirect object	0	0
possessives per indirect object	0	0
verbal modifiers per indirect object	0	0
nouns as an indirect object dependent per indirect object	0	0.10
relative clause modifiers per indirect object	0	0
(non-clausal) adverbial modifiers per indirect object	0	0
determiners per indirect object (no pronouns)	0.03	0.18
adjectival modifiers per indirect object (no pronouns)	0.03	0.02
prepositions per indirect object (no pronouns)	0	0
possessives per indirect object (no pronouns)	0	0
verbal modifiers per indirect object (no pronouns)	0	0
nouns as an indirect object dependent per indirect object (no pronouns)	0	0.12
relative clause modifiers per indirect object (no pronouns)	0	0
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	0

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The averages of indices in this category showed some variation. 0.27 was the highest discrepancy between the groups, and the ENG group scored higher in the no-pronoun version of dependents per indirect object index. Adjectival modifiers were the only indices where the TR group scored higher than the ENG group by 0.01

difference. Indices of dependents, determiners, and nouns resulted in higher scores in the ENG group. The averages of prepositions, possessives, verbs, relative clauses, and adverbs were the same for both groups as none of the indices yielded any results. The use of indirect objects showed significant differences in terms of occurrences and distribution. The ENG group followed a more balanced approach while employing the indices and used determiners often. This tendency may emphasize a tendency to mark recipients clearly in the ENG group's writing.

Nominalizations

This category includes dependents per nominal and nominal complement indices and the table below shows the average scores of each group.

Table 63

Comparison: Nominalizations in UoA 1

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal	1.51	1.46
dependents per nominal complement	2.95	3.09
dependents per nominal (no pronouns)	1.52	1.47
dependents per nominal complement (no pronouns)	2.82	3.02
nouns as a nominal dependent per nominal	0.17	0.21
nouns as a nominal dependent per nominal (no pronouns)	0.17	0.22

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Although the results were close to each other in both groups, the highest discrepancy was measured as 0.2 in dependents per nominal complement without pronouns, the EFL TR group scoring lower. The average number of dependents modifying nominals were 1.51 and 1.52 in the TR group while the ENG group

scored slightly lower in both versions of the index. Conversely, the ENG group scored higher in dependents per nominal complement and nouns as a nominal dependent per nominal in both versions of the relevant indices. Higher scores in dependents per nominal in the EFL TR group may suggest that nominal constructions include more modifiers rather than employing more compressed structures while the ENG group might use compressed structures more and by scoring higher in dependents per nominal complements index, it is also possible to infer that the ENG group prefer a more syntactically dense style.

Passives

NPs in relation to the passive structures are explored in this category with average scores collected from the EFL TR and ENG groups.

Table 64

Comparison: Passives in UoA 1

Indices	EFL TR Group (<i>M</i>)	ENG Group (<i>M</i>)
dependents per passive nominal subject	1.53	1.16
dependents per agent	1.57	1.69
dependents per passive nominal subject (no pronouns)	1.60	1.17
dependents per agent (no pronouns)	1.54	1.62

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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The results of this category suggested slightly differing scores. The observed discrepancy between the groups was 0.43 in dependents per passive nominal subject without pronouns. The EFL TR group scored 1.53 and 1.60 when the pronouns were excluded in dependents per passive nominal subjects while the ENG group scored

1.16 and 1.17. However, agents included more dependents in the ENG group on average compared to the EFL TR group in both with and without pronouns. The reliance on passive structures in the writing of the EFL TR group may suggest a more impersonal writing style.

Modifications

NPs as objects of the prepositions and nominals are analyzed in this category in terms of dependents, determiners, adjectives, prepositions, possessives, nouns, relative clauses, and adverbs. The scores collected earlier are shared in the table below for comparison.

Table 65

Comparison: Modifications in UoA 1

Indices	EFL TR Group (M)	ENG Group (M)
dependents per object of the preposition	1.53	1.52
dependents per object of the preposition (no pronouns)	1.47	1.44
determiners per nominal	0.41	0.36
adjectival modifiers per nominal	0.33	0.28
prepositions per nominal	0.29	0.26
possessives per nominal	0.03	0.04
verbal modifiers per nominal	0.02	0.03
relative clause modifiers per nominal	0.03	0.03
(non-clausal) adverbial modifiers per nominal	0.01	0.01
determiners per nominal (no pronouns)	0.42	0.37
adjectival modifiers per nominal (no pronouns)	0.34	0.29
prepositions per nominal (no pronouns)	0.29	0.26
possessives per nominal (no pronouns)	0.04	0.04
verbal modifiers per nominal (no pronouns)	0.02	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	0.01
determiners per object of the preposition	0.41	0.37
adjectival modifiers per object of the preposition	0.34	0.29
prepositions per object of the preposition	0.25	0.25
possessives per object of the preposition	0.03	0.04
verbal modifiers per object of the preposition	0.02	0.02
nouns as an object of the preposition dependent per object of the preposition	0.18	0.23
relative clause modifiers per object of the preposition	0.03	0.03
(non-clausal) adverbial modifiers per object of the	0.01	0.01

Indices	EFL TR Group (M)	ENG Group (M)
preposition		
determiners per object of the preposition (no pronouns)	0.41	0.37
adjectival modifiers per object of the preposition (no pronouns)	0.34	0.29
prepositions per object of the preposition (no pronouns)	0.26	0.25
possessives per object of the preposition (no pronouns)	0.03	0.04
verbal modifiers per object of the preposition (no pronouns)	0.02	0.02
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.18	0.23
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Both groups averaged very close scores with a 0.05 discrepancy. 0.05 discrepancies were found in both versions of determiners per nominal, adjectival modifiers per nominal, adjectival modifiers per object of the preposition, and nouns as an object of the preposition dependent per object of the preposition indices.

In dependents per prepositional object, prepositions per nominal, possessives per nominal, verbal modifiers per nominal, determiners per prepositional object, and possessives per prepositional object, both groups provided similar occurrences of the indices; the results did not change without pronouns except the possessives per nominal index.

The same averages were scored in relative clause modifiers per nominal, non-clausal adverbial modifiers per nominal, possessives per nominal without pronouns, prepositions per object of the preposition, verbal modifiers per object of the

preposition, relative clause modifiers per object of the preposition, and non-clausal adverbial modifiers per object of the preposition indices.

Embedding

This category studies NPs modified by relative clauses and presents the average scores of both groups.

Table 66

Comparison: Embedding in UoA 1

Indices	EFL TR Group (M)	ENG Group (M)
relative clause modifiers per nominal subject	0.02	0.01
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01
relative clause modifiers per object of the preposition	0.04	0.03
relative clause modifiers per object of the preposition (no pronouns)	0.04	0.03
relative clause modifiers per direct object	0	0.05
relative clause modifiers per direct object (no pronouns)	0	0.05
relative clause modifiers per indirect object	0.03	0
relative clause modifiers per indirect object (no pronouns)	0.03	0
relative clause modifiers per nominal	0.03	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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As shown in the table, there were minor differences in the use of relative clauses in NPs. The TR group scored 0.01 higher averages in relative clauses per nominal subject and per object of the preposition. The ENG group had slightly higher averages only in the direct object positions by 0.05, in which the EFL TR group did not yield any results. This means that the ENG group preferred longer and

more syntactically complex NPs in the direct object position. While the ENG group did not include relative clause modifiers in NPs as indirect objects, the TR group averaged 0.03. Both groups shared the same numbers for relative clause modifiers per nominal indices.

Unit of Analysis 2

Positions

The use of NPs in subject and object positions is covered in this category.

Subjects. NPs acting as subjects in sentences are analyzed in this subcategory in terms of overall dependents and types of modifiers, the average number of dependents and modifiers used by the EFL TR and ENG groups are listed in the table below.

Table 67

Comparison: Subjects in UoA 2

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal subject	1.01	0.98
dependents per nominal subject (no pronouns)	1.15	1.10
determiners per nominal subject	0.31	0.29
determiners per nominal subject (no pronouns)	0.37	0.34
adjectival modifiers per nominal subject	0.18	0.15
adjectival modifiers per nominal subject (no pronouns)	0.21	0.18
prepositions per nominal subject	0.18	0.16
prepositions per nominal subject (no pronouns)	0.22	0.19
possessives per nominal subject	0.01	0.02
possessives per nominal subject (no pronouns)	0.02	0.02
nouns as a nominal subject dependent per nominal subject	0.15	0.19
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.17	0.22
verbal modifiers per nominal subject	0.01	0.01
verbal modifiers per nominal subject (no pronouns)	0.02	0.02
relative clause modifiers per nominal subject	0.02	0.02
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01

Indices	EFL TR Group (M)	ENG Group (M)
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0	0
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Indices of this category did not differ between the groups. Notably, the highest discrepancy was 0.05 and both groups averaged the same in possessives without pronouns, verbs, relative clauses, and adverbs. As the ENG group employed slightly more nouns as dependents, it could be observed that compared to the TR group, NPs in the ENG group's writing include more noun compounds or noun-based premodifiers and more frequent use of nominalization rather than adjective + noun structures.

Objects. Presenting the results of NPs that function as direct and indirect objects, this category explores them through analyzing overall dependents and types of modifiers.

Table 68

Comparison: Direct Objects in UoA 2

Indices	EFL TR Group (M)	ENG Group (M)
dependents per direct object	1.69	1.63
dependents per direct object (no pronouns)	1.70	1.62
determiners per direct object	0.41	0.37
adjectival modifiers per direct object	0.38	0.36
prepositions per direct object	0.38	0.35
possessives per direct object	0.08	0.07
verbal modifiers per direct object	0.04	0.05

Indices	EFL TR Group (M)	ENG Group (M)
nouns as a direct object dependent per direct object	0.16	0.20
relative clause modifiers per direct object	0.04	0.04
(non-clausal) adverbial modifiers per direct object	0.01	0.01
determiners per direct object (no pronouns)	0.42	0.38
adjectival modifiers per direct object (no pronouns)	0.39	0.37
prepositions per direct object (no pronouns)	0.40	0.36
possessives per direct object (no pronouns)	0.08	0.07
verbal modifiers per direct object (no pronouns)	0.04	0.05
nouns as a direct object dependent per direct object (no pronouns)	0.16	0.20
relative clause modifiers per direct object (no pronouns)	0.04	0.04
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Based on the results, the discrepancy was measured as 0.08 due to dependents per direct object without pronouns index. However, the rest of the indices showed similar results in addition to the same averages in relative clauses and adverbs. Similar to UoA 1, the ENG group scored slightly higher in the noun use suggesting a reliance on higher complexity in nominalization or more frequent use of nouns as premodifiers while the overall number of dependents was higher in the EFL TR group without pronouns, which may indicate the use of full NPs or repetition of certain key elements for the meaning in order to avoid ambiguity.

Conversely, the high similarity result was not applicable for NPs as indirect objects according to the results shown in Table 69.

Table 69*Comparison: Indirect Objects in UoA 2*

Indices	EFL TR Group (M)	ENG Group (M)
dependents per indirect object	0.34	0.46
dependents per indirect object (no pronouns)	0.41	0.65
determiners per indirect object	0.14	0.18
adjectival modifiers per indirect object	0.09	0.05
prepositions per indirect object	0	0
possessives per indirect object	0	0.01
verbal modifiers per indirect object	0	0
nouns as an indirect object dependent per indirect object	0.07	0.17
relative clause modifiers per indirect object	0	0
(non-clausal) adverbial modifiers per indirect object	0	0.01
determiners per indirect object (no pronouns)	0.17	0.30
adjectival modifiers per indirect object (no pronouns)	0.03	0.04
prepositions per indirect object (no pronouns)	0	0
possessives per indirect object (no pronouns)	0	0.01
verbal modifiers per indirect object (no pronouns)	0	0
nouns as an indirect object dependent per indirect object (no pronouns)	0.11	0.25
relative clause modifiers per indirect object (no pronouns)	0	0
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The results indicated that, except for the adjectival modifiers, the ENG group scored higher in every index of this category. The major difference was observed in dependents per indirect object without pronouns index as the discrepancy was 0.24. Although differences between groups were present, both groups did not yield any results in prepositions, verbs, and relative clauses.

The ENG group relied on indirect objects more frequently, which may also suggest frequent use of ditransitive verbs, and NPs in this position are modified

mainly by nouns, except determiners may strengthen the tendency to rely on nominal constructions and noun use more to enhance phrasal complexity when compared to the TR group.

Nominalizations

Fostering overall complexity of nominal structures through number of dependents per nominal, nominal complements, and nouns as nominal dependents, this category shows that there were both common and different tendencies between the groups depending on the index.

Table 70

Comparison: Nominalizations in UoA 2

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal	1.42	1.39
dependents per nominal complement	2.97	2.95
dependents per nominal (no pronouns)	1.44	1.39
dependents per nominal complement (no pronouns)	2.86	2.86
nouns as a nominal dependent per nominal	0.17	0.20
nouns as a nominal dependent per nominal (no pronouns)	0.17	0.21

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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It was observed that both groups addressed dependents per nominal complement indices frequently as the score of the no-pronoun index was 2.86 for both, whereas the regular one showed a minor difference, with the TR group scoring 2.97 and the ENG group scoring 2.95. Dependents per nominal indices provided

higher scores in the EFL TR group while the ENG group scored higher in nouns as a nominal dependent per nominal indices.

The results of this category revealed that both groups followed similar patterns in writing with minor differences as the TR group followed a slightly clearer approach to modify nominals whereas the ENG group continued to rely on nouns as modifiers such as noun + noun combinations in NPs.

Passives

This category aims to explore NPs in relation to passive constructions and show results of the TR and the ENG groups in comparison.

Table 71

Comparison: Passives in UoA 2

Indices	EFL TR Group (<i>M</i>)	ENG Group (<i>M</i>)
dependents per passive nominal subject	1.29	1.14
dependents per agent	1.64	1.14
dependents per passive nominal subject (no pronouns)	1.40	1.20
dependents per agent (no pronouns)	1.60	1.60

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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As suggested in the table above, passive structures were more frequently observed in the EFL TR group except dependents per agent without pronouns index. The TR group scored slightly higher in dependents per passive nominal subjects and agents. There was 0.5 discrepancy in dependents per agent index. However, when the pronouns were excluded, the averages of both groups were equalized to 1.60.

This shows that the TR group might have followed a more impersonal writing style than the ENG group. Based on the scores, agents were modified more than other indices in the TR group and compared to the ENG group, it may suggest that the TR group used more complex structures to provide more specificity in agents with NPs.

Modifications

This category fosters which types of modifiers were attached to the NPs used by the EFL TR and ENG groups as seen in the table below.

Table 72

Comparison: Modifications in UoA 2

Indices	EFL TR Group (M)	ENG Group (M)
dependents per object of the preposition	1.44	1.44
dependents per object of the preposition (no pronouns)	1.40	1.37
determiners per nominal	0.39	0.35
adjectival modifiers per nominal	0.28	0.27
prepositions per nominal	0.26	0.25
possessives per nominal	0.04	0.04
verbal modifiers per nominal	0.02	0.03
relative clause modifiers per nominal	0.03	0.03
(non-clausal) adverbial modifiers per nominal	0.01	0.01
determiners per nominal (no pronouns)	0.40	0.36
adjectival modifiers per nominal (no pronouns)	0.30	0.28
prepositions per nominal (no pronouns)	0.26	0.24
possessives per nominal (no pronouns)	0.04	0.04
verbal modifiers per nominal (no pronouns)	0.02	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	0.01
determiners per object of the preposition	0.41	0.35
adjectival modifiers per object of the preposition	0.29	0.28
prepositions per object of the preposition	0.24	0.23
possessives per object of the preposition	0.03	0.04
verbal modifiers per object of the preposition	0.02	0.03
nouns as an object of the preposition dependent per object of the preposition	0.17	0.21
relative clause modifiers per object of the preposition	0.03	0.03
(non-clausal) adverbial modifiers per object of the preposition	0	0.01

Indices	EFL TR Group (M)	ENG Group (M)
determiners per object of the preposition (no pronouns)	0.41	0.35
adjectival modifiers per object of the preposition (no pronouns)	0.29	0.28
prepositions per object of the preposition (no pronouns)	0.24	0.24
possessives per object of the preposition (no pronouns)	0.03	0.04
verbal modifiers per object of the preposition (no pronouns)	0.02	0.03
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.17	0.21
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The results of this category suggested a strong consistency between the groups as the scores were very close or the same in almost each index while the highest discrepancy was as low as 0.06. Thus, dependents per object of the preposition, possessives per nominal, relative clause modifiers per nominal, non-clausal adverbial modifiers per nominal, relative clause modifiers per object of the preposition, and prepositions per object of the preposition without pronouns indices had the same scores in both groups. In the use of adjectival modifiers per nominal, prepositions per nominal, adjectival modifiers per object of the preposition, and prepositions per object of the preposition indices, the TR group averaged higher by scoring 0.01 more. The same discrepancy was observed in verbal modifiers per nominal, possessives per object of the preposition, verbal modifiers per object of the

preposition, and non-clausal adverbial modifiers per object of the preposition indices with the ENG group scoring higher this time. In dependents per object of the preposition without pronouns, determiners per nominal, adjectival modifiers without pronouns, prepositions per nominal without pronouns, and determiners per object of the preposition indices the TR group provided higher scores by 0.02 or 0.06 while the only notable higher score of the ENG group was in nouns as an object of the preposition dependent per object of the preposition indices by 0.05 discrepancy.

This UoA shared similar characteristics in modifications and the results may indicate that the TR group relied on determiners and adjectives as premodifiers while the ENG group maintained employing nouns dependents in prepositional objects, which may further reveal that the TR might have preferred NPs in prepositional objects for more descriptive purposes.

Embedding

Exploring relative clause use in NPs, this category explores how the EFL TR and ENG groups use embedding through relative clauses.

Table 73

Comparison: Embedding in UoA 2

Indices	EFL TR Group (<i>M</i>)	ENG Group (<i>M</i>)
relative clause modifiers per nominal subject	0.02	0.01
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01
relative clause modifiers per object of the preposition	0.03	0.03
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03
relative clause modifiers per direct object	0.04	0.04
relative clause modifiers per direct object (no pronouns)	0.04	0.04
relative clause modifiers per indirect object	0	0
relative clause modifiers per indirect object (no pronouns)	0	0
relative clause modifiers per nominal	0.03	0.03

Indices	EFL TR Group (M)	ENG Group (M)
relative clause modifiers per nominal (no pronouns)	0.03	0.03

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Except for nominal subjects indices in which the ENG group scored lower by 0.01, the results for each index did not show any variation between the groups. As both groups closely shared similar characteristics, they might share similar stylistic tendencies in their use of embedding in this UoA with similar levels of complexities and length.

Unit of Analysis 3

Positions

This category approaches the noun phrases based on their functions in the sentences such as being subjects or objects.

Subjects. This subcategory focuses on noun phrases acting as subjects in the texts of the EFL TR and ENG groups.

Table 74

Comparison: Subjects in UoA 3

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal subject	0.9	0.97
dependents per nominal subject (no pronouns)	1.44	1.10
determiners per nominal subject	0.30	0.30
determiners per nominal subject (no pronouns)	0.36	0.36
adjectival modifiers per nominal subject	0.17	0.15
adjectival modifiers per nominal subject (no pronouns)	0.20	0.17
prepositions per nominal subject	0.18	0.15

Indices	EFL TR Group (M)	ENG Group (M)
prepositions per nominal subject (no pronouns)	0.21	0.18
possessives per nominal subject	0.02	0.02
possessives per nominal subject (no pronouns)	0.02	0.02
nouns as a nominal subject dependent per nominal subject	0.15	0.19
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.18	0.22
verbal modifiers per nominal subject	0.01	0.01
verbal modifiers per nominal subject (no pronouns)	0.02	0.02
relative clause modifiers per nominal subject	0.02	0.01
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01
(non-clausal) adverbial modifiers per nominal subject	0	0
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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It could be suggested that the results were mostly close in each index for both groups. However, one notable difference was observed in the use of dependents per nominal subject without pronouns as the TR group scored 1.44 while the ENG group scored 1.10 although the ENG group scored 0.07 higher in the regular version of the index. Furthermore, both groups provided the same results in determiners, possessives, verbs, and adverbs. The EFL TR group scored slightly higher in adjectives, prepositions, and relative clauses whereas the same situation was observed in nouns and adverbs without pronouns indices for the ENG group.

Although the indices of this category in UoA 3 showed resemblances to the previous units of analysis, it might be mentioned that the ENG group provided scores for non-clausal adverbial modifiers. Thus, it is possible to expect single-word

adverbs, prepositional phrases as adverbials, and adverbial phrases in their writing, indicating that NPs as nominal subjects might be longer and the information conveyed might be denser.

Object. Focusing on the NPs functioning as objects, this subcategory consists of two items: Direct objects and indirect objects.

The table below shows the average scores of both groups in the use of NPs as direct objects in comparison to each other.

Table 75

Comparison: Direct Objects in UoA 3

Indices	EFL TR Group (M)	ENG Group (M)
dependents per direct object	1.74	1.59
dependents per direct object (no pronouns)	1.73	1.59
determiners per direct object	0.41	0.38
adjectival modifiers per direct object	0.40	0.34
prepositions per direct object	0.38	0.34
possessives per direct object	0.08	0.07
verbal modifiers per direct object	0.04	0.05
nouns as a direct object dependent per direct object	0.18	0.19
relative clause modifiers per direct object	0.03	0.04
(non-clausal) adverbial modifiers per direct object	0.01	0.01
determiners per direct object (no pronouns)	0.42	0.39
adjectival modifiers per direct object (no pronouns)	0.41	0.35
prepositions per direct object (no pronouns)	0.39	0.35
possessives per direct object (no pronouns)	0.09	0.07
verbal modifiers per direct object (no pronouns)	0.04	0.05
nouns as a direct object dependent per direct object (no pronouns)	0.19	0.20
relative clause modifiers per direct object (no pronouns)	0.04	0.04
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The results showed that the TR group might tend to assign slightly more dependents per direct object. Additionally, there were minor differences between the groups in all indices except for adverbs and relative clauses without pronouns. The scores of the TR group were higher in determiners, adjectives, possessives, and prepositions indices. Verbs, nouns, and regular index of relative clause modifiers were more frequently employed by the ENG group. Both groups resulted in the same scores in adverbs.

The modifications of NPs as direct objects followed similar patterns and common differences with the previous units of analysis in that both groups slightly differed in the use of determiners and adjectives as modifiers. The fact that the TR group maintained slightly higher scores might reveal that writers may intend to emphasize the specificity of the message conveyed through the NPs, it might also be a result of avoiding ambiguity by emphasizing specificity.

In indirect objects, the groups shared common and different tendencies as shown in Table 76.

Table 76

Comparison: Indirect Objects in UoA 3

Indices	EFL TR Group (M)	ENG Group (M)
dependents per indirect object	0.23	0.23
dependents per indirect object (no pronouns)	0.27	0.32
determiners per indirect object	0.13	0.16
adjectival modifiers per indirect object	0.04	0.04
prepositions per indirect object	0	0
possessives per indirect object	0	0
verbal modifiers per indirect object	0	0
nouns as an indirect object dependent per indirect object	0.04	0.01
relative clause modifiers per indirect object	0	0

Indices	EFL TR Group (M)	ENG Group (M)
(non-clausal) adverbial modifiers per indirect object	0	0
determiners per indirect object (no pronouns)	0.18	0.22
adjectival modifiers per indirect object (no pronouns)	0.04	0.05
prepositions per indirect object (no pronouns)	0	0
possessives per indirect object (no pronouns)	0	0.01
verbal modifiers per indirect object (no pronouns)	0	0
nouns as an indirect object dependent per indirect object (no pronouns)	0.05	0.03
relative clause modifiers per indirect object (no pronouns)	0	0
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	0

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Providing the same averages in dependents and adjectives, both groups also did not show any instances of prepositions, possessives, verbal modifiers, non-clausal adverbs but the ENG group scored 0.01 only in no-pronoun version of the possessives. The scores of the ENG group in dependents per indirect object without pronouns, determiners, and adjectives without pronouns indices were relatively higher while the EFL TR group scored higher in nouns.

Contrary to the common tendencies observed before Table 76, the TR group's slightly higher score in nouns as dependents per indirect object might be a result of stylistic choices due to the content of their writing. To explain further, the EFL TR group might have prioritized explicitness in their writing while using this structure, and when considered in combination with other indices, it might be possible to expect prepositional phrases to enhance the density of information whereas the ENG

group's scores suggested a tendency towards adopting more compact and concise NPs as indirect objects.

Nominalizations

Showing the dependents per nominals, nominal complements, and nouns as nominal dependents, this category presents the scores of the EFL TR and ENG groups comparatively in the table below.

Table 77

Comparison: Nominalizations in UoA 3

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal	1.43	1.37
dependents per nominal complement	3.06	2.96
dependents per nominal (no pronouns)	1.44	1.37
dependents per nominal complement (no pronouns)	2.93	2.87
nouns as a nominal dependent per nominal	0.17	0.20
nouns as a nominal dependent per nominal (no pronouns)	0.18	0.21

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Dependents per nominal complement index was the most frequently observed index in both groups; however, the TR group scored 0.1 higher by 3.06. The discrepancy decreased to 0.06 when pronouns were excluded but the TR group still remained higher. The TR group also scored higher in dependents per nominal indices while the ENG group presented higher scores in nouns.

Scoring higher in nominal complements might highlight that the EFL TR group elaborated head nouns instead of using compressed structures while the ENG group's higher score in nouns as nominal dependents per nominal might indicate

implementing a more compressed style with enhancing NP complexity through noun + noun structures.

Passives

NPs in passive structures are presented in this category. The results of the EFL TR and ENG groups are listed in Table 78.

Table 78

Comparison: Passives in UoA 3

Indices	EFL TR Group (M)	ENG Group (M)
dependents per passive nominal subject	1.28	1.08
dependents per agent	1.57	1.63
dependents per passive nominal subject (no pronouns)	1.39	1.14
dependents per agent (no pronouns)	1.55	1.57

Note. Indices column from Kyle, K. D. (2016), Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Passive structures did not show a significant discrepancy as it was 0.2. With minor differences, the TR group scored higher in dependents per passive nominal subject indices and the ENG group scored higher in the dependents per agent indices. Despite the close scores, the slight differences might indicate that in UoA 3, the TR group continued to target a more explanatory approach compared to the ENG group by scoring higher in the no-pronoun index of dependents per passive nominal subject while maintaining an impersonal tone. For the ENG group, higher scores in agents compared to passive nominal subjects may suggest that the construction agents were longer and more elaborated.

Modifications

This category addresses various modifiers in NPs as object of the prepositions or per nominal, used by the EFL TR and ENG groups.

Table 79

Comparison: Modifications in UoA 3

Indices	EFL TR Group (M)	ENG Group (M)
dependents per object of the preposition	1.45	1.43
dependents per object of the preposition (no pronouns)	1.40	1.35
determiners per nominal	0.39	0.35
adjectival modifiers per nominal	0.28	0.25
prepositions per nominal	0.28	0.24
possessives per nominal	0.04	0.04
verbal modifiers per nominal	0.02	0.03
relative clause modifiers per nominal	0.03	0.03
(non-clausal) adverbial modifiers per nominal	0.01	0.01
determiners per nominal (no pronouns)	0.40	0.36
adjectival modifiers per nominal (no pronouns)	0.29	0.26
prepositions per nominal (no pronouns)	0.27	0.24
possessives per nominal (no pronouns)	0.04	0.04
verbal modifiers per nominal (no pronouns)	0.02	0.03
relative clause modifiers per nominal (no pronouns)	0.18	0.03
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	0.01
determiners per object of the preposition	0.41	0.35
adjectival modifiers per object of the preposition	0.28	0.26
prepositions per object of the preposition	0.25	0.23
possessives per object of the preposition	0.04	0.04
verbal modifiers per object of the preposition	0.02	0.03
nouns as an object of the preposition dependent per object of the preposition	0.17	0.21
relative clause modifiers per object of the preposition	0.03	0.03
(non-clausal) adverbial modifiers per object of the preposition	0	0.01
determiners per object of the preposition (no pronouns)	0.41	0.36
adjectival modifiers per object of the preposition (no pronouns)	0.28	0.26
prepositions per object of the preposition (no pronouns)	0.25	0.23
possessives per object of the preposition (no pronouns)	0.04	0.04
verbal modifiers per object of the preposition (no pronouns)	0.02	0.03

Indices	EFL TR Group (M)	ENG Group (M)
pronouns)		
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.17	0.21
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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Results suggested that the implication of modifications followed similar patterns in both groups with only minor differences but compared to the average discrepancies between the groups in each index, it might be mentioned that the score of relative clauses per nominal without pronouns was higher in the TR group by 0.15. In addition, the TR group did not provide any results for adverbs per prepositional phrase but the ENG group scored 0.01. Sharing similar scores to each other, the choices in modifications might suggest that writers of both groups followed similar levels of complexity while the ENG group employed more compressed NPs and noun-based modifiers in NPs.

Embedding

This category focuses on the use of relative clause modifiers in NPs by the EFL TR and ENG groups.

Table 80*Comparison: Embedding in UoA 3*

Indices	EFL TR Group (M)	ENG Group (M)
relative clause modifiers per nominal subject	0.02	0.01
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01
relative clause modifiers per object of the preposition	0.03	0.03
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03
relative clause modifiers per direct object	0.03	0.04
relative clause modifiers per direct object (no pronouns)	0.04	0.04
relative clause modifiers per indirect object	0	0
relative clause modifiers per indirect object (no pronouns)	0	0
relative clause modifiers per nominal	0.03	0.03
relative clause modifiers per nominal (no pronouns)	0.18	0.03

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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According to the results shown in the table above, there was a strong indication of similarities as both groups yielded the same results in relative clauses per prepositional objects, per direct object without pronouns, per indirect object, and per nominal indices. The ENG group scored slightly higher in relative clause modifiers per direct object and the EFL TR group in per nominal subject and per nominal indices.

A prominent difference in this category, despite the low frequencies, is the use of relative clause modifiers per nominal without pronouns. This could underline that the TR group might have shared a common need to add more information by relying on clausal complexity features rather than employing compound nouns.

Unit of Analysis 4

Positions

This category addresses the functions of NPs in sentences such as subjects and objects.

Subjects. This subcategory focuses on NPs as subjects and types of modifiers attached to them as used by the EFL TR and ENG groups.

Table 81

Comparison: Subjects in UoA 4

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal subject	1.06	1.01
dependents per nominal subject (no pronouns)	1.21	1.17
determiners per nominal subject	0.34	0.30
determiners per nominal subject (no pronouns)	0.40	0.36
adjectival modifiers per nominal subject	0.20	0.18
adjectival modifiers per nominal subject (no pronouns)	0.23	0.21
prepositions per nominal subject	0.19	0.17
prepositions per nominal subject (no pronouns)	0.22	0.20
possessives per nominal subject	0.02	0.02
possessives per nominal subject (no pronouns)	0.02	0.03
nouns as a nominal subject dependent per nominal subject	0.13	0.16
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.16	0.20
verbal modifiers per nominal subject	0.02	0.01
verbal modifiers per nominal subject (no pronouns)	0.02	0.02
relative clause modifiers per nominal subject	0.02	0.01
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01
(non-clausal) adverbial modifiers per nominal subject	0	0.01
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The results were mainly close to each other in all indices. The highest discrepancy was 0.04 in dependents per nominal subject without pronouns index with the EFL TR group scoring higher. Even with minor differences, the TR group scored higher in dependents, determiners, adjectives, prepositions, verbs, and relative clauses while the ENG group had higher averages in possessives without pronouns, nouns, and adverbs. Shared results were observed in possessives, verbs without pronouns, and adverbs without pronouns.

Object. NPs functioning as direct or indirect objects are covered in this subcategory. The results of the EFL TR and ENG groups are provided in Table 82 for comparison.

Table 82

Comparison: Direct Objects in UoA 4

Indices	EFL TR Group (M)	ENG Group (M)
dependents per direct object	1.76	1.61
dependents per direct object (no pronouns)	1.76	1.60
determiners per direct object	0.43	0.37
adjectival modifiers per direct object	0.43	0.36
prepositions per direct object	0.40	0.34
possessives per direct object	0.08	0.07
verbal modifiers per direct object	0.04	0.05
nouns as a direct object dependent per direct object	0.16	0.19
relative clause modifiers per direct object	0.04	0.04
(non-clausal) adverbial modifiers per direct object	0.01	0.01
determiners per direct object (no pronouns)	0.44	0.38
adjectival modifiers per direct object (no pronouns)	0.44	0.37
prepositions per direct object (no pronouns)	0.41	0.35
possessives per direct object (no pronouns)	0.08	0.07
verbal modifiers per direct object (no pronouns)	0.04	0.05
nouns as a direct object dependent per direct object (no pronouns)	0.16	0.19
relative clause modifiers per direct object (no pronouns)	0.04	0.04
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Findings in this category showed that except for nouns and verbs, the TR group either scored higher than the ENG group or the same. The discrepancy was 0.16 because of dependents per direct object without pronouns index. However, apart from the dependents, the discrepancy between the remaining indices did not exceed 0.07. The same averages were measured in relative clauses and non-clausal adverbs.

Table 82 suggests that the TR group achieves NP complexity through premodifiers by scoring slightly higher than the ENG group but shares similar characteristics in terms of embedding and relying on non-clausal adverbials. However, when compared with other indices in the category, it might be argued that the TR group relied on prepositional constructions more compared to the ENG group when contributing to the non-clausal adverbial modifiers indices.

In the direct objects, however, the ENG group performed significantly different than the EFL TR group as Table 83 indicates.

Table 83

Comparison: Indirect Objects in UoA 4

Indices	EFL TR Group (<i>M</i>)	ENG Group (<i>M</i>)
dependents per indirect object	0	0.19
dependents per indirect object (no pronouns)	0	0.21
determiners per indirect object	0	0.10
adjectival modifiers per indirect object	0	0
prepositions per indirect object	0	0.02
possessives per indirect object	0	0.02
verbal modifiers per indirect object	0	0
nouns as an indirect object dependent per indirect object	0	0
relative clause modifiers per indirect object	0	0
(non-clausal) adverbial modifiers per indirect object	0	0
determiners per indirect object (no pronouns)	0	0.10

Indices	EFL TR Group (M)	ENG Group (M)
adjectival modifiers per indirect object (no pronouns)	0	0.01
prepositions per indirect object (no pronouns)	0	0.02
possessives per indirect object (no pronouns)	0	0.02
verbal modifiers per indirect object (no pronouns)	0	0
nouns as an indirect object dependent per indirect object (no pronouns)	0	0
relative clause modifiers per indirect object (no pronouns)	0	0
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	0

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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The results of this category suggested differing tendencies in employing the target structures. The TR group did not show any instances of the target structures in indirect object position. Conversely, the ENG group provided results for dependents, determiners, and prepositions. Same as the TR group, the ENG group also did not show any occurrences of adjectives, verbs, nouns, relative clauses, and adverbs.

As the EFL TR group did not provide any scores for NPs as indirect objects, it might be inferred that the lexical choice was effective as there were examples in previous units of analysis and the content might have been influential while writing the concluding remarks, considering the purpose of the current unit of analysis. Continuing to employ indirect objects, the ENG group also preferred relatively simple structures by relying on determiners.

Nominalizations

Dependents per nominals, nominal complements and nouns as nominal dependents are covered in this category and the results of the EFL TR and ENG groups are provided in Table 84.

Table 84

Comparison: Nominalizations in UoA 4

Indices	EFL TR Group (M)	ENG Group (M)
dependents per nominal	1.48	1.39
dependents per nominal complement	3.06	3.28
dependents per nominal (no pronouns)	1.50	1.40
dependents per nominal complement (no pronouns)	2.93	3.24
nouns as a nominal dependent per nominal	0.16	0.19
nouns as a nominal dependent per nominal (no pronouns)	0.17	0.20

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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According to Table 84, the ENG group scored higher in dependents per nominal component and nouns indices. The discrepancy was 0.31 in the use of dependents per nominal complement without pronouns as the ENG group scored 3.24 and the TR group scored 2.93. Per nominals, however, the TR group scored slightly higher. The ENG group's slightly higher scores in nominal complements may suggest increased information density and more embeddedness, rather than relying on separate clausal structures.

Passives

The use of NPs as subjects in passive constructions and agents is explored in this category. Table 85 shows the average scores of the EFL TR and ENG groups.

Table 85*Comparison: Passives in UoA 4*

Indices	EFL TR Group (M)	ENG Group (M)
dependents per passive nominal subject	1.36	1.17
dependents per agent	1.60	1.61
dependents per passive nominal subject (no pronouns)	1.48	1.15
dependents per agent (no pronouns)	1.55	1.59

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Passive structures reached the higher score as dependents per passive nominal subject by the TR group with discrepancies of 0.19 and 0.23 whereas the ENG group scored higher in the agents. The scores of dependents per passive nominal subject indices may indicate that the TR group preferred explicitness as well as sounding more impersonal.

Modifications

Object of the prepositions and nominals are analyzed in terms of overall number of dependents and modifiers such as determiners, adjectives, prepositions, possessives, nouns, verbs, relative clauses, and adverbs under this category.

Table 86*Comparison: Modifications in UoA 4*

Indices	EFL TR Group (M)	ENG Group (M)
dependents per object of the preposition	1.50	1.44
dependents per object of the preposition (no pronouns)	1.45	1.35
determiners per nominal	0.41	0.35
adjectival modifiers per nominal	0.32	0.27

Indices	EFL TR Group (M)	ENG Group (M)
prepositions per nominal	0.28	0.24
possessives per nominal	0.04	0.04
verbal modifiers per nominal	0.03	0.03
relative clause modifiers per nominal	0.03	0.03
(non-clausal) adverbial modifiers per nominal	0.01	0.02
determiners per nominal (no pronouns)	0.43	0.36
adjectival modifiers per nominal (no pronouns)	0.33	0.29
prepositions per nominal (no pronouns)	0.28	0.24
possessives per nominal (no pronouns)	0.04	0.04
verbal modifiers per nominal (no pronouns)	0.03	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	0.01
determiners per object of the preposition	0.43	0.36
adjectival modifiers per object of the preposition	0.33	0.28
prepositions per object of the preposition	0.25	0.22
possessives per object of the preposition	0.04	0.04
verbal modifiers per object of the preposition	0.02	0.02
nouns as an object of the preposition dependent per object of the preposition	0.17	0.21
relative clause modifiers per object of the preposition	0.03	0.04
(non-clausal) adverbial modifiers per object of the preposition	0	0.01
determiners per object of the preposition (no pronouns)	0.43	0.36
adjectival modifiers per object of the preposition (no pronouns)	0.33	0.28
prepositions per object of the preposition (no pronouns)	0.26	0.22
possessives per object of the preposition (no pronouns)	0.04	0.04
verbal modifiers per object of the preposition (no pronouns)	0.02	0.02
nouns as an object of the preposition dependent per object of the preposition (no pronouns)	0.17	0.21
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.04
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The results shown in the table above suggested that the highest discrepancy between the groups was 0.1 due to the fact that the TR group scored higher in dependents per prepositional object without pronouns index. However, the rest of the results were relatively consistent with low discrepancies. The TR group slightly scored higher in dependents, determiners, adjectives, and prepositions indices both per nominal and per prepositional object. The ENG group scored slightly higher in non-clausal adverbial modifiers per nominal and object of the preposition, nouns as an object of the preposition dependent per object of the preposition, and relative clause modifiers per prepositional object without pronouns. The averages of possessives per nominal, verbs per nominal, relative clauses per nominal, non-clausal adverbial modifiers per nominal without pronouns, possessives per object of the preposition, and verbs per object of the preposition resulted in the same scores for both groups. It could be suggested that the groups followed similar tendencies with each other and with other units of analysis by differing slightly in the choice of modifiers such as determiners, adjectives, and nouns.

Embedding

Focusing on NPs modified by relative clauses, this category explores embeddedness in the writings of UoA 4 by the EFL TR and ENG groups. The average scores are shared in the table below.

Table 87

Comparison: Embedding in UoA 4

Indices	EFL TR Group (<i>M</i>)	ENG Group (<i>M</i>)
relative clause modifiers per nominal subject	0.02	0.01
relative clause modifiers per nominal subject (no pronouns)	0.02	0.01
relative clause modifiers per object of the preposition	0.03	0.04
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.04

Indices	EFL TR Group (M)	ENG Group (M)
relative clause modifiers per direct object	0.04	0.04
relative clause modifiers per direct object (no pronouns)	0.04	0.04
relative clause modifiers per indirect object	0	0
relative clause modifiers per indirect object (no pronouns)	0	0.01
relative clause modifiers per nominal	0.03	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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This category provided close results in each index for both groups. The highest discrepancy was 0.01. The TR group had slightly resulted in higher scores in nominal subject indices, while the ENG group had a higher score in prepositional object and indirect objects without pronouns indices. Both groups averaged the same in indices of relative clause modifiers per direct object, per indirect object (only in the regular version), and per nominal. The groups continued to score similarly to each other and followed similar patterns of employing relative clause modifiers. However, the TR group did not provide any examples for indirect objects while achieving complexity through embedding was still present in the ENG group even though the degree of complexity was low.

Summary of the Results

When the results are further presented with regard to units of analysis and category, it is possible to see how writers engaged in noun phrase complexity from a broader perspective. Therefore, a presentation of results based on categories will be provided below. As the first group was Turkish EFL writers and English-Dominant

writers were the next, the same order will be followed in addition to the order of the categories, which are subjects, direct objects, indirect objects, nominalizations, passives, modifications, and embedding.

Table 88 below shows the results of subject category in the EFL TR group and Table 89 shows results of the ENG group.

Table 88

EFL TR Group - Subjects

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per nominal subject	1.03	1.01	0.9	1.06
dependents per nominal subject (no pronouns)	1.19	1.15	1.44	1.21
determiners per nominal subject	0.33	0.31	0.30	0.34
determiners per nominal subject (no pronouns)	0.39	0.37	0.36	0.40
adjectival modifiers per nominal subject	0.18	0.18	0.17	0.20
adjectival modifiers per nominal subject (no pronouns)	0.22	0.21	0.20	0.23
prepositions per nominal subject	0.20	0.18	0.18	0.19
prepositions per nominal subject (no pronouns)	0.24	0.22	0.21	0.22
possessives per nominal subject	0.01	0.01	0.02	0.02
possessives per nominal subject (no pronouns)	0.02	0.02	0.02	0.02
nouns as a nominal subject dependent per nominal subject	0.13	0.15	0.15	0.13
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.16	0.17	0.18	0.16
verbal modifiers per nominal subject	0.01	0.01	0.01	0.02
verbal modifiers per nominal subject (no pronouns)	0.01	0.02	0.02	0.02
relative clause modifiers per nominal subject	0.02	0.02	0.02	0.02
relative clause modifiers per nominal subject (no pronouns)	0.02	0.02	0.02	0.02
(non-clausal) adverbial modifiers per nominal subject	0	0	0	0
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	0.01	0	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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According to the results presented in Table 88, all units of analysis in the TR group scored similar to each other in subjects category with slight differences such as the use of regular and no-pronoun indices of dependents, determiners, and prepositions, suggesting common patterns and relatively similar levels of complexity within the data set.

Table 89

ENG Group – Subjects

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per nominal subject	0.99	0.98	0.97	1.01
dependents per nominal subject (no pronouns)	1.15	1.10	1.10	1.17
determiners per nominal subject	0.30	0.29	0.30	0.30
determiners per nominal subject (no pronouns)	0.36	0.34	0.36	0.36
adjectival modifiers per nominal subject	0.16	0.15	0.15	0.18
adjectival modifiers per nominal subject (no pronouns)	0.19	0.18	0.17	0.21
prepositions per nominal subject	0.16	0.16	0.15	0.17
prepositions per nominal subject (no pronouns)	0.19	0.19	0.18	0.20
possessives per nominal subject	0.02	0.02	0.02	0.02
possessives per nominal subject (no pronouns)	0.03	0.02	0.02	0.03
nouns as a nominal subject dependent per nominal subject	0.18	0.19	0.19	0.16
nouns as a nominal subject dependent per nominal subject (no pronouns)	0.22	0.22	0.22	0.20
verbal modifiers per nominal subject	0.01	0.01	0.01	0.01
verbal modifiers per nominal subject (no pronouns)	0.02	0.02	0.02	0.02
relative clause modifiers per nominal subject	0.02	0.02	0.01	0.01
relative clause modifiers per nominal subject (no pronouns)	0.01	0.01	0.01	0.01
(non-clausal) adverbial modifiers per nominal subject	0	0	0	0.01

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	0.01	0.01	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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In comparison to the TR group, Table 89 suggests that the ENG group followed a stronger consistency in nominal subjects and remained mostly similar except for UoA 4, which demonstrated more complex nominal subject use.

For the direct objects, shown in Table 90, the EFL TR group the same consistency across units of analysis mostly remained.

Table 90

EFL TR Group – Direct Objects

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per direct object	1.83	1.69	1.74	1.76
dependents per direct object (no pronouns)	1.83	1.70	1.73	1.76
determiners per direct object	0.44	0.41	0.41	0.43
adjectival modifiers per direct object	0.44	0.38	0.40	0.43
prepositions per direct object	0.43	0.38	0.38	0.40
possessives per direct object	0.07	0.08	0.08	0.08
verbal modifiers per direct object	0.04	0.04	0.04	0.04
nouns as a direct object dependent per direct object	0.17	0.16	0.18	0.16
relative clause modifiers per direct object	0.04	0.04	0.03	0.04
(non-clausal) adverbial modifiers per direct object	0.01	0.01	0.01	0.01
determiners per direct object (no pronouns)	0.45	0.42	0.42	0.44
adjectival modifiers per direct object (no pronouns)	0.45	0.39	0.41	0.44
prepositions per direct object (no pronouns)	0.44	0.40	0.39	0.41
possessives per direct object (no pronouns)	0.07	0.08	0.09	0.08
verbal modifiers per direct object (no pronouns)	0.04	0.04	0.04	0.04

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
nouns as a direct object dependent per direct object (no pronouns)	0.17	0.16	0.19	0.16
relative clause modifiers per direct object (no pronouns)	0.04	0.04	0.04	0.04
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	0.01	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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However, the use of dependents, adjectives, and prepositions showed a more visible difference between UoA 1 and UoA 2. The ENG group also scored slightly different per unit in dependents and prepositions.

Table 91

ENG Group – Direct Objects

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per direct object	1.74	1.63	1.59	1.61
dependents per direct object (no pronouns)	1.74	1.62	1.59	1.60
determiners per direct object	0.39	0.37	0.38	0.37
adjectival modifiers per direct object	0.39	0.36	0.34	0.36
prepositions per direct object	0.39	0.35	0.34	0.34
possessives per direct object	0.06	0.07	0.07	0.07
verbal modifiers per direct object	0.04	0.05	0.05	0.05
nouns as a direct object dependent per direct object	0.20	0.20	0.19	0.19
relative clause modifiers per direct object	0.05	0.04	0.04	0.04
(non-clausal) adverbial modifiers per direct object	0.01	0.01	0.01	0.01
determiners per direct object (no pronouns)	0.40	0.38	0.39	0.38
adjectival modifiers per direct object (no pronouns)	0.40	0.37	0.35	0.37
prepositions per direct object (no pronouns)	0.40	0.36	0.35	0.35
possessives per direct object (no	0.07	0.07	0.07	0.07

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
pronouns)				
verbal modifiers per direct object (no pronouns)	0.05	0.05	0.05	0.05
nouns as a direct object dependent per direct object (no pronouns)	0.21	0.20	0.20	0.19
relative clause modifiers per direct object (no pronouns)	0.05	0.04	0.04	0.04
(non-clausal) adverbial modifiers per direct object (no pronouns)	0.01	0.01	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication [Doctoral dissertation, Georgia State University].

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While there were some minor differences across chapters, according to the table above, the ENG group remained highly consistent.

In addition, accompanied by individual scores, indirect objects also revealed an inconsistent use across units of analysis as shown in Tables 92 and 93 below.

Table 92

EFL TR Group – Indirect Objects

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per indirect object	0.06	0.34	0.23	0
dependents per indirect object (no pronouns)	0.06	0.41	0.27	0
determiners per indirect object	0.03	0.14	0.13	0
adjectival modifiers per indirect object	0.03	0.09	0.04	0
prepositions per indirect object	0	0	0	0
possessives per indirect object	0	0	0	0
verbal modifiers per indirect object	0	0	0	0
nouns as an indirect object dependent per indirect object	0	0.07	0.04	0
relative clause modifiers per indirect object	0	0	0	0
(non-clausal) adverbial modifiers per indirect object	0	0	0	0
determiners per indirect object (no pronouns)	0.03	0.17	0.18	0

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
adjectival modifiers per indirect object (no pronouns)	0.03	0.03	0.04	0
prepositions per indirect object (no pronouns)	0	0	0	0
possessives per indirect object (no pronouns)	0	0	0	0
verbal modifiers per indirect object (no pronouns)	0	0	0	0
nouns as an indirect object dependent per indirect object (no pronouns)	0	0.11	0.05	0
relative clause modifiers per indirect object (no pronouns)	0	0	0	0
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	0	0	0

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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Based on the results in Table 93, except for the indices that did not yield any results, the rest of the indices did not align with each other across units of analysis.

Among the units, UoA 2 and UoA 3 seem to imply using more varied NPs in indirect positions, while UoA 4 did not include any occurrences, and UoA 1 significantly less than UoA 2 and 3. Contrary to the EFL TR group, the ENG group showcased more variety but shared the intragroup inconsistency as each UoA averaged differently if the results were not zero.

Table 93

ENG Group – Indirect Objects

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per indirect object	0.28	0.46	0.23	0.19
dependents per indirect object (no pronouns)	0.33	0.65	0.32	0.21
determiners per indirect object	0.14	0.18	0.16	0.10
adjectival modifiers per indirect object	0.02	0.05	0.04	0
prepositions per indirect object	0	0	0	0.02

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
possessives per indirect object	0	0.01	0	0.02
verbal modifiers per indirect object	0	0	0	0
nouns as an indirect object dependent per indirect object	0.10	0.17	0.01	0
relative clause modifiers per indirect object	0	0	0	0
(non-clausal) adverbial modifiers per indirect object	0	0.01	0	0
determiners per indirect object (no pronouns)	0.18	0.30	0.22	0.10
adjectival modifiers per indirect object (no pronouns)	0.02	0.04	0.05	0.01
prepositions per indirect object (no pronouns)	0	0	0	0.02
possessives per indirect object (no pronouns)	0	0.01	0.01	0.02
verbal modifiers per indirect object (no pronouns)	0	0	0	0
nouns as a indirect object dependent per indirect object (no pronouns)	0.12	0.25	0.03	0
relative clause modifiers per indirect object (no pronouns)	0	0	0	0
(non-clausal) adverbial modifiers per indirect object (no pronouns)	0	0.01	0	0

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication* [Doctoral dissertation, Georgia State University].

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However, for both groups, inconsistencies across units might highlight that different functions or writing purposes attributed to the relevant units of analysis may not be an influential factor in adjusting complexity features of indirect objects but instead the content might have affected the writers as the scores were inconsistent within the groups regardless of the UoA they occurred in.

Moreover, results of nominalizations provided below in Tables 94 and 95 showed a gradual increase in nominal complements indices moving from UoA 1 to UoA 4 in TR group.

Table 94*EFL TR Group – Nominalizations*

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per nominal	1.51	1.42	1.43	1.48
dependents per nominal complement	2.95	2.97	3.06	3.06
dependents per nominal (no pronouns)	1.52	1.44	1.44	1.50
dependents per nominal complement (no pronouns)	2.82	2.86	2.93	2.93
nouns as a nominal dependent per nominal	0.17	0.17	0.17	0.16
nouns as a nominal dependent per nominal (no pronouns)	0.17	0.17	0.18	0.17

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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It is suggested in the table above that while the complexity of nominalizations in UoA 1 and UoA 2 are similar to each other, UoA 3 and UoA 4 also share similar characteristics. The ENG group was mostly consistent in noun dependents across chapters as shown in Table 95.

Table 95*ENG Group - Nominalizations*

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per nominal	1.46	1.39	1.37	1.39
dependents per nominal complement	3.09	2.95	2.96	3.28
dependents per nominal (no pronouns)	1.47	1.39	1.37	1.40
dependents per nominal complement (no pronouns)	3.02	2.86	2.87	3.24
nouns as a nominal dependent per nominal	0.21	0.20	0.20	0.19
nouns as a nominal dependent per nominal (no pronouns)	0.22	0.21	0.21	0.20

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Yet, units of analysis showed moderate variation in levels of complexity when nominals and nominal complements were observed. While UoA 3 employed a lower level of complexity when considered as a whole, UoA 4 demonstrated the highest level of complexity compared to other units.

In passives, the patterns are more inconsistent across units for each group as shown in Tables 96 and 97.

Table 96

EFL TR Group – Passives

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per passive nominal subject	1.53	1.29	1.28	1.36
dependents per agent	1.57	1.64	1.57	1.60
dependents per passive nominal subject (no pronouns)	1.60	1.40	1.39	1.48
dependents per agent (no pronouns)	1.54	1.60	1.55	1.55

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The table above shows that most complex passive structures were employed in UoA 1 while simpler structures were present in UoA 3 by the TR Group.

Table 97*ENG Group – Passives*

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per passive nominal subject	1.16	1.14	1.08	1.17
dependents per agent	1.69	1.14	1.63	1.61
dependents per passive nominal subject (no pronouns)	1.17	1.20	1.14	1.15
dependents per agent (no pronouns)	1.62	1.60	1.57	1.59

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The ENG group differed in the use of passive nominal subjects in UoA 3 and in agents in UoA 2; both scored lower than the others.

When compared, despite the similar tendencies in frequent use of passive structures, it might be suggested that the EFL TR group prioritized employing passive nominal subjects while modifications of agents were more common in the ENG group, indicating a difference in emphasis while conveying meaning.

As shown in Tables 98 and 99, modifications slightly varied across units and in some cases all units shared the same scores.

Table 98*EFL TR Group – Modifications*

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per object of the preposition	1.53	1.44	1.45	1.50
dependents per object of the preposition (no pronouns)	1.47	1.40	1.40	1.45
determiners per nominal	0.41	0.39	0.39	0.41
adjectival modifiers per nominal	0.33	0.28	0.28	0.32
prepositions per nominal	0.29	0.26	0.28	0.28

Indices	UoA 1 (<i>M</i>)	UoA 2 (<i>M</i>)	UoA 3 (<i>M</i>)	UoA 4 (<i>M</i>)
possessives per nominal	0.03	0.04	0.04	0.04
verbal modifiers per nominal	0.02	0.02	0.02	0.03
relative clause modifiers per nominal	0.03	0.03	0.03	0.03
(non-clausal) adverbial modifiers per nominal	0.01	0.01	0.01	0.01
determiners per nominal (no pronouns)	0.42	0.40	0.40	0.43
adjectival modifiers per nominal (no pronouns)	0.34	0.30	0.29	0.33
prepositions per nominal (no pronouns)	0.29	0.26	0.27	0.28
possessives per nominal (no pronouns)	0.04	0.04	0.04	0.04
verbal modifiers per nominal (no pronouns)	0.02	0.02	0.02	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03	0.18	0.03
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	0.01	0.01	0.01
determiners per object of the preposition	0.41	0.41	0.41	0.43
adjectival modifiers per object of the preposition	0.34	0.29	0.28	0.33
prepositions per object of the preposition	0.25	0.24	0.25	0.25
possessives per object of the preposition	0.03	0.03	0.04	0.04
verbal modifiers per object of the preposition	0.02	0.02	0.02	0.02
nouns as an object of the preposition	0.18	0.17	0.17	0.17
dependent per object of the preposition				
relative clause modifiers per object of the preposition	0.03	0.03	0.03	0.03
(non-clausal) adverbial modifiers per object of the preposition	0.01	0	0	0
determiners per object of the preposition (no pronouns)	0.41	0.41	0.41	0.43
adjectival modifiers per object of the preposition (no pronouns)	0.34	0.29	0.28	0.33
prepositions per object of the preposition (no pronouns)	0.26	0.24	0.25	0.26
possessives per object of the preposition (no pronouns)	0.03	0.03	0.04	0.04
verbal modifiers per object of the preposition (no pronouns)	0.02	0.02	0.02	0.02
nouns as an object of the preposition	0.18	0.17	0.17	0.17
dependent per object of the preposition				
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03	0.03	0.03
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	0	0	0

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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Although the scores were generally close to each other, it could be inferred that UoA 1 of the EFL TR group included more complex structures and variation compared to other units.

Table 99

ENG Group – Modifications

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
dependents per object of the preposition	1.52	1.44	1.43	1.44
dependents per object of the preposition (no pronouns)	1.44	1.37	1.35	1.35
determiners per nominal	0.36	0.35	0.35	0.35
adjectival modifiers per nominal	0.28	0.27	0.25	0.27
prepositions per nominal	0.26	0.25	0.24	0.24
possessives per nominal	0.04	0.04	0.04	0.04
verbal modifiers per nominal	0.03	0.03	0.03	0.03
relative clause modifiers per nominal	0.03	0.03	0.03	0.03
(non-clausal) adverbial modifiers per nominal	0.01	0.01	0.01	0.02
determiners per nominal (no pronouns)	0.37	0.36	0.36	0.36
adjectival modifiers per nominal (no pronouns)	0.29	0.28	0.26	0.29
prepositions per nominal (no pronouns)	0.26	0.24	0.24	0.24
possessives per nominal (no pronouns)	0.04	0.04	0.04	0.04
verbal modifiers per nominal (no pronouns)	0.03	0.03	0.03	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03	0.03	0.03
(non-clausal) adverbial modifiers per nominal (no pronouns)	0.01	0.01	0.01	0.01
determiners per object of the preposition	0.37	0.35	0.35	0.36
adjectival modifiers per object of the preposition	0.29	0.28	0.26	0.28
prepositions per object of the preposition	0.25	0.23	0.23	0.22
possessives per object of the preposition	0.04	0.04	0.04	0.04
verbal modifiers per object of the preposition	0.02	0.03	0.03	0.02
nouns as an object of the preposition	0.23	0.21	0.21	0.21
dependent per object of the preposition				
relative clause modifiers per object of the preposition	0.03	0.03	0.03	0.04

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
(non-clausal) adverbial modifiers per object of the preposition	0.01	0.01	0.01	0.01
determiners per object of the preposition (no pronouns)	0.37	0.35	0.36	0.36
adjectival modifiers per object of the preposition (no pronouns)	0.29	0.28	0.26	0.28
prepositions per object of the preposition (no pronouns)	0.25	0.24	0.23	0.22
possessives per object of the preposition (no pronouns)	0.04	0.04	0.04	0.04
verbal modifiers per object of the preposition (no pronouns)	0.02	0.03	0.03	0.02
nouns as an object of the preposition	0.23	0.21	0.21	0.21
dependent per object of the preposition				
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03	0.03	0.04
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	0.01	0.01	0.01	0.01

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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In comparison to the TR group, Table 99 suggested that the ENG group implemented a wider variety of NP complexity indices as well as scoring more consistently across UoA.

Lastly, in Tables 100 and 101, the use of relative clause modifiers across units is provided.

Table 100

EFL TR Group – Embedding

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
relative clause modifiers per nominal subject	0.02	0.02	0.02	0.02
relative clause modifiers per nominal subject (no pronouns)	0.02	0.02	0.02	0.02
relative clause modifiers per direct object	0.04	0.04	0.03	0.04

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
relative clause modifiers per direct object (no pronouns)	0.04	0.04	0.04	0.04
relative clause modifiers per indirect object	0	0	0	0
relative clause modifiers per indirect object (no pronouns)	0	0	0	0
relative clause modifiers per nominal	0.03	0.03	0.03	0.03
relative clause modifiers per nominal (no pronouns)	0.03	0.03	0.18	0.03
relative clause modifiers per object of the preposition	0.03	0.03	0.03	0.03
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03	0.03	0.03

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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The TR group as shown above usually followed simpler patterns in this category and was mostly consistent. However, UoA 3 showed a drastically high score in relative clause modifiers per object of the preposition without pronouns. The ENG group, as listed in the table below, employed slightly more complex embedding compared to the TR group. Additionally, the units were strongly consistent in general apart from UoA 1 differing in indirect objects and nominals.

Table 101

ENG Group – Embedding

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
relative clause modifiers per nominal subject	0.01	0.01	0.01	0.01
relative clause modifiers per nominal subject (no pronouns)	0.01	0.01	0.01	0.01
relative clause modifiers per direct object	0.03	0.04	0.04	0.04
relative clause modifiers per direct object (no pronouns)	0.03	0.04	0.04	0.04
relative clause modifiers per indirect object	0.05	0	0	0
relative clause modifiers per indirect object	0.05	0	0	0.01

Indices	UoA 1 (M)	UoA 2 (M)	UoA 3 (M)	UoA 4 (M)
(no pronouns)				
relative clause modifiers per nominal	0	0.03	0.03	0.03
relative clause modifiers per nominal (no pronouns)	0	0.03	0.03	0.03
relative clause modifiers per object of the preposition	0.03	0.03	0.03	0.04
relative clause modifiers per object of the preposition (no pronouns)	0.03	0.03	0.03	0.04

Note. Indices column from Kyle, K. D. (2016), *Measuring syntactic development in*

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As a result, the groups shared common characteristics in certain items while they were equally different from each other as well. The relatively major differences occurred in the use of relative clause modifiers per indirect objects and relative clause modifiers per nominal without pronouns in UoA 3, thus; it could be argued that writers of the ENG group might be more flexible in responding to the needs of the context while adjusting phrasal complexity through embedding whereas the EFL TR group might have overused relative clause modifiers per nominal without pronoun index in UoA 3 to provide more details about their intended messages in an attempt to maintain formality and explicitness.

CHAPTER 5: DISCUSSION

Introduction

Aiming to present discussion and final remarks, this chapter begins with an overview of the study. It will proceed to discuss the major findings about NP complexity features adopted by Turkish EFL and English-dominant writers in MA thesis writing with reference to the relevant literature. Then, implications for practice and further research will be covered in this chapter. The limitations and future directions will form the last part of this chapter.

Overview of the Study

The main purpose of this study was to explore which features of NP complexity are employed and how they are applied in selected MA theses from international relations, history, and political science subjects on the topic of foreign policy written by Turkish EFL writers and English-dominant writers. Then, the two groups are analyzed in comparison to each other to determine if NP complexity shares similarities or differences. To fulfill this aim, the following research questions are asked:

1. What are the features of noun phrase complexity in MA theses written on the topic of foreign policy between 2018 and 2023 by Turkish EFL and English-dominant writers?
2. What are the similarities and differences between the selected writings of TEW and EDW in terms of complexity in noun phrases?

The data is collected from 31 Turkish EFL writers and 36 English-Dominant writers. Their theses are analyzed through TAASSC according to 96 indices

indicated by Kyle (2016). The theses are analyzed in four stages. The first stage analyzed the theses individually per index and per chapter within their associated groups. The second stage created group averages per index and per unit of analysis. The third stage compared the group averages per index and per unit of analysis. The fourth stage combined the units of analysis of each group and recalculated the averages per index as a whole thesis for holistic comparison. Hence, the major findings of the study will be discussed with regard to research questions.

Discussion of Major Findings

This section presents the features of measured noun phrase complexity indices in the selected corpus. The common or different approaches employed by writers and how they used NP complexity will be explained in this chapter by interpreting the scores presented in Chapter 4 to provide a wider frame regarding first language interference. The discussion of the findings for each research question is presented below.

Turkish EFL Writers' Use of NP Complexity Features

Unit of Analysis 1

UoA 1 includes chapters and sections that serve as introductions. The EFL TR group showed mostly consistent use in the indices of nominalizations, modifications, and embedding categories but differed significantly in positions and slightly in passives. In the positions category, the writers differed in 5 indices in subjects, 4 indices in direct objects, and almost completely differed from each other in indirect objects. The high inconsistency of indirect objects is a result of unequal numbers of contributing writers, whose scores had significant discrepancies and did not share any common patterns of use. In the passive structures, the writers only showed variation in the use of agents.

To clarify, some writers scored higher or lower than the average making it difficult to argue a pattern in the relevant index. Among the inconsistent categories, the most complex structures were observed in NPs functioning as direct objects as the average number of dependents per direct object was higher than subjects, indirect objects, and passives. Differences in individual use of possessives, relative clauses, verbs, and adverbs shared only one common point that the scores of writers were below the averages of the relevant indices, indicating simpler structures were used by those writers. In a similar manner, subjects included lower scores in possessives, verbs, and relative clauses. In addition, non-clausal adverbial modifier use was highly inconsistent within the group as 10 writers did not employ the target indices. The norm for indirect objects of this unit of analysis was 0 but three writers showed examples of determiners and adjectival modifiers with relatively high scores indicating that each indirect object in their theses was modified at least once. The writers followed similar patterns of complexity in passives when used as nominal subjects but varied in modifying agents. Four writers preferred more complex agents than the average while three remained below the group average.

Among all the categories, nominal complements were the most complex structures scoring higher than 2.5, meaning that nominal complements were modified by all writers more than other structures. The type of modifiers favored by writers across all categories shared mostly common features. NPs as nominal subjects, indirect objects, object of the preposition, and nominals were modified by determiners and adjectival modifiers. Direct objects showed equal scores for determiners and adjectives as being the most frequent modifiers but also introduced prepositions as the second most frequent modifiers. As the scores of determiners and adjectival modifiers were the highest followed by prepositions compared to other

modifiers, it might be suggested that the subjects, direct objects, indirect objects, prepositional objects, and nominals might be more descriptive or specific, similar to prepositions in direct objects. Thus, it might be argued that NPs in this unit of analysis were more likely to be explicit and precise. These findings are in line with Albelihi (2021), Ansarifar et al. (2018), and Li and Tang (2022) highlighting common patterns observed in EFL writers with different L1 backgrounds.

In contrast, the use of non-clausal adverbials remained rare and least complex regardless of the category, which may further support that in UoA 1, NPs were more precise rather than including additional information which may not be essential to the meaning or grammar. Hence, the results of non-clausal adverbial modifier use revealed contrasting results with Yılmaz & Dikilitaş (2017) whose study showed an overuse of adverbials by Turkish writers in academic prose.

Although the general tendency was towards using pre-modifiers, relative clause modifiers scored higher than others in direct objects, which may indicate the presence of post-modification even though it is simple and rare.

Unit of Analysis 2

Results of the EFL TR group in UoA 2, which presents chapters related to literature reviews, suggested that writers show common features in subjects, direct objects, nominalizations, modifications and embedding categories as individual scores of these categories per index demonstrated low discrepancy. However, the same cannot be applied to indirect objects, and passives to a certain degree.

Pre-modifiers formed the basis of NP complexity. The most common modifier remained as determiners, however; unlike UoA 1, subject and direct object positions prioritized prepositions instead of adjectives which ranked the third. This

may suggest that the subjects were elaborated in a more balanced way in general by using pre-modifiers and post-modifiers together with close scores.

The findings of indirect objects may reveal a new aspect of NP complexity although the use of target structures did not allow to propose a shared pattern between writers because of following strongly inconsistent approaches. However, unlike the highest uses of adjectival modifiers after determiners, indirect objects in UoA 2 scored higher in nouns as an indirect object dependent in no-pronoun index compared to other indices whereas adjectival modifiers remained as the second highest scored index in the regular version. It might be claimed that indirect objects may rely more on noun-based modifications while pronoun-use affected the adjectives. It is also important to highlight that only 11 writers contributed to indirect objects category in 6 indices and the rest did not yield any results.

With complex nominal complements, and relatively less complex nominals, nominalizations category maintained a consistent attitude towards NP complexity similar to modifications, and embedding categories. Modifications category conformed to the ongoing tendency to prioritize determiners and adjectival modifiers. The passives category slightly differed in the three writers' use of passive nominal subjects and agents, but the individual scores did not have a significant impact on the group averages. As non-clausal adverbials remained rarely employed, embedding category following it with slightly higher scores also showed consistent results among the writers and were encountered mostly in direct object positions. The overall findings of UoA 2 in the TR group aligned with Albelihi (2021), Ansarifar et al. (2018), and Li and Tang (2022) in the use of modifiers such as determiners and adjectives.

Unit of Analysis 3

UoA 3 represented chapters regarding the presentations of discussions and results. The writers of the EFL TR group scored similarly to each other in subjects, direct objects, nominalizations, modifications, and embedding. Conversely, indirect objects and passives categories mainly lacked common patterns. Strong consistency in the mentioned categories may acknowledge genre awareness or unity of goals as all writers included results chapters in their theses and they were collected in UoA 3.

Determiners preserved their rank as the most frequently used modifiers in all categories. The use of prepositions was expanded in nominal subjects compared to adjectival modifiers. However, other categories, except for the modifications, suggested a higher use of adjectives compared to other indices. Prepositions and adjectival modifiers shared the scores only in the regular version of adjectives and prepositions per nominal index. NP complexity in indirect objects heavily relied on determiner use which scored 0.09 and 0.13 higher than the next highest scoring index. Being a category that writers often demonstrated inconsistent uses of target structures, 10 writers differed in the use of determiners, adjectives, and nouns as an indirect object per indirect object indices. This inconsistency may indicate differences in linguistic or stylistic choices. The results of passives category were mostly consistent except five writers in dependents per agent, who slightly scored higher than the average.

Unanticipatedly, while remained low in use, embedding category scored very high compared to other results of the TR group in other UoAs by resulting in 0.18 in no pronoun index of relative clause modifiers per nominal. This means that noun phrases were more complex with structural depth and formal with the effect of 'no-pronoun' index too.

Writers continued to support previously mentioned studies (Albelihi, 2021; Ansarifar et al., 2018; Li & Tang, 2022).

Unit of Analysis 4

UoA 4, which refers to the concluding chapters, revealed that contrary to other units of analysis, the TR group followed different manners of applying complexity features in the subject positions. The use of possessives, verbs, relative clauses, and adverbs showed high discrepancies between writers. Possessives were not employed by five writers and verbal modifiers were absent in UoA 4 of three writers. In addition, 7 writers scored 0 in relative clause modifiers and 13 writers in non-clausal adverbial modifiers. The same type of indices, relative clauses, and adverbials caused inconsistency in indirect objects as well. The most significant difference was in adverbial modifiers as 9 writers did not use them. Indirect objects category was strongly consistent as there were not any instances of relevant indices in Turkish EFL writers' UoA 4. While nominalizations showed consistent patterns of use among the writers, passives differed in dependents per agent. 8 writers scored below the group average, which suggests that they employed simple passive constructions, while 2 of them scored above the average meaning higher levels of complexity in agents compared to the group. Modifications category was one of the categories where writers had different attitudes towards the use of adverbials. In the non-clausal adverbial modifiers per object of the preposition indices, the group average was shown as 0; however, except for four writers whose scores were 0, there were 1 or 2 instances per a thousand phrases in other writers' texts. The previously mentioned inconsistencies in relative clause modifiers were reflected again in the embedding category. Seven writers did not provide any instances of relative clause modifiers per nominal subject, while the number of writers dropped to three in direct

objects, one in prepositional objects, while the indirect objects category did not show any results.

Based on the inconsistencies among the writers in various indices, it is difficult to argue existence of a common pattern, if inconsistencies themselves were not considered as a common feature. On the other side, UoA 4 signalizes divergent strategies for achieving noun phrase complexity. The reasons behind these ungeneralizable results might be inconsistent linguistic choices, differences of proficiency levels, or individual stylistic preferences.

In line with other units of analysis, UoA 4 revealed that determiners and adjectival modifiers in all categories are more often than others. Therefore, the results of this unit of analysis also supported previously mentioned studies (Albelihi, 2021; Ansarifard, et al., 2018; Li & Tang, 2022).

General Tendencies

Based on the results, it could be implied that Turkish EFL writers reflected some features of Turkish into their writings. The frequent and consistent use of premodifiers might have stemmed from the influence of the Turkish language. The common inconsistencies in indirect objects might reflect stylistic variation and frequent use of determiners may highlight definiteness or avoiding conversational language when accompanied by no-pronoun indices.

Furthermore, among the most consistently employed modifiers, determiners and adjectives peaked in UoA 4, indicating an emphasis on clarity and being specific, while UoA 2 demonstrated simpler structures in direct objects and a decline in adjective use until UoA 3 and an increase through UoA 4, highlighting a change in descriptive detail. Another common category was passives with moderate to high complexity as well as nominal complements. The use of relative clause modifiers

was consistent but low in complexity. Thus, minimal use of embedding might suggest less variety.

UoA 1 ranked as the most complex unit in terms of noun phrases, followed by UoA 4 and UoA2, and lastly UoA 3. Considering the contents of the units, these findings are in line with Nesi and Gardner (2012) but contrasting in phrasal level with Gillett (2024) who suggested literature review chapters may reflect more complexity and sophistication.

Individual Cases

Writers 44 and 46 in the TR group often differed from the averages. Writer 44 scored in possessives per nominal subject, passive nominal subjects, indirect object indices regarding determiners, prepositions, possessives, and nouns above the average while remaining lower than the average in almost all indices of nominal subjects, direct objects indices with verbal, relative clause and non-clausal adverbial modifiers, and dependents per nominal complements.

Writer 46 scored higher in dependents per nominal subject, per nominal complement, and per passive nominal subject, in addition to determiners and nouns per indirect object. At the same time, dependents per agents, relative clause and non-clausal adverbial modifiers per object of preposition, and non-clausal adverbial modifiers per nominal subject and per direct object resulted in lower scores.

These consistent differences can emphasize the influence of personal preferences such as linguistic or stylistic choices and proficiency levels of the writers as there was consistent underuse of certain indices.

English-Dominant Writers' Use of NP Complexity Features

Unit of Analysis 1

In UoA 1, which is a collection of chapters that function as introductions, the ENG group preferred no-pronoun indices more often in subjects category, which may suggest employing a more precise and formal language. Determiners scored the highest while adjectives and prepositions provided the same results suggesting a balanced use of pre-modifiers and post-modifiers. Although the category mainly progressed in a consistent manner, writers differed in relative clauses and adverbial modifiers. Seven writers in relative clause indices, eight writers in adverbial modifiers scored 0. Similarly, direct objects followed the highest score in determiners and equal scores in adjectives and prepositions patterns. Then, the nouns as a nominal subject dependent index was the third one with a higher complexity level. Writers followed very close attitudes towards the indices of direct object category except for adverbial modifiers as 8 writers did not contribute to the average complexity of non-clausal adverbials per direct object in UoA 1 of English-dominant writers. The averages of indirect objects were composed of seven writers using determiners, one using adjectival modifiers, and four using nouns as an indirect object dependent. Among the scored indices, determiners were the most frequently used indices, and the second highest scorer was nouns.

Nominalizations showed high complexity in nominal complements indices as the average of the ENG group was higher than 3.0. However, the results were slightly inconsistent as six writers scored higher and three scored lower. Similar inconsistencies were observed in passives category. Two writers scored higher in passives as nominal subjects while only one writer used less complicated constructions. Adding to the inconsistencies, dependents per agent differed since 4

writers scored lower and 6 writers scored higher than the average. The modifications category was the only category in the unit of the analysis where writers followed common patterns. The source of complexity in this category stemmed from determiners and adjectives mostly. Embedding category only differed in relative clause modifiers per nominal subject indices because seven writers did not apply the indices. Apart from nominal subjects, other indices showed strong consistency, and relative clause modifiers per direct objects were the most complex construction of the category.

This unit of analysis highlights that the ENG group used a wide range of structures in their writings although a suggestion of common patterns within the group is difficult to make. In addition to variety, NP complexity relied on determiner + noun or noun-based constructions in general while the use of adjectives and prepositions were more balanced with each other. The results support Albelihi (2021); Ansarifar et al. (2018); Lan et al. (2022); Lan (2020); Özbay & Öztürk (2021); Öztürk & Köse (2016); Sarıcaoğlu & Atak (2022); and Uçar (2017); in terms of noun use, variety, and prepositional modifiers.

Unit of Analysis 2

UoA 2 covered the chapters about literature review and historical background. Major findings in UoA 2 revealed that no-pronoun indices were adopted more frequently in subject category except for relative clause modifiers indices. Determiners and nouns played the primary roles in NP complexity of subjects category. Writers fostered similar tendencies in this category with minor discrepancies. In direct objects category, determiners and adjectives resulted in higher scores. This might indicate that the ENG group preferred NPs as direct objects with more descriptive natures. In addition, the group strongly followed similar

patterns in direct objects. Contrary to the consistent use of direct object indices by the group, indirect objects were highly inconsistent and not suitable to draw any generalizations. Five indices of the category did not reveal any occurrences of target structures while the remaining indices were almost completely inconsistent among writers. Determiners continued to be the most frequently employed indices and followed by nouns as an indirect object dependent index. In total, 17 writers provided instances for indices of this category. However, the discrepancy between scores reached above 2.5 and the distribution of writers employing types of modifiers was imbalanced.

The nominalizations category was consistent except for some minor differences in nominal complements as three writers employed more complex constructions. Passives category presented consistent scores as well and emphasized the influence of pronoun use as the category showed higher complexity without pronouns. This may highlight that passive structures might have been adopted to exercise a formal tone of writing. For modifications category, writers continued to follow consistent use of indices. The most frequently adopted indices were determiners and adjectival modifiers in this category. In the embedding category, the writers continued to follow similar writing patterns. Relative clause modifiers per direct object indices were the most complex structures of the category while indirect objects did not show any results.

For UoA 2 of the ENG group, it might be implied that writers showed similar tendencies in employing complexity features except for indirect objects. Within the common patterns, the results of subjects and indirect objects categories aligned with the studies that characterized L1 English writing with the use of nouns (Albelihi, 2021; Ansarifard et al., 2018; Lan et al., 2022; Lan, 2020; Özbay & Öztürk, 2021;

Öztürk & Köse, 2016; Sarıcaoğlu & Atak, 2022; Uçar, 2017). However, the results also indicate that in UoA 2, English-dominant writers NP complexity patterns slightly disagree with the mentioned studies in terms of providing variety as most categories scored close to each other and showed similar results.

Unit of Analysis 3

The findings of this unit of analysis, which was composed of discussion and results chapters, suggested a slight increase in no-pronoun index use, meaning the complexity of NPs also increased. The writers were consistent in this category, with only one writer using less complex relative clause modifiers per nominal subject compared to the average. Among the most frequently used indices, determiners were in the first place before nouns as nominal subject dependents. Similarly, writers did not differ from each other in the indices of direct objects category but the frequency of indices changed. Namely, although determiners were still the most frequently used indices, adjectives and prepositions, which share the same scores, were used more than nouns. This may suggest that writers tend to use balanced constructions while attributing more descriptive features to NPs functioning as direct objects. Indirect objects category reveals inconsistent results because of imbalanced contributions within the group. Determiners were used significantly more than other indices with scores, while there is at least 0.12 discrepancy between the lowest score of determiners per indirect objects and the highest score of the next most frequently used indices, which were adjectival modifiers. Nevertheless, the scores of this category's indices were not taken from all writers. Instead, twelve writers provided instances per indices when possible. Thus, the writers differed from each other in determiners, adjectives, nouns, and possessives while the remaining indices scored

zero. Considering that 12 writers differed in 8 indices and it might be claimed that there was not an observable pattern among the English-dominant writers in UoA 3.

The nominalizations category further suggested that nominal complements foster relatively high levels of complexity, and all indices of the category show consistency in this category. Passives category indicated that pronoun use might be an effective indicator of how styles of writers may differ such as using more pronouns approaches the text into oral communication. Although the majority of writers followed similar patterns in passive nominal subjects, three writers scored above the average scores in agents. Modifications and embedding categories also did not reveal a discrepancy among the writers. Thus, the indices were employed consistently. In the modifications category, determiners and adjectives were employed more often by almost all writers that may highlight that nominals and object of the prepositions were modified more to provide additional information or descriptive expressions. Embedding category showed similar patterns across the writers and direct objects were the most modified indices.

Findings of this UoA can still be consistent with earlier studies implying the noun use as a primary feature of L1 English writing (Albelihi, 2021; Ansarifard et al., 2018; Lan et al., 2022; Lan, 2020; Özbay & Öztürk, 2021; Öztürk & Köse, 2016; Sarıcaoğlu & Atak, 2022; Uçar, 2017) because subjects category yielded supporting findings. However, in other categories, the ENG group did not differ from the EFL TR group in UoA 3.

Unit of Analysis 4

This unit of analysis focused on concluding remarks, and revealed that writers did not usually follow similar writing patterns. Subjects category relied on determiners and adjectival modifiers. This might show that NPs as subjects in UoA 4

have descriptive natures. Nonetheless, the writers differed from each other in other indices of the category. Seven writers scored 0 in possessives; four writers did not produce any results in verbal modifiers. Relative clause modifiers were not employed by 10 writers and adverbs by 9 writers. The inconsistency between writers continued in direct objects category. Same as the subjects category, NP complexity was based on determiners and adjectives. Although writers were consistent in determiners, adjectives, and prepositions indices, their writing differed significantly in possessives, verbs, nouns, relative clauses, and adverbs. Indirect objects category also contributed to the diverse writing tendencies in UoA 4. Determiners and prepositions were the most frequently employed indices in indirect objects. This may imply that NPs functioning as indirect objects were written more precisely and formally, and there might be more focus on explaining contexts, locations, or such relations. It is also important that this data was collected from 6 writers who differed from each other, too, as others did not provide any instances of the target indices.

Nominalization category highlights complex uses of nominal complements. The high complexity of nominal complements may reflect a tendency to use elaborate sentence structures and analytical writing. Similar to other categories, writers continued being inconsistent among each other as four writers scored lower than the average while four other writers adopted higher complexity compared to the group average while other indices of the category remained relatively consistent. The general tendency of following inconsistent patterns in NP complexity did not change in passives category. Seven writers demonstrated diverse use of passive nominal subjects and almost half of the group showed drastically diverse patterns in dependents per agent indices as 17 writers did not conform to any common use and showed a very high discrepancy, 3.0, in complexity levels of agents. Modifications

category yielded more consistent results among writers as only 6 of them showed difference. The primary modifiers of NPs were determiners and adjectives, indicating the continuum of a more descriptive NP use. Embedding was another category that revealed significant differences because 10 writers did not use any relative clause modifiers in nominal subjects and 4 writers in direct object. However, 16 writers showed instances of relative clauses in indirect objects.

This unit of analysis could be characterized as diversity as the group employed a variety of indices and also showed variation within the indices. Yet, it might not be argued that writers shared common features in their adoption of complexity features. The levels of complexity as well as the primary source of elaboration showed significant differences in individual scores of writers. This strongly suggests that NP complexity in UoA 4 on the ENG group resulted in high variation. As the focus of this UoA corresponds to presenting chapters on conclusions and recommendations in the original theses, it could be inferred from the findings that writing style and structural choices show great variation and this might be caused by different approaches to the relevant chapters as writers showed variations in structuring these chapters in their original theses as well because as mention in Chapter 3, some writers did not include recommendations or some changed the orders of chapters and so forth. In addition, although writers employed the same genre and they were from the same or similar disciplines, the present strong inconsistency may highlight that genre-specific conventions could be interpreted differently by writers and led them to focus of different rhetorical purposes such as focusing on conciseness or elaboration.

The findings of UoA 4 indicate that the ENG group did not share generalizable common characteristics in NP complexity use because there was great

variation in the complexity levels and types of indices employed. In this case, the findings align with similar studies (Albelihi, 2021; Ansarifard et al., 2018; Lan et al., 2022; Lan, 2020; Özbay & Öztürk, 2021; Öztürk & Köse, 2016; Sarıcaoğlu & Atak, 2022; Uçar, 2017) only in showing variation but did not conform to the use of nouns as primary source of complexity in L1 English writing. Instead, the results were in line with the features of EFL writing which prioritized the use of adjectival modifiers.

General Tendencies

The ENG group generally mirrored the complexity features attributed to the L1 English academic writing by relying on noun-based constructions and postmodifiers. In addition, the NP complexity among the groups ranked as the following: UoA 4, UoA 1, UoA 2, and UoA 3. Despite the individual differences, on average, the group performed consistent and balanced use of NP complexity indices in units and as the frequencies of nouns and adjectives occasionally changed in certain units, it might be inferred that the group can adjust complexity when needed, showing familiarity with the academic conventions as mentioned by earlier studies (Biber et al., 2020; Dixon, 2022; Lan, 2020; Taşçı, 2023).

Individual Cases

The ENG group frequently involved writers with diverse scores, though, Writer 7 derives from the group more than any other, scoring simultaneously high or low in several indices. These derivations formed a pattern of use highlighting overuse of some indices. One of the most common patterns followed by Writer 7 was scoring higher than the average in indirect object indices and employing a wider set of indices in the category. The other could be less frequent and simpler use of nominal subjects and rare use of relative clausal modifiers. Although being able to

demonstrate use of other high complexity constructions, the writer tends to score lower in relative clausal modifiers. These patterns might be the results of linguistic or stylistic choices, which might have been affected by the topic as well.

A Comparison of NP Complexity Features between the Groups

Unit of Analysis 1

When compared, the EFL TR and ENG groups shared common characteristics as well as certain differences. In the subjects category, it is possible to observe that the TR group used dependents slightly more and relied on prepositions and adjectival modifiers while the ENG group preferred nouns. Possessives and relative clause modifiers were not addressed frequently by both groups. Direct objects also showed similar tendencies in both groups that they infrequently employed possessives, verbal, and adverbial modifiers. The differences in creating NP complexity showed resemblance to the subjects category as the TR group continued to rely on determiners and adjectival modifiers and the ENG group relied on noun dependents and relative clause modifiers unlike its infrequent approach to the index in subject position. It is possible to emphasize that the ENG group preferred more diverse strategies and the TR group focused on explicitness. Indirect objects were simple in Turkish EFL writing but English-dominant writers demonstrated more complex constructions due to determiners and nouns. Nominalizations category yielded similar findings for both and passives show minor differences as the EFL TR group modified passive nominal subjects more while the focus was on agents in the ENG group. Modifiers also emphasized that the TR group tends to use determiners and adjectives whereas the ENG group employs noun-based indices more. Lastly, both shared infrequent use of embedding but with a slight

difference in objects as the ENG modified the direct objects more while the TR group focused on indirect object with relatively simpler manners.

In addition, overall scores of verbs, adverbs, and relative clause modifiers were almost identical in many instances. However, Turkish EFL writers may tend to use more complex nominal subjects in UoA 1 and more direct ways of expression due to adjective use. This tendency might reflect L1 influence as premodifier use is a common characteristic of modification in Turkish. Meanwhile, the ENG group tends to use a broader variety of structures that reflect flexibility in achieving NP complexity. The findings may support the developmental stages of linguistic complexity proposed by Biber, Gray, and Poonpon (2011) as Turkish EFL writers showed frequent use of structures belonging to relatively earlier stages compared to the ENG group's structures. This unit of analysis also supports similar studies in the literature (Albelihi, 2021; Ansarifard et al., 2018; Lan et al., 2022; Lan, 2020; Özbay & Öztürk, 2021; Öztürk & Köse, 2016; Sarıcaoğlu & Atak, 2022; Uçar, 2017).

Unit of Analysis 2

In comparison to each other, Turkish EFL writers and English-dominant writers did not show significant differences except in determiners, adjectives, prepositions, and nouns as Turkish EFL writers continued to employ determiners and adjectives as their primary strategy of modification followed by the use of prepositions and English-dominant writers continued to use nouns as dependents more often. The same tendency remained in direct objects, indirect objects, and modifications categories. The use of nominalization indices slightly differs in this unit of analysis. Same as the UoA 1, nominal complements and nominal dependents did not differ at all, but UoA 2 findings suggested that the ENG group slightly uses nouns as nominal dependents more than the TR group. Following the same manner,

passives differ in nominal subjects and agents. The TR group employed more complex passive nominal subjects while the ENG group followed a balanced approach to both indices. Embedding category did not yield any significant differences, rather it suggested that both groups used indices similarly.

As a result, this may reveal that the TR group relies on explicit modification for NP complexity while nouns are employed the most by the ENG group as well as more balanced approaches to modifications. Therefore, UoA 2 further continues to remain in line with the previous studies claiming noun use as the primary source of modification in L1 English writing and adjectives in EFL writing as well as classifying the indices regarding the level of proficiency (Albelihi, 2021; Ansarifard et al., 2018; Biber et al., 2011; Lan et al., 2022; Lan, 2020; Özbay & Öztürk, 2021; Öztürk & Köse, 2016; Sarıcaoğlu & Atak, 2022; Uçar, 2017).

Unit of Analysis 3

The findings of UoA 3 showed strong resemblances to UoA 1 and UoA 2. Turkish EFL writers continued to implement more adjectival modifiers in subject position compared to English-dominant writers. Nevertheless, one notable difference of the subjects category was that the TR group employed no-pronoun indices slightly more than the ENG group suggesting that they might have demonstrated more formal ways of expressing ideas through NPs. Adjective and noun use differed in direct objects as well. The TR group relied on determiners and adjectives more while the ENG group remained dominant in noun dependencies. However, the indirect objects category showed completely the opposite of direct objects as the ENG group scored higher in determiners and adjectives while the TR group relied on nouns more often. For nominalizations, minor differences continued to exist but the use of dependents per nominal complements was almost identical. Passives continued to reveal that the

ENG group elaborates agents more while the TR group shows higher complexity in passive nominal subjects. Modifications category suggested that the TR group continued to employ explicit modifiers as they scored higher in determiners and prepositions whereas nouns continued to be the most frequently used indices by the ENG group, whose reliance on nouns as dependents showcases higher level of NP complexity. Embedding indices were almost identical in all cases, yet the EFL TR group significantly scored higher in relative clause modifiers per nominal without pronouns index. Although underlining higher level of complexity through embeddedness, this finding could also suggest that the TR group might have overused the structure. Consequently, this unit of analysis aligns with the earlier studies (Albelihi, 2021; Ansarifard et al., 2018; Biber et al., 2011; Lan et al., 2022; Lan, 2020; Özbay & Öztürk, 2021; Öztürk & Köse, 2016; Sarıcaoğlu & Atak, 2022; Uçar, 2017).

Unit of Analysis 4

The findings indicated that the TR group continued to score higher in adjectives while nouns were higher in the ENG group in subjects. In addition, the TR group showed a slightly higher score in total dependents per nominal subject without pronoun index. The reliance on explicit and descriptive modifiers such as determiners and adjectives remained unchanged in the TR group in direct objects while the same for nouns was applicable for the ENG group. In indirect objects category, it might be suggested that the TR group avoided from the elaboration of indirect objects compared to the ENG group as the English-dominant writers outsourced Turkish-EFL writers in determiners, prepositions, and consequently in dependents per indirect objects. Though, the ENG and EFL TR groups show common tendencies in nominalizations, it might be suggested that the TR group may

tend to underuse nouns as dependents. While the ENG group followed a more balanced approach towards agents and passive nominal subjects, the TR group continued to elaborate passive nominal subjects more. Modifications category also added to the frequent use of determiners and adjectives by the TR group and nouns by the ENG group. The findings of the embedding category showed similar patterns between the groups except for some minor discrepancies.

The same as the other units of analysis, UoA 4 findings continue to comply with Albelihi (2021), Ansarifard et al. (2018), Biber et al. (2011), Lan et al. (2022), Lan (2020), Özbay & Öztürk (2021), Öztürk & Köse (2016), Sarıcaoğlu & Atak (2022), Uçar (2017).

In conclusion, both groups confirm that academic writing is complex with the use of noun phrases, embedding, nominalizations, and passive structures, and the purpose of writing can be influential in adjusting complexity (DiCerbo et al., 2014; Esfandiari & Ahmadi, 2022; Nesi & Gardner, 2012; Scarcella, 2003). However, the findings of Turkish EFL writers contradicted with Babanoğlu (2014) and Yılmaz & Dikilitaş (2017) in overusing oral features in academic prose. The TR group in the current study employed relatively complex structures and did not foster a conversational tone such as frequent use of non-clausal adverbial modifiers. Despite the mentioned differences in noun dependents, premodifier, and variety, the ENG and EFL TR groups also shared several similar characteristics as the numeric data also showed that the discrepancy between groups was usually low in many cases, suggesting similar levels of complexity. In this aspect, this study may support Dixon's (2022) approach to academic writing in terms of creating a bias-free discourse.

Implications for Practice

The findings of this study revealed that Turkish EFL writers may show a tendency to underuse post-modifiers and rely heavily on determiners and adjectives as pre-modifiers as well as they differed from the ENG group in the use of passive structures. In addition to the general tendencies, observed inconsistencies in use of certain structures and fluctuating levels of complexity, and consistent high and low performers also highlighted that teaching academic writing in graduate-level courses may require further attention. Therefore, the results may inform EAP practices at curriculum and instructional levels.

Providing support such as workshops and discipline-specific thesis writing courses for Turkish EFL writers might be useful to provide a sphere for further practice and familiarization with the genre and linguistic requirements. Although Turkish EFL writers were considered proficient based on their education levels, individual differences appearing in inconsistent usages underscore that linguistic complexity is achieved through a longitudinal process as stated earlier. Thus, revisiting the EAP curriculum may be another option to allocate more time to more complex structures in later stages such as relative clause modifiers, non-clausal adverbial modifiers, and verbal modifiers by adding specially designed tasks for the target structures to help low performers adopt more complex use of NPs and high performers to calibrate using overly complex NPs which may hinder clarity. Developing clear thesis writing guidelines or rubrics addressing linguistic competencies and chapter-specific expectations to prevent over-reliance or oversimplification of specific structures, or to increase stylistic variation might be beneficial and could be accompanied by customized writing resources with explicit focus on target structures including tasks such as sentence expansion, sentence-

combining activities, peer-editing, and drafting. Diagnostic writing tests might be recommended to address the writer tendencies for different contexts as well as they could help designing a suitable EAP writing curriculum by profiling the writers and features of their NP complexity use.

According to the results, Turkish writers were more consistent in their choices and mostly followed similar patterns within the group and across the units. Thus, instead of promoting a standardized or generic writing style, the purpose behind teaching certain structures explicitly should support flexibility in adjusting complexity levels and employing relevant features based on the need rather than obligation due to avoidance from certain constructions. In addition, authorial voice could be emphasized in EAP settings by acknowledging the possibility of alternative constructions through paraphrasing tasks.

As the results emphasized attention to specific structures, leading to a need to address them explicitly, they may attribute utmost importance to feedback during the writing process. A combination of myriad feedback techniques can enhance the writing practice. To explain, implementing formative and targeted feedback approaches such as modeling or highlighting recurring patterns and holistic feedback through rubrics for advanced writing needs on structure and flow might be combined with technology-assisted feedback such as using annotation tools or automatized tools and interactive feedback techniques such as peer review, upon teacher feedback. For L1-based tendencies such as frequent use of pre-modifiers instead of post-modifiers, distinct use of indirect objects, and passives, tasks that focus on contrastive analysis might be suggested for developing awareness of syntactic and rhetorical differences between Turkish EFL writers and English-Dominant writers and may also promote positive cross-linguistic transfer.

Implications for Further Research

Although similar patterns were encountered in NP complexity between English-Dominant and Turkish EFL writers, the consistent different use of certain structures in specified Turkish context signaled emerging patterns. However, comparative studies might be conducted to explore whether these patterns are L1-specific or common patterns could be observed in EFL speakers from other L1 backgrounds.

The current study revealed that Turkish EFL writers tend to compose more complex NPs in the first unit of analysis but unit of analysis 4 was the most complex one for English-Dominant writers while they were similar in units of analysis 2 and 3. As unit of analysis 1 focused on chapters with introductory purposes and unit of analysis 4 covered conclusions and recommendations, the results might be studied beyond thesis writing. Thus, studies exploring other academic genres might contribute to highlight if there is a common tendency between writers for certain purposes or genres.

The inconsistent uses of certain structures where some writers scored above the group averages or lower might indicate differences in individual proficiency levels of writers in employing NP complexity features. Therefore, investigating the development of NP complexity in graduate-level academic writing in a longitudinal study may provide more details to identify if the inconsistent uses stem from stylistic choices or proficiency levels.

As Turkish EFL writers showed consistent approaches in certain indices and formed intragroup patterns, a corpus-based study might be conducted to further argue the generalizability of the results. In addition, the current study focused on Turkish and inner circle countries, limited topic to foreign policy MA theses from specified

departments, therefore, it might be recommended that the influences of discourse on NP complexity could be investigated with regards to cultural and educational norms.

Thesis writing is a long process that requires feedback and editing. As this study focused on the final products of that process, the drafting process which affects the development of writing complexity was not within the scope of the current study. Hence, a longitudinal study focusing on the analysis of developments and changes from drafting stages to the final stage in English-dominant and EFL writing could inform the writing practices of writers and how their stylistic and linguistic choices adapt to the genre requirements and other academic conventions.

Lastly, findings from Turkish group mostly supported studies mentioned in Chapter 4. To clarify, studies on cross-linguistic analysis of noun phrase complexity (Ansarifar et al., 2018; Biber et al., 201; Albelihi, 2021; Lan et al., 2022, Alsahlanee & Janagathan, 2023; Lan, 2020; Li & Tang, 2022) might contribute to the literature on more common or different tendencies if analyzed from English as a Lingua Franca perspective. As TR Group shared some major tendencies as EFL speakers from different L1 backgrounds, and the ENG Group slightly disagreed with some features attributed to L1 English writing, further research on this issue might be required.

Limitations and Future Directions

Despite the valuable insights gained in the current study on noun phrase complexity in graduate-level academic writing, it is important to acknowledge the myriad limitations of the current study and potential opportunities for further research.

The study analyzed 67 MA theses about foreign policy written by Turkish EFL and English-Dominant writers. In addition to addressing to theses completed

between 2018-2023 written by 31 Turkish EFL writers from EMI programs in Türkiye and 36 writers who were from inner circle countries, the study focused on only MA thesis writing. Therefore, the results of this study may not be applicable for different writer groups, genres, periods, and topics.

Although the word count as a whole did not show a high discrepancy, there were unequal lengths of chapters in some theses affecting the total word counts per chapter for each group. This might be a result of the different formatting requirements from different institutions as contributing factors to complicating the standardization of writing. For higher discrepancies where the focus is only on the linguistic structures rather than chapter by chapter and overall features, the data might be normalized. And to strengthen the validity, the quantitative results from TAASSC might be supported with T-tests to address discrepancies or Chi-square tests to test the distribution of indices in the future studies.

As the TR and the ENG groups showed differences in word counts but fostered similar levels of complexity in writing the units of analysis 2 and 3 while they differed in complexity of units of analysis 1 and 4. This issue may require further research on exploring if institutional expectations or other educational contexts would impact the results, such as studying English-dominant writers in Turkish EMI institutions or Turkish EFL writers in inner circle contexts, to better understand the source of the differences between their approaches to the overall complexity of units of analysis.

Additionally, the scope of the current study explored NP complexity in terms of its structural features by adopting fine-grained indices of TAASSC, which provide accuracy from 90% to 95%. Hence, to pose a more holistic approach or a more discourse-based analysis, TAASSC might be accompanied by BiberTagger,

Multidimensional Analysis Tagger, and manual analysis in the future studies to gain more detailed insights on complementary components of NP complexity within context such as highlighting functional features, register and genre-based variation or other rhetorical tools.



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Appendix 1

TAASSC Complete List of Phrasal Complexity Indices

Taken from:

Kyle, K. (2016). Measuring syntactic development in L2 writing: Fine grained indices of syntactic complexity and usage-based indices of syntactic sophistication. https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1035&context=alesl_diss

In Text Name	Index Type
dependents per nominal	Noun Phrase Complexity
dependents per nominal subject	Noun Phrase Complexity
dependents per passive nominal subject	Noun Phrase Complexity
dependents per agent	Noun Phrase Complexity
dependents per direct object	Noun Phrase Complexity
dependents per object of the preposition	Noun Phrase Complexity
dependents per indirect object	Noun Phrase Complexity
dependents per nominal complement	Noun Phrase Complexity
dependents per nominal (no pronouns)	Noun Phrase Complexity
dependents per nominal subject (no pronouns)	Noun Phrase Complexity
dependents per passive nominal subject (no pronouns)	Noun Phrase Complexity
dependents per agent (no pronouns)	Noun Phrase Complexity
dependents per direct object (no pronouns)	Noun Phrase Complexity
dependents per object of the preposition (no pronouns)	Noun Phrase Complexity
dependents per indirect object (no pronouns)	Noun Phrase Complexity
dependents per nominal complement (no pronouns)	Noun Phrase Complexity
dependents per nominal (standard deviation)	Noun Phrase Variety
dependents per nominal subject (standard deviation)	Noun Phrase Variety
dependents per passive nominal subject (standard deviation)	Noun Phrase Variety
dependents per agent (standard deviation)	Noun Phrase Variety
dependents per direct object (standard deviation)	Noun Phrase Variety
dependents per object of the preposition (standard deviation)	Noun Phrase Variety
dependents per indirect object (standard deviation)	Noun Phrase Variety
dependents per nominal complement (standard deviation)	Noun Phrase Variety
dependents per nominal (no pronouns, standard deviation)	Noun Phrase Variety
dependents per nominal subject (no pronouns, standard deviation)	Noun Phrase Variety
dependents per passive nominal subject (no pronouns, standard deviation)	Noun Phrase Variety
dependents per agent (no pronouns, standard deviation)	Noun Phrase Variety
dependents per direct object (no pronouns, standard deviation)	Noun Phrase Variety
dependents per object of the preposition (no pronouns, standard deviation)	Noun Phrase Variety
dependents per indirect object (no pronouns, standard deviation)	Noun Phrase Variety
dependents per nominal complement (no pronouns, standard deviation)	Noun Phrase Variety
determiners per nominal	Noun Phrase Complexity
adjectival modifiers per nominal	Noun Phrase Complexity
prepositions per nominal	Noun Phrase Complexity
possessives per nominal	Noun Phrase Complexity
verbal modifiers per nominal	Noun Phrase Complexity
nouns as a nominal dependent per nominal	Noun Phrase Complexity
relative clause modifiers per nominal	Noun Phrase Complexity
(non-clausal) adverbial modifiers per nominal	Noun Phrase Complexity
conjunction "and" as a nominal dependent per nominal	Noun Phrase Complexity
conjunction "or" as a nominal dependent per nominal	Noun Phrase Complexity
determiners per nominal (no pronouns)	Noun Phrase Complexity
adjectival modifiers per nominal (no pronouns)	Noun Phrase Complexity
prepositions per nominal (no pronouns)	Noun Phrase Complexity
possessives per nominal (no pronouns)	Noun Phrase Complexity
verbal modifiers per nominal (no pronouns)	Noun Phrase Complexity
nouns as a nominal dependent per nominal (no pronouns)	Noun Phrase Complexity
relative clause modifiers per nominal (no pronouns)	Noun Phrase Complexity
(non-clausal) adverbial modifiers per nominal (no pronouns)	Noun Phrase Complexity
conjunction "and" as a nominal dependent per nominal (no pronouns)	Noun Phrase Complexity
conjunction "or" as a nominal dependent per nominal (no pronouns)	Noun Phrase Complexity
determiners per nominal subject	Noun Phrase Complexity

In Text Name	Index Type
adjectival modifiers per nominal subject	Noun Phrase Complexity
prepositions per nominal subject	Noun Phrase Complexity
possessives per nominal subject	Noun Phrase Complexity
verbal modifiers per nominal subject	Noun Phrase Complexity
nouns as a nominal subject dependent per nominal subject	Noun Phrase Complexity
relative clause modifiers per nominal subject	Noun Phrase Complexity
(non-clausal) adverbial modifiers per nominal subject	Noun Phrase Complexity
conjunction "and" as a dependent per nominal subject	Noun Phrase Complexity
conjunction "or" as a dependent per nominal subject	Noun Phrase Complexity
determiners per nominal subject (no pronouns)	Noun Phrase Complexity
adjectival modifiers per nominal subject (no pronouns)	Noun Phrase Complexity
prepositions per nominal subject (no pronouns)	Noun Phrase Complexity
possessives per nominal subject (no pronouns)	Noun Phrase Complexity
verbal modifiers per nominal subject (no pronouns)	Noun Phrase Complexity
nouns as a nominal subject dependent per nominal subject (no pronouns)	Noun Phrase Complexity
relative clause modifiers per nominal subject (no pronouns)	Noun Phrase Complexity
(non-clausal) adverbial modifiers per nominal subject (no pronouns)	Noun Phrase Complexity
conjunction "and" as a dependent per nominal subject (no pronouns)	Noun Phrase Complexity
conjunction "or" as a dependent per nominal subject (no pronouns)	Noun Phrase Complexity
determiners per direct object	Noun Phrase Complexity
adjectival modifiers per direct object	Noun Phrase Complexity
prepositions per direct object	Noun Phrase Complexity
possessives per direct object	Noun Phrase Complexity
verbal modifiers per direct object	Noun Phrase Complexity
nouns as a direct object dependent per direct object	Noun Phrase Complexity
relative clause modifiers per direct object	Noun Phrase Complexity
(non-clausal) adverbial modifiers per direct object	Noun Phrase Complexity
conjunction "and" as a dependent per direct object	Noun Phrase Complexity
conjunction "or" as a dependent per direct object	Noun Phrase Complexity
determiners per direct object (no pronouns)	Noun Phrase Complexity
adjectival modifiers per direct object (no pronouns)	Noun Phrase Complexity
prepositions per direct object (no pronouns)	Noun Phrase Complexity
possessives per direct object (no pronouns)	Noun Phrase Complexity
verbal modifiers per direct object (no pronouns)	Noun Phrase Complexity
nouns as a direct object dependent per direct object (no pronouns)	Noun Phrase Complexity
relative clause modifiers per direct object (no pronouns)	Noun Phrase Complexity
(non-clausal) adverbial modifiers per direct object (no pronouns)	Noun Phrase Complexity
conjunction "and" as a dependent per direct object (no pronouns)	Noun Phrase Complexity
conjunction "or" as a dependent per direct object (no pronouns)	Noun Phrase Complexity
determiners per object of the preposition	Noun Phrase Complexity
adjectival modifiers per object of the preposition	Noun Phrase Complexity
prepositions per object of the preposition	Noun Phrase Complexity
possessives per object of the preposition	Noun Phrase Complexity
verbal modifiers per object of the preposition	Noun Phrase Complexity
nouns as a object of the preposition dependent per object of the preposition	Noun Phrase Complexity
relative clause modifiers per object of the preposition	Noun Phrase Complexity
(non-clausal) adverbial modifiers per object of the preposition	Noun Phrase Complexity
conjunction "and" as a dependent per object of the preposition	Noun Phrase Complexity
conjunction "or" as dependent per object of the preposition	Noun Phrase Complexity
determiners per object of the preposition (no pronouns)	Noun Phrase Complexity
adjectival modifiers per object of the preposition (no pronouns)	Noun Phrase Complexity
prepositions per object of the preposition (no pronouns)	Noun Phrase Complexity
possessives per object of the preposition (no pronouns)	Noun Phrase Complexity
verbal modifiers per object of the preposition (no pronouns)	Noun Phrase Complexity
nouns as object of the preposition dependent per object of the preposition (no pronouns)	Noun Phrase Complexity
relative clause modifiers per object of the preposition (no pronouns)	Noun Phrase Complexity
(non-clausal) adverbial modifiers per object of the preposition (no pronouns)	Noun Phrase Complexity
conjunction "and" as a dependent per object of the preposition (no pronouns)	Noun Phrase Complexity
conjunction "or" as a dependent per object of the preposition (no pronouns)	Noun Phrase Complexity
determiners per indirect object	Noun Phrase Complexity
adjectival modifiers per indirect object	Noun Phrase Complexity
prepositions per indirect object	Noun Phrase Complexity
possessives per indirect object	Noun Phrase Complexity
verbal modifiers per indirect object	Noun Phrase Complexity

In Text Name	Index Type
nouns as a indirect object dependent per indirect object	Noun Phrase Complexity
relative clause modifiers per indirect object	Noun Phrase Complexity
(non-clausal) adverbial modifiers per indirect object	Noun Phrase Complexity
conjunction "and" as dependent per indirect object	Noun Phrase Complexity
conjunction "or" as dependent per indirect object	Noun Phrase Complexity
determiners per indirect object (no pronouns)	Noun Phrase Complexity
adjectival modifiers per indirect object (no pronouns)	Noun Phrase Complexity
prepositions per indirect object (no pronouns)	Noun Phrase Complexity
possessives per indirect object (no pronouns)	Noun Phrase Complexity
verbal modifiers per indirect object (no pronouns)	Noun Phrase Complexity
nouns as a indirect object dependent per indirect object (no pronouns)	Noun Phrase Complexity
relative clause modifiers per indirect object (no pronouns)	Noun Phrase Complexity
(non-clausal) adverbial modifiers per indirect object (no pronouns)	Noun Phrase Complexity
conjunction "and" as a dependent per indirect object (no pronouns)	Noun Phrase Complexity
conjunction "or" as a dependent per indirect object (no pronouns)	Noun Phrase Complexity



Appendix 2
Studies Selected for the ENG Group

Name & Surname	Year	Title	University
Benjamin Andrew Blythe	2023	Comparing Foreign Aid Decision-Making in Japan and China: How Aid Agents Translate Strategy into International Development Policy Action	Indiana University
Nicholas William Shirk	2023	The Taiwan Lobby: Image Management, Legitimation Strategy, and the US Executive Response	University of Nevada, Reno
Alexander Weber	2023	Why Georgians Consider the European Union More Favorably than Armenians	University of North Carolina at Chapel Hill
Caroline Lauren Williams	2023	The Geo-Gendered Contradictions of U.S. Counterterrorism and Counterinsurgency in the Middle East	University of North Carolina at Chapel Hill
Timothy C. Tyler	2023	Lost in a Sandstorm: The U.S. Attempt to Win the War in Afghanistan	Harvard University
Marion L. McDow	2023	Resilience in Artsakh: Factors of Resilience from a Conflict Society Perspective in Armenia and Azerbaijan	Harvard University
Shane Solomon Prince	2023	On Becoming a Migration State: Immigration Control in Small-Island, Decolonized States – The Trinidad and Tobago Case	University of California, San Diego
Riley Christian Bowers	2023	Long Have I Wished to See the King: Indigenous Transatlantic Diplomacy in the 18th Century North American Southeast	West Virginia University
Adam Liebell-McLean	2023	First Class Citizenship in the Durham League of Women Voters, Chapel Hill League of Women Voters, and the Citizenship Education Program, 1947- 1965	State University of New Jersey
Edward George Dauphin III	2023	Perpetuating Conflict: Postcolonial Intervention in Afghanistan During the Cold War	University of Maryland
Abigail G. Cramer	2023	“As It Is With Races and Cultures, So It Is With the Art of Government:” The International Eugenics Movement and Harry H. Laughlin’s World Government (1883–1939)	Kent State University
Jacob M. Henry	2022	Polar Bears and Bolsheviks: The American Expedition to North Russia and the Impact of Military Operations on National Policy	George Washington University

Name & Surname	Year	Title	University
Justin M. Reid	2022	“An Exercise in International Extortion”: Operation “Intercept” and Nixon’s 1969 War on Drugs	Chapman University
Sarah Elizabeth Nelson	2022	Nord Stream 2: The Gas Curtain of Europe	Old Dominion University
Andrew Rice	2021	The 1980 Moscow Olympic Boycott as a Tool of American Foreign Policy	University of Western Ontario
Meghan Phillips-Smith	2021	Disturbing Silence: How the Student Movement Shaped Nixon's Presidency and the Policies of America	Queen’s University
Jason Matthew Port	2021	State or Nonstate: The Wagner Group's Role in Contemporary Intrastate Conflicts Worldwide	University of North Carolina at Chapel Hill
James Douglas White	2021	Negotiating Authority: How Congress Shaped the Carter Administration’s Human Rights Policy Toward Uruguay in 1977	North Carolina State University
Jonathan Ellis Allen	2021	Rational Choice Restraint: Making a Grand Strategy Alternative More Politically Viable	George Washington University
Lawrence Cranor	2020	The Republican Party: A Narrative of Good and Evil	Arkansas Tech University
Renee Danielle Jean	2020	The Ghosts of Empires Past: The Red Army Faction’s Violent Relationship with Cold War Neo-Imperialism, 1969–1974	University of Massachusetts, Boston
Joseph Antony Cook	2020	Good for Whom? The Framing of Conflict in Post-9/11 America, 2001-2004	University of New Hampshire
Walter Keith Gay	2020	No Roads into Rome: Russia's Failure to Establish the Okhrana in Italy, 1900-1914	University of North Carolina at Chapel Hill
James F. Spencer	2020	Missed Opportunities for Compromise? The Diplomatic Crisis in 1941 Japan from the Perspective of U.S. Ambassador Joseph C. Grew and British Ambassador Sir Robert Craigie	Harvard University
Amanda Rae Lawson	2019	Development in the Rights Timing: How the Carter Administration Engaged NGOS in Latin American Foreign Policy	Miami University
Stephen Revell	2018	The 1953 Coup in Iran: U.S. and British Foreign Policy in Iran, 1951-1953 and the Covert Operation to Overthrow the Elected Government of Mohammad Mosaddeq	Canterbury Christ Church University
Shannon Hayes	2018	The Impact of Immigration on Cold War Modernization Efforts: A Case Study of South Korea	University of Nebraska at Omaha
Brian Larsen	2018	The Saudi-American Aid	University of

Name & Surname	Year	Title	University
		Relationship 1961-1968	Missouri-Columbia
Victoria Bryant Stewart	2018	Beyond Branch: An Examination of the American Presidency and Conscription Policies	Northern Illinois University
Bailey D. Barnes	2018	From New Frontiersman to Cold Warrior: John F. Kennedy's Failed Rapprochement with Gamal Abdel Nasser and Arab Nationalism	Middle Tennessee State University
Lauren Claire West	2018	The Uneasy Beginnings of Public Diplomacy: Vira Whitehouse, the Committee on Public Information, and the First World War	Louisiana State University
Jason Gully	2018	Guardians of American Interests? The Importance of United States Ambassadors in Afghanistan	University of South Dakota
Kieran Pryce	2018	Britain, Anglo-American Relations and the Ending of the US War in Vietnam, 1969-1973	Canterbury Christ Church University
Patrick Austin Fox	2018	Unstable Sands and Winds of Change: The Regime of Hafiz al-Asad and Its Interactions with the United States 1966-1976	Clark University
Eric Elliott	2018	Give 'em Hell Harry and the Dreamer: The Cold War Clash of Harry S. Truman and Henry A. Wallace	Southeast Missouri State University
William G. Foster-Nolan	2018	War, Public Outrage, and Partisanship: Congressional Responses to Presidential Military Overreach	University of Massachusetts, Boston

Appendix 3
Studies Selected for the EFL TR Group

Name & Surname	Year	Title	University
Aysu İmran Erkoç	2023	Evolution of the notion of human security and Japanese human security understanding(s)	Hacettepe University
Emre Öztürk	2023	The role of Russia in the regional security of Central Asia in the post-Soviet era	Turkish National Police Academy
Tolga Deniz Mantaş	2023	Turkey's foreign policy in the Eastern Mediterranean within the context of the global power struggle	Atılım University
Berk Cebeci	2023	Missiles and bureaucrats: The Reagan administration and the making of two-pronged security diplomacy	İhsan Doğramacı Bilkent University
Taha Yılmaz	2023	The fifth wave of NATO expansion into Eastern Europe and its effect on Russian security policies in Eastern Europe	Bahçeşehir University
Serra İlgi Karakaş	2023	The role of the high representative for foreign affairs and security policy of the European Union: A critical discourse analysis on the Israeli-Palestinian conflict	Marmara University
Güven Aykan	2023	Effect of 12 September 1980 Coup on Turkish foreign policy	Yeditepe University
Müge Dedeoğlu	2022	Dynamics of Oman's foreign policy under Sultan Qaboos's reign through the lenses of neo-classical realism	Middle East Technical University
Burak Aydın	2022	The EU as a normal power?: An analysis of principled pragmatism in EU foreign policy	Marmara University
Sinem Uslu	2022	Turkey's changing defense diplomacy approach: The case of S-400s	Ankara Yıldırım Bayezid University
Muhammed Mustafa Bilgili	2022	Israel's foreign policy transition towards Egypt and Saudi Arabia: From enmity to amity	Marmara University
Selen Eşençay	2022	The nexus between domestic politics and foreign policy: Poland's (DE) Europeanization	İhsan Doğramacı Bilkent University
Alican Kutlu	2022	Geopolitics, nation, and empire: Construction of Russian identity through Putin's narrative on Ukraine and the world	Social Sciences University of Ankara
Alim Cengiz Tokaç	2021	Turkey as an emerging middle power?an analysis of Turkish foreign policy during Justice and Development Party (2002-2018)	Antalya Bilim University

Name & Surname	Year	Title	University
Cuma Yavuz	2021	Selective media coverages of Trump's Middle East plan	Social Sciences University of Ankara
Kerem Akıl	2021	The international system or the state: What is the source of Turkey's national interest?	Ibn Haldun University
Esra Okumuş	2021	A comparison of Turkey's and Iran's foreign policies towards Yemeni and Libyan wars in the level of regional analysis	Middle East Technical University
Mehmet Emin Arslan	2021	'Sanctions' as an instrument of foreign policy: Use of smart sanctions in American foreign policy	Marmara University
Zeynep Temel	2021	'The changing character of the Cyprus problem in Turkish foreign policy: 2004-2020	Kadir Has University
Yasin Koçarslan	2021	'Turkish foreign policy discourse - A critical evaluation	Boğaziçi University
Efsane Deniz Baş	2020	Japan's foreign and security policy during the 2000s: A neoclassical realist analysis	Marmara University
Volkan Budak	2020	Iraqi Turks: Transformation of status and Turkish foreign policy towards Iraq (1914-2003)	Yeditepe University
Muhammed Yusuf Yılmaz	2020	Great expectations: Turkey's status-seeking policies in the 21st century	İhsan Doğramacı Bilkent University
Nazlı Gül Deniz	2020	Sectarianism in Iran foreign policy	Middle East Technical University
Asiye Bilge Kırca	2020	The role of the European Union in conflict resolution: The cases of Northern Ireland and North Macedonia	Turkish-German University
Yavuz Altuntaş	2020	The Eu politics of Ak Party between the years 2002-2017	Middle East Technical University
Ayşegül Taşkapu Duran	2019	Reconstructing geographical vision and identity via foreign policy after the end of the cold war: The example of İsmail Cem (1997-2002)	İstanbul Şehir University
Harun Küçükcaladağlı	2019	Islam and secularism in Turkish foreign policy (1919-1938)	İstanbul Şehir University
Fatih Tuna	2019	NATO's enlargement and the USA: A critical analysis of the liberal internationalism within the context of international security	Turkish National Police Academy
Uğur Yılmaz	2019	Currency depreciation and foreign policy discourse: The Turkish case	Istanbul Bilgi University
Yasemin Ece Kalender	2019	Turkish-American relations from 1964 to 1980: The period of crisis	Middle East Technical University