REPUBLIC OF TURKEY
YILDIZ TECHNICAL UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF FOREIGN LANGUAGES EDUCATION
ENGLISH LANGUAGE TEACHING PROGRAM

MASTER'S THESIS

A CORPUS-BASED ANALYSIS OF RESEARCH ARTICLE TITLES IN JOURNALS ON ENGLISH LANGUAGE AND LINGUISTICS

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ÖZ

İNGİLİZ DİLİ VE DİLBİLİMİ DERGİLERİNDEKİ ARAŞTIRMA MAKALE BAŞLIKLARININ DERLEM TEMELLİ ANALİZİ

AYSEL GÜLER

Haziran, 2022

Düşüncelerini, araştırma süreçlerini ve bilimsel sonuçlarını akademik çevrelerine iletmesi gereken araştırmacıların, ait oldukları ilgili söylem topluluklarının dil geleneklerini iyi anlamaları gerekmektedir. Araştırma yayınları, akademik topluluklar içerisinde bilgiyi paylaşmak ve tartışmak için önemli platformlar olarak hizmet eder. Bu araştırma, 2017 ve 2021 yılları arasında toplam on dokuz SSCI-endeksli üç aylık periyotlu İngilizce Dili ve Dilbilimi dergisinden elde edilen toplam 3200 makale başlığını inceleyerek, başlıkların en dikkate değer biçim özelliklerini ve bunların son beş yıl içindeki profillerini göstermeyi amaçlamaktadır. Bulgular, yıllar içinde daha fazla başlık içeren dergilerin bu alanda yürütülen araştırmaların istikrarlı bir şekilde artış yaşadığını göstermektedir. Araştırma makalesi başlıklarının uzunluğu, son beş yıl içinde sürekli ve hafif bir artışla tutarlılık göstermiştir. Bilgilendiricilikte çok istikrarlı ve doğrusal bir varyasyon gözlemlenirken sözcük çeşitliliğinde yıllar içerisinde devam eden azalma gözlemlenmiştir. Hem nominal hem de bileşik yapılar dergilerde makale başlıklarında yaygın olarak kullanılmasına rağmen, bu çalışma kapsamında incelenen İngilizce dili ve dilbilim araştırma makalelerinde bileşik yapıların, tutarlı bir şekilde nominal yapıların sayısından çok daha fazla olduğu bulgusuna ulaşılmıştır. Mevcut araştırma, önceki başlık çalışmaları ve akademik yazı araştırmalarına eklenmiştir. Bulguların Türkiye'deki İngilizce dili ve dilbilimi bağlamında gelecekteki başlık çalışmaları adına öncü olması öngörülmektedir.

Anahtar Kelimeler: Araştırma makale başlıkları, İngiliz dili, dilbilim, hakemli dergiler, söylem, derlem analizi

ABSTRACT

A CORPUS-BASED ANALYSIS OF RESEARCH ARTICLE TITLES IN JOURNALS ON ENGLISH LANGUAGE AND LINGUISTICS

AYSEL GÜLER

June, 2022

Researchers who need to communicate their thoughts, research processes, and scientific results within their academic circles are required to have a good understanding of their respective discourse communities' language conventions. Research publications serve as vital platforms for sharing and discussing knowledge within academic communities. By investigating a total number of 3200 article titles extracted from 19 SSCI-indexed quarterly Q1 English Language and Linguistics journals between 2017 and 2021, this research aims to demonstrate and profile the titles' most notable form characteristics, as well as their diachronic changes within the five years. The findings show that journals including more titles over the years suggest the research carried out in the field has increased steadily. The length of research paper titles has shown consistent, with a continuous and slight increase in length over the last five years. An ongoing decrease in lexical diversity with a very steady and linear variation in informativeness has been observed. Although both nominal and compound structures are commonly used in journals, compound constructs have consistently outnumbered nominal constructs in the selected English language and linguistics research article titles during the last five years. The current research has added to previous title studies and academic writing research. It is expected that the findings of this study will be leading to future title studies in the English language and linguistics context in Turkey.

Key Words: Research article titles, English language, linguistics, peer-reviewed journals, discourse, corpus analysis

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Istanbul; June, 2022 Aysel Güler

TABLE OF CONTENTS

ÖZ ..... **iii**
ABSTRACT ..... **iv**
ACKNOWLEDGEMENTS ..... **v**
TABLE OF CONTENTS ..... **vi**
LIST OF TABLES ..... **viii**
LIST OF FIGURES ..... **ix**
ABBREVIATIONS ..... **x**
1. INTRODUCTION **1**
1.1. Title Writing 3
1.2. Research Article Titles 5
1.3. Purpose of the Study 6
1.4. Significance of the Study 7
1.5. Definition of Key Terms 9
2. LITERATURE REVIEW **12**
2.1. Academic Discourse 12
2.2. Academic Writing for Novice Writers 15
2.3. Genre Analysis 17
2.3.1. Genre Analysis from English for Academic Purposes Perspective 18
2.3.2. Research Articles as Academic Genres 19
2.4. Previous Studies on English Research Articles 20
2.5. Title Length 23
2.6. Title Structural Construction 25
2.7. Lexical Diversity 27
2.8. Informativeness/Lexical Density 28
2.9. Word Frequency 30

3. METHODOLOGY 32
3.1. Data Collection 32
3.2. Data Analysis Procedures 35
3.2.1. Title Length 35
3.2.2. Title Structural Construction 36
3.2.3. Lexical Diversity 38
3.2.4. Word Frequency 38
3.2.5. Informativeness/Lexical Density 39
4. FINDINGS 40
4.1. Title Length 40
4.2. Title Structural Construction 44
4.3. Lexical Diversity 47
4.4. Word Frequency 49
4.5. Informativeness/Lexical Density 53
5. CONCLUSION AND DISCUSSION 56
5.1. Conclusion and Discussion for Research Question 1 56
5.2. Conclusion and Discussion for Research Question 2 57
5.3. Conclusion and Discussion for Research Question 3 59
5.4. Conclusion and Discussion for Research Question 4 60
5.5. Conclusion and Discussion for Research Question 5 60
5.6. Implications of the Study 61
5.7. Limitations of the Study 62
5.8. Recommendations for Further Research 63
REFERENCES 64
APPENDICES 77

LIST OF TABLES

Table 1. Selected Journals Published between 2017-2021 33

Table 2. The Corpus Data 34

Table 3. The Framework of Structural Construction 36

Table 4. Average Title Length by Year 41

Table 5. Syntactic Structures Date by Journal (2017-2021) 45

Table 6. Lexical Diversity by Year 47

Table 7. Twenty Most Common Words (2017-2021) 49

Table 8. Informativeness/Lexical Density by Year 53

LIST OF FIGURES

Figure 1. Title Numbers by Year 40

Figure 2. Average Title and Word Length by Year 41

Figure 3. Title Length Data by Journal 41

Figure 4. Syntactic Structures Data 2017-2021 44

Figure 5. Lexical Diversity by Journal 48

Figure 6. Informativeness/Lexical Density by Journal 54

ABBREVIATIONS

SSCI : Social Sciences Citation Index
Q1 : Quartile 1
ELT : English Language Teaching
TESOL : Teaching English to Speakers of Other Languages
Vol. : Volume
RA : Research Article
RP : Research Paper
AD : Academic Discourse
MA : Master of Arts
IMRD : Introduction, Methods, Results, and Discussion
EAP : English for Academic Purposes
CPT : Conference Paper Titles
TTR : Type Token Ratio

1. INTRODUCTION

The first lines of clay tablet inscriptions were assembled as a list in the library of the ancient city of Hattusas in the Bronze Age when the history of title-use to represent the whole of a text can be dated back (Casson, 2001).

Etymologically explained in the book named Les Livres et Leurs Titres (Hélin, 1957), a title was a label called titulus, attached to the end of a stick called umbiculus that wrapped the papyrus containing the written text. Without having to unfold the whole papyrus stick, titulus showed the author's name; it also contained the name of topics that were covered in the text. However, titles as a subject of research is relatively new concept.

The term "titrologie" was stated by Duchet (1973) to characterize the study of titles. Baicchi (2003) later officially coined the term "titleology" to describe it in English. He established a semiotic taxonomy to further explain the relational intricacy of titles and texts and established "titleology" as a new subject of study.

During the 1970s, the majority of title study was focused on written literary texts (Alcazar-Ariza, 2013; Salager-Meyer, Soler, 2011) and hardly reached other territories (NettervilleHirsch, 1958; Wilsmore, 1987). Nevertheless, intellectual interest in titles of published works started, when Swales (1990) noted in his book Genre Analysis: English in Academic and Research Settings that titles in academic genres were not adequately handled and required additional investigation.

With Swales' publication, the growth of title analysis in published papers was not a separate, autonomous, and self-governing phenomenon. Since John Swales released his pioneering study Genre Analysis: English in Academic and Research Settings, it has been heavily affected by genre-based textual analysis in the field of language and linguistics (Moattarian et al., 2015; Morales et al., 2020).

Language (Busch-Lauer, 2000; Soler, 2011), cultural (Xie, 2020; Yakhontova, 2002), and format (Morales et al., 2020; Slougui, 2018) aspects of titleology have all been investigated. Regardless of the numerous findings from various perspectives, these

studies always prove themselves to be a powerful statement of how important titles are in the overall text.

Although titles are only a minor part of the text, they play a significant function in grabbing readers' attention, so they deserve to be extensively explored. A title gives a piece of academic writing its own identity. Whether it is in the Bronze Age, in Ancient Egypt, or nowadays, a title is the evidence of the identity of any bit of writing without which it would not find space in the targeted discourse community (Jalilifar, 2010).

Furthermore, titles, either academic or literary, are the first elements of writing that catches the reader's attention and determines if the text is worth reading or not. When searching indexes or online search platforms, titles emphasize contents, excite the reader, and entice the reader to read the article (Cianflone, 2012; Gesuato, 2008; Haggan, 2004).

The title acts as a lens by which potential readers view the contents of a document or article, making it an essential component of a publication (Bavdakar, 2016; Fox, 2015; Imbelloni, 2012). This indicates that the title is primarily responsible for readers' easy access to a body of knowledge. The title directs readers to the route for what they are searching for in the literature and in their domain.

Moreover, data collection centers and journal editors acknowledge that readers of titles outweigh readers of other parts of the research article by a large margin (Hills, 1997). Stix (1994) and Cheng, Kuo, and Kuo (2012) also regard the title as a portal to the heart of the message intended for the public to read, because titles are usually "content announcers" that reflect the message of a work. As a result, whether to read the content of a paper or not is mostly determined by the title.

In 2008, screening process at the British Medical Journal was reported to take off with an editor's initial evaluation of interest based on reading the abstract and skimming the paper, which took about seven minutes (Langdon-Neuer, 2008). It is expected that, fourteen years later, most publishers will spend even less time on this first step and will be inclined to follow the titles-first strategy (Mateen, et al., 2013). This strongly reconfirms how important a title stands for a paper.

Researchers and scholars in Applied Linguistics and associated disciplines have demonstrated an increased interest in the titles of published works throughout the last three decades, causing title studies to gain great momentum, as well.

1.1. Title Writing

Title writing is important in any style of writing, but it is especially important in academic writing because due to the stagflation of professional literature, millions of research articles fight for the attention of the targeted audience. As Swales (1990) pointed out, it is no wonder that coming up with several words that make up an academic title may take a remarkable amount of time, discussion, and cognitive work.

Titles in academia are suitable for presenting a study's contents and, in general, are self-explanatory to their audience. Being crucial to the composition, communication, and progression of new knowledge, titles are therefore the product of a series of requirements, some of which are that they must be informative and precise, brief, readily classifiable and storable in databases, and reader-friendly (Goodman et al., 2001; Hartley, 2005; Hartley, 2008). Encoding this wide range of requirements is a challenging linguistic task that varies depending on several factors including editorial policies, individual research participants' stylistic preferences, disciplinary variables, and an understanding of the title's role and anticipated effect on the audience it attempts to address. Regarding this, ‘‘writing academic titles is a difficult task since a set of abilities from writers is necessary and indispensable in order to blend all of the requirements in the titles of their academic publications.” (Soler, 2007, 90-102). Therefore, the work of creating an acceptable and successful title is more significant than it appears at first.

What qualities may make a title more visible should be a crucial point to think of. Their importance is already clear: titles must reflect a whole work while yet standing alone. They should not only enlighten readers on the paper's topic but also pique their interest, encouraging them to continue forward. In fact, journal editors state that titles are important not just for engaging potential readers once a study has been published, but also for bringing a paper to the point of getting published and helping readers access it afterward digitally (Moore, 2010). Peer reviewers are frequently requested to decide whether or not to accept a review based just on the title and abstract, and without reviewers, there is no probability of publishing. Furthermore, if the title does not include certain specific keywords, search engines based on keyword searches might struggle to discover a suitable article (Moore, 2010). By integrating keywords and index phrases necessary in online databases, a well-written title makes an academic

paper or a research article more "locatable." (Fox, Burns, 2015). Others have underlined the need for titles to be as informative as possible in order to make the storing, searching, and retrieving information easier (Black, 1962; Diodato, Pearson, 1985; Feinberg, 1973; Hodges, 1983; Mitchell, 1968; Manten, Tocatlian, Greenhalgh, 1977).

Good title writing is essential not only for potential readers to find scientific literature but also for submission of the application to an academic journal and peer assessment, where the title may influence if an article is evaluated and/or published (Aleixandre-Benavent et al., 2014). An appropriate title that meets certain criteria is required to avoid a document from being rejected and to guarantee that it is addressed to the correct audience. Writing titles for scientific publications is therefore again a difficult task that necessitates the use of a variety of skills.

There are several factors to take into consideration, such as the title's informative richness and the degree to which it attracts scholarly attention. Longer titles, for instance, may boost informativeness up to a point but decrease the amount of attention produced. Colon use might help with attention-grabbing, especially if a part of the split title is dedicated to increasing curiosity. It also might help the writers create a more comprehensive title or strike a better balance between the title's two objectives, being informative and attractive at the same time. However, the title is likely to get longer and more intricate as a result of this process (van Wesel et al., 2014), and in some, though not all, cases, this may prompt authors to simplify the title, lowering its readability and charm in the meantime.

According to Ball (2009), question marks can be utilized to both inform and generate curiosity. On the other hand, they may give a title a distinct look and style, which may confine its purpose. The employment of numerous tactics such as comedy, title humor, punctuation, or idioms in how researchers and authors construct titles may draw more attention to a paper (Subotic, Mukherjee, 2014). In titles, just enough details need to be provided to pique the reader's attention and curiosity, prompting them to read the abstract and eventually the entire work (Moss, 2004, Tullu, 2017).

Zeiger (1991) summarizes as the features of a good title describing describes the core issue or major point of the publications accurately, thoroughly, and precisely, being clear, brief, and starting with an important phrase.

1.2. Research Article Titles

The methods by which readers acquire information from written content have been the topic of much investigation. Reading comprehension and learning science have a mutual impact in academic contexts. On the other hand, it is a universal reality that scientists should commit significant hours to read while making science (Bazerman 1988; Berkenkotter, Huckin 1995). This is an apparent statement that, despite its obviousness, obviously shows how the amount of information to be read is currently increasing at a high rate under the stress of the "publish or perish" mentality that dominates in scientific contexts. Furthermore, being updated and timely in today's world is challenging, even in a particular field, owing to the vast amount of information available. Due to the excessive production in academic realm today, which is predicted to double every twelve years, a lot of researchers are content only to read the titles of the articles that are relevant to their study and domains (Stix, 1994).

Research publications, undoubtedly, remain the primary means of communication in academics (Canagarajah, 2002; Curry, 2010; Lillis, Swales, 2004; Swales, 1990). Therefore, there is a need to examine and investigate the syntax in the titles of academic papers such as research articles, as research articles are regarded as the genres of knowledge creation and distribution among both expert and novice members of the academic discourse community (Cianflone, 2012).

In academic circles, research publications have huge importance, admittedly. In order to increase information search, a peer-reviewed journal frequently offers a shared venue and outstanding atmosphere for readers and scholars to communicate. The title of a research article is frequently used to initiate and carry out this information search.

Because they are one of the main means via which innovative scientific knowledge is disseminated into the scientific community, research articles (RAs) have been extensively investigated (Soler, 2007). Titles of RAs, on the other hand, have not gotten nearly as much attention, which is similar as the situation depicted as ‘‘they comprise a facet in academic genres that has not been extensively investigated hitherto” (Soler, 2007, 92).

Even though they are very tiny part of an academic texts, the titles of research articles play a major role in attracting the attention of readers. The excessive production in different scientific domains has made researchers and readers to pay attention to the

research titles that are interesting in terms of their study (Salager-Meyer, Alcazar-Ariza 2013). Several researchers have strongly stressed the significancy of the first impressions conveyed by research titles (Kumar, 2013; Swales, 1990), the fact that they act as an attention grabber which motivates the readers to continue reading (Ball, 2009; Beel, Fox, Burns, 2015; Gipp, 2009; Haggan, 2004; Rath, 2010), and that a research title can promote an article to be locatable, while a poorly phrased one can make finding a paper difficult (Fox, Burns 2015; Jacques, Sebire 2010).

Titles in academic publications are traditionally thought of as logical and lack-of-emotion headings that directly point to the content of the publication. In this perspective, the goal of any scientific article titles is to make the reader enlightened, rather than generating personal emotional interest. (Lewison, Hartley, 2005). Scientific papers are subjected to struggle for attention in an age of academic mass production, though. As a result, several marketing tactics have been implemented in the academic domains in order to gain the much-desired attention. The title sums up, accentuates, and amplifies (Schneider, Esslinger, 2022)

Research article titles have not received as much attention as the other sections studies of research article titles, yet there has been an increasing attention towards titles in the last three decades, therefore different scholars have been studying titles several academic genres, like review papers (Soler, 2007), dissertations (Dudley-Evans, 1984), and research articles (Goodman, 2000; Haggan, 2004; Wang, Bai, 2007). Specifically with the advent of online publication recently, academicians usually search for the relevant RAs they are interested in, only by surveying the table of contents of academic journals in certain disciplines and specific domains. Believing that an RA title is front matter as well as summary matter, Swales (2013) states ans reconfirms that a title should not only inform the readers about the main content of the research, but also encourage them to read the research article.

1.3. Purpose of the Study

The purpose of the study is to examine research article title features concerning title length, lexical diversity, syntactic structures, and informativeness/lexical density, and to determine the most frequent words used in English Language and Linguistics titles in the last five years. Considering the goal of this study is to analyze the syntactic patterns of research paper titles, such an examination of RA titles' structures can aid in

their successful development, presentation, and comprehension. The following are the research questions that this study is guided by:

1. What are the average research article title lengths for SSCI-indexed Quartile 1(Q1) quarterly English Language and Linguistics journals?

2. How are the research article titles in SSCI-indexed Q1 quarterly English Language and Linguistics Journals syntactically structured?

3. How are the research article titles of SSCI-indexed Q1 quarterly English Language and Linguistics journals structured in terms of lexical diversity?

4. How informative are the research article titles in SSCI-indexed Q1 quarterly English Language and Linguistic Journals?

5. What are the word frequencies in SSCI-indexed Q1 quarterly English Language and Linguistics journals for the last five years?

1.4. Significance of the Study

When it comes to determining what a published paper is about, the title is the most critical factor in determining how many people will read it. Therefore, analyzing the usage of various linguistic constructions in titles and their rhetorical functions is crucial.

Interestingly, compared to the study conducted on other parts of the RAs, such as the introduction and discussion sections, the volume of research focused on research article titles is quite minimal.

Researchers who are familiar with the genre can have a better knowledge of their discourse communities and become more effective participants. The findings of this study might be eye-opening by revealing the linguistic choices as well as elements that RA authors employ in constructing titles.

Considering the significance of titles, the findings might be highly useful to a wide range of members of the English academic writing community; in fact, the study could have pedagogical implications in writing in general and the instruction of title construction in research articles in specific.

The main purpose of this study is to provide prospective authors with insights into the possibilities given by various titles and to provide a sample of titles to improve

communicative writing abilities. By providing beneficial title-writing conventions and adequate current examples of prestigious journals, we are in the hope that this study can assist non-native English speakers, including English language teachers, linguists, language researchers, and novice-writer students who would wish to understand the features and options and publish their RAs in peer-reviewed journals.

For teaching especially novice writers about disciplinary language, research paper titles can be of substantially beneficial. Admittedly, most novices read quite a lot of titles and are surely aware of how important a title is in determining whether a reader continues reading or moves on to the next article. Titles are quite small in comparison to other parts of research articles in lengthy research papers, which may be daunting for readers new to academic writing — particularly those reading in a foreign language.

What works in one discipline may or may not work or be acceptable in another. So, how does a researcher figure out what works in a particular discipline? Browsing and reading hundreds of titles is undoubtedly a good way to get a sense of common titles. Nonetheless, if certain text characteristics of research title articles can be identified, it is much more effective.

The data may be used by English language teachers to educate their students or novice researchers on how to read and write RA titles, as they may have difficulty fulfilling the genre's title standards. Researchers should certainly use the findings of this study to come up with titles for their studies by understanding the syntactic structures of titles.

English Linguistics highlights the significance of English as an international medium of academic communication among speakers of various nations, as well as the importance of research papers (RPs) in disseminating scientific findings within a particular community (Hyland, 2009). For those English as a foreign language (EFL) scholars and researchers who wish to attain global prominence, publishing RPs in English journals is, therefore, a must. (Hyland, 2009; Swales, 2004). The need of developing writing abilities centered on the RPs and its many sections, in this instance the titles, has implications for language teachers working in EFL academic environments. This study aims for and serves those implications.

1.5. Definition of Key Terms

The terminology used in this study are listed in alphabetical order below:

Academic Writing: Academic writing is a sort of writing that differs from other genres such as fiction or free writing in terms of structure. Academic writing refers to the sum of standards that we observe in a thesis or published research in our fields, a description that gets more definite when you examine samples of published literature in your target journals (Murray, 2005). Academic wiriting defines relatively rigorous patterns of text creation and organization with quite inflexible standards of word and grammatical use, according to Swales (1990).

In this study, academic writing refers to a certain genre of writing with specific standards and norms that members of a scientific community must comply with in order to interact through methods such as drafting research proposals, research papers, and theses/dissertations. Based on the definitions given above, among other types of academic writing, research articles in SSCI-indexed Q1 quarterly journals of English Language and Linguistics were used.

Corpus: A corpus is a vast computer-based collection of texts (spoken, written, or both) that have been compiled to serve as a representative sample or portion of it. Corpora offer descriptive and theoretical linguists with readily available and precise data. They can also be used to measure item frequency of occurrence and as a repository of real language usage. (Johnson, Johnson, 1998)

Discourse Community: A discourse community is a band of anonymous professional authors who assign socio-cultural acts to a certain genre's discourse structure (Hyland, 2009).

Discourse communities are networks that come together to achieve a shared purpose (Swales, 1990).

Genre: A genre is defined as a group of recognized communication occurrences characterized by a set of communicative aims that are acknowledged and shared by members of the professional and academic community (Bhatia, 1993). The genre standpoint, according to Biber and Conrad (2009), focuses on the rhetorical structure of texts from various genres, particularly the rhetorical patterns of textual types.

Lexical diversity: Lexical diversity corresponds to the ratio of numerous unique word stems (types) to the total number of words (tokens), which clues lexical richness. The concept is used in applied linguistics and is quantified using the Text-Type Ratio metric (TTR).

$$TTR = \frac{Number\ of\ Types}{Total\ Number\ of\ Tokens} \times 100$$

Lexical density/informativeness: The percentage of content words in the text such as nouns, verbs, adjectives, and adverbs is defined as Lexical Density (LD). The formula for locate lexical diversity is as follows:

$$Lexical\ Density = \frac{the\ number\ of\ content\ words}{total\ number\ of\ words} \times 100$$

Because content words are the ones that primarily communicate information, a text is said to be packed if it has a large number of them in comparison to the overall number of words (Laufer, Nation, 1995).

Novice writers: Novice writers are graduate students or novice academics who are new to the publishing process and may have difficulty in authoring a publication owing to their lack of expertise in academic writing (Casanave, Vandrick, 2008).

Research Article: A research article is a published piece that discusses the findings of a study's methodology and discloses the knowledge acquired from it (Frey, Botan, Kreps, 2000).

Title: As in dictionary definition, title is a distinguishing name of a written, printed, or filmed production. A title is a word or phrase used to identify the subject of a piece, draw the reader's attention to it, and anticipate the tone and content of the writing to come (Nordquist, 2018).

Title length: In this study, title length means the total number of words within a title of a published research article.

Token: Token refers to a single word. To put it another way, tokens are word-form occurrences.

Example:

Video conferencing and multimodal expression of voice: Children's conversations using Skype for second language development in a telecollaborative setting - 19 tokens

Type: The number of various words in a language segment is referred to as type.

Example:

Does Speaker Race Affect the Assessment of Children's Speech Accuracy? A Comparison of Speech-Language Pathologists and Clinically Untrained Listeners – 19 tokens – 18 types

Word Frequency: Word frequency means the frequency with which a word occurs in each text or corpus, which in this case, is the last five-year English Language and Linguistics journals' research article titles. In this study, word frequencies were used towards the recent trends in the field.

2. LITERATURE REVIEW

2.1. Academic Discourse

Regarded as scholarly ways of thinking and language use that exist in the academy, academic discourse (AD) sustains the creation of knowledge through conducting and presenting academic studies, as well as writing any academic publications such as research articles and textbooks. Moreover, academic discourse establishes the base of social identities and roles among academics and students, it also sets the link between higher education institutions and domain and disciplines (Hyland, 2009).

Malmström et al. (2016) state that academic discourse is received by most scholars as a representation of academic production. A standard AD serves definite claims and reasons and proof in a responsive context (Elbow, 1991).

On the other hand, academic discourse is defined by Burke (2010), as what researchers and academics do by producing, publishing, and transferring their content and knowledge resulting in communicating in their own discourse communities. An essential part of the AD is described by Jiang and Hyland (2005), who argue that academic writing is not equitable and detached. Researchers seek to persuade their readership of their views and to establish their authority and presence in the material they have produced by taking an exclusive stance in their respective fields. To construct their academic writings, transmit their thoughts, and establish connections with their readership, they adopt certain principles and a framework. Their performance is determined on how they express themselves in their academic texts and develop a link with their readers. According to Hyland (2000), the AD is personal instead of a neutral and nameless form of discourse. Within this context, AD is a rhetorical endeavor that involves both the writer and the reader.

Native and non-native university students with a variety of socioeconomic and academic qualifications and literacies, are expected to utilize academic jargon, which is a more specialized and prominent mode of writing and speaking (Flowerdew, 2001,

2015; Hyland, 2009). According to Swales and Feak (2012), writers would much rather employ indirect questions, soften negative particles with prefixes or quantity phrases, or utilize single verbs than phrasal or prepositional verbs in the academic way. It should also be emphasized that these are established writers' favoured selections, which may range among topics.; For example, in several engineering and hard scientific domains, a solo author chooses to use “we” as a personal pronoun when referring to a joint effort; whereas, in philosophy papers, “I” is usually used to refer to the author.

Concordantly, it is vital to be doing analysis on writing patterns in order to retain common academic concepts and transferable genre conventions across fields for productive academic engagement (Hyland, Hamp-Lyons, 2002). As a result, the concept of discourse community becomes a vehicle for developing domain norms. Despite the fact that the discourse community is far from being a concrete notion, Hyland and Hamp-Lyons (2002) argue that it reduces the ambiguous and contradictory perspectives in academic activities by establishing a research agenda that reveals the genres and interactional guidelines unique to scientific disciplines, and by developing a pedagogic blueprint for evaluating learners' writing outcomes in efforts to support them participate in scientific community. Throughout this approach, academic norms formed by leading figures of discourse communities and instructional methods create genre competency understanding and awareness.

Swales (1988, 1990) researched the discourse patterns of several literature genres, such as research articles, master’s theses and PhD dissertations, employment letters, governmental letters, and so forth, and the mass of academic discourse analysis is centred on Swales’s findings. In the realm of genre analysis, the research articles are among the most popular genres. According to Hyland (2011), the AD in research publications has certain important and distinguishing characteristics. They are first and foremost compelling, with the goal of securing the readers' attention. Second, the AD has adopted rhetorical decisions. Furthermore, each language group has its unique method of expressing ideas and presenting arguments. Furthermore, the AD encompasses both interpersonal interactions and persuasion.

Correspondingly, Mestre-Mestre (2017) identifies the most common RA features as follows: the use of unemotional language, third-party phrases, passive-structured time, complicated structures, varied notes, a specific reference structure, and intelligible and

objective utterances. Following the argument and deducing from the evidence is another important feature of an AD. As previously established, AD is not totally objective, but it does include some textual elements that indicate the researcher's viewpoint (Hyland, 1995). These characteristics make academic literature identifiable. Research articles have risen in popularity since they are such an important academic genre. The research articles are critical because they serve as channels for creation of knowledge and as markers of academic progress and accomplishments (Flowerdew, 2002).

According to Hyland (2011), the interest in academic discourse studies stems from three significant changes during the last two decades. Developments in higher education are one of these changes, as these advancements have resulted in an increasing attention in writing. Some other factor for the academic discourse's popularity is the growing usage of English as a global research and academic language. The third aspect that contributed to an increase in interest in AD is the introduction of theoretical viewpoints. Consequently, researchers have begun to appreciate the importance of academic discours in terms of knowledge and studies.

English, internationally regarded as the academic language, is used to communicate, and publish in today's modern world. An academic must be capable of writing materials in English above a certain level in able to interact with other academics. Because titles are such an important part of academic writing, researchers should be aware of their relevance. Furthermore, in order to be recognized by their discourse communities, the researchers must meet the essential requirements of their own academic discourse communities. In an academic setting, metadiscourse awareness can assist those either native or non-native speakers of English in achieving this goal by instilling a feeling of coherence in their writing.

In conclusion, researchers who wish to connect with one another and publish research publications ought to be conscious of the significance of syntactic patterns. To this end, being able to apply specific linguistic patterns effectively in a variety of settings is critical.

2.2. Academic Writing for Novice Writers

Because academic writing may be a difficult process for graduate students, a lot of studies have focused on the challenges they confront when writing RAs and dissertations, which have comparable rhetorical structures. Gosden (1996), for example, underlines the necessity of editing the not published research articles of Japanese PhD students pursuing applied physics, biology, and chemistry so that they may delve deeper into second language discourse and write articles aimed for multinational readership. Besides that, Kuteeva and Negretti (2016) conducted a move analysis on the introduction parts of research articles, dissertations, and research proposals of master students in life sciences, social sciences, and humanities fields, wherein they addressed how the students interpret genre insight and how to restore shortfalls in their students' writing. Novices are advised to practice and rewrite their works with the aid of instruction and comments from knowledgeable colleagues and critics (Hyland, 2009). This approach also enables graduate students to debate a RA's reoccurring tendencies and get a critical perspective on their own works (Flowerdew, 2005).

Graduate students, particularly when composing the discussion section, require a great deal of assistance with correct language usage in order to match their discipline's style requirements. Dudley Evans (1988) carried out a study during which instructors participated in peer-to-peer mentoring with MA and Ph.D. students in plant biology programs to determine the most difficult aspects of theses writing. The results of this analysis revealed that they had difficulty drafting and composing discussion sections that featured more detailed results, fewer assertions, and less references to earlier research. As a result, this study underlined the need of senior researchers and instructors offering recommendations to graduate students who should be aware of linguistic and syntactical trends.

Similarly, Bitchener and Basturkmen (2006) used interviews among M.A. theses supervisors and master students to uncover MA students' sentence and paragraph level second language writing difficulties, as well as their opinions of the scope of discussion sections. Graduate students were found to be unaware of the need of analysing facts using their own perspectives. Additionally, they have trouble connecting concepts, hedging, making sweeping statements, and using phrases in

lexicogrammatical ways. As a result, it is emphasized that supervisors or editors play an important role in reviewing graduate students' L2 writing processes in order to enhance their understanding of the genre's organizational and rhetorical requirements.

Samraj (2013) emphasized the distinctions in intertextuality comparing master's theses and RAs authored by experienced writers in biology in her study. She claimed that MA students did only compare their findings to those of other writers, but that they were unable to make further intertextual links between the text and previous research on the point of comparison, clarification, inference, discussion of the findings, and suggestions for future research. As a result, she suggests that credit marking for discussing discoveries should be comprehensive and broad, and that citations should go beyond supplying theoretical information or recounting a discovery. She suggests that graduate students should be taught how to include intertextual ties into their discussion pieces.

Nevertheless, the importance of referencing literature for diverse objectives in MA thesis talks is debatable. Basturkmen (2009) asserts that the distinction in between form and function of MA publications and accepted for publication RAs from the point of view of language teaching is not that MA students are unaware of the different functions of reviewing past research findings, but that they are simply inexperienced in taking authorial stances. Furthermore, extracting innovative claims and illustrations from literature may be intriguing for experienced authors too; consequently, expecting all that from MA students in their first research paper would be unfair.

Nonetheless, Basturkmen (2009) emphasizes the necessity of mentors and evaluators who are obligated to provide constructive comments to master and doctoral students' writing papers in order to assist them muse over on their own work. Cheng (2006) noticed the increase of academic literacy development of master students of electrical engineering department in a writing class by employing a research holistic method to genre learning for improving rhetorical understanding and disciplinary involvement of graduate students. The focus student was assigned to construct each traditional segment and apply the organizational framework of each part after selecting many RAs authored by competent authors, identifying the rhetorical organizations of Introduction-Methodology-Results-Discussion (IMRD) sections, and discussing them in class. Then, based on the choice of words and the communicative interpretations of

statements, he produced scholarly critique of his own writings. Cheng (2006) found that enacting academic writing critique helped him improve his academic literacy.

It is crucial to note that, while graduate students face comparable challenges in writing RAs and dissertations, the two genres are targeted at distinct audiences. Dissertations are written for a specific audience of academics, such as supervisors, evaluators, or researchers, therefore graduate students might not even be concerned with satisfying a larger audience. RA, on the other side, demands for a greater focus on the rhetorical organization of text in order to satisfy a wider clientele, making RA writing a daring step into the academic world. As a result, various methodologies for composing this genre have been suggested.

2.3. Genre Analysis

Swales (1990, 2004) proposed genre analysis to explore the rhetorical arrangement of academic literature (Dujsik, 2013). Genres are defined by Han and Hiver (2018) as written and spoken discourse with linguistic traits and rhetorical frameworks. Hyland (2007) similarly identifies genre as conceptual and socially recognized methods of employing language. He also states that genre is built on the principle that general public members have little problem seeing commonalities in texts, and that they frequently use and profit from their past encounters with the texts in order to read, write, and comprehend them quickly. Swales (1990) gives the following definition of genre:

A genre is a collection of communication occurrences that all have the same set of communicative goals. These goals are acknowledged by skilled members of the parental discourse community, and they serve as the genre's justification. This reasoning affects the discourse's building and scaling and informs and constrains content and stylistic choices. Communicative intent is a favoured requirement that works to keep the extent of the genre as described here centred on similar rhetorical action. Aside from goal, embodiments of genre have a number of characteristics in terms of organization, style, substance, and target recipients.

Swales (2004) defines a genre as social discourse and aims that are recognized by participants of discourse communities. He defines discourse communities as groups of individuals who share a set of public aims and a means of communication among

themselves. Feedback and information are needed to be provided among discourse communities and the members of the communities use a variety of genres to accomplish their communicative goals and reach certain linguistic competence. Discourse communities include a collection of experts with relevant language context and discourse.

According to Hyland (2013), genre analysis is a kind of discourse analysis. However, genre analysis seems to be more focused than discourse analysis. The study of repetitive language usage, like grammar and lexis, is known as genre analysis. He also claims that genre analysis uses texts as a blueprint for rhetorical techniques. As a result, genre analysis helps to describe and clarify works and societies. Genre, in principle, is a collection of rhetorical models that authors employ to provide responses to recurring circumstances. He also claims that genre analysis is predicated on the concept and assumption that the social environment in which writings are used determines their features.

According to Hyland (2013), a large portion of language study in specialized domains is concerned with "genre as text" in order to determine the genres' rhetorical and lexico-grammatical patterns. This style of examination reveals a lot about how the texts are put together and how they use discourse. He also claims that this type of analysis was modelled on Swales' (1990) research on move analysis, which aimed to describe the characteristics of certain genres while putting constraints on the sequences of moves and phases.

According to Geçikli (2013), the increasing popularity in the genre notion has resulted in an increase in the volume of genre analysis research. In academic writing, textural characteristics of genres play an important role in the organizational and rhetorical arrangement of genre groups. She also adds that several research have delved into written and spoken genres. The basic layout of these genres has received a lot of attention in these studies. Some researchers have investigaed how genres differ between language and cultural groupings.

2.3.1. Genre Analysis from English for Academic Purposes Perspective

Genre analysis displays the framework of rhetorical structures and linguistic elements of academic papers established by discourse communities, within the scope of EAP. Top-down and bottom-up techniques are the two main methods for conducting a genre

analysis. By disaggregating genre-specific material into rhetorical sections or communicative functions, the top-down method aims to construct functional foundations. The bottom-up method, on the other hand, provides a detailed language representation of the divided discursal units and examines the generalized forms (Biber et al., 2007). Genre analysis, using these two methodologies, provides instructors and students with useful structural models for writing in that genre (Dudley-Evans, 1998). The primary purpose of genre analysis seems to be to uncover a genre's rhetorical structure by identifying characteristic communication roles.

EAP academics primarily conduct genre analyses on a range of academic genres, such as research articles, reviews, theses, and dissertations, in order to truly comprehend social, humanistic, and disciplinary differentiations in academic writing and to increase novice and expert writers' awareness regarding the significance of genre knowledge.

2.3.2. Research Articles as Academic Genres

It is hardly unexpected that RA is a genre that generates curiosity for the academics. It is considered a professional academic genre that allows authors to reach a large readership (Kuteeva, Negretti, 2016). RAs seek to provide insights and place individuals in certain ways as a strategy of building understanding by developing a discourse and attempting to provide interpretations and arrange participants in specific ways (Hyland, Paltridge, 2011).

RA authors attempt to acquire attention from the research community regarding their innovative claims, and they are expected to describe their results using commonly established information and further it on subject. Writers must meet the projected rhetorical and linguistic aims, as well as persuade the field to accept the new assertion (Basturkmen, 2009).

Nonetheless, Swales and Feak (2012) emphasize that the writers must meet certain criteria in order to make their claims: they must be judicious and critical in their data analysis; to put it another way, they must be overly optimistic but not very rigid in their assertions. They are expected to reduce the intensity of the assertion they state on a language level, but they must also demonstrate their viewpoint on that assertion. The authors' presentations of their ideas are intended to follow a framework unique to RA as a genre.

IMRD framework is a widely utilized writing style in a variety of fields as the key portions of a RA. Each of these divisions serves a distinct communicative purpose. The introduction is the part of a RA in which authors must draw readers' attention to the work by emphasizing its uniqueness and significance; the literature review part provides extensive background information by making a rational sequence of citations from primary and secondary sources to support the study's allegations. The methodology part outlines the actions used during collecting data, instrument design, procedure application, and data processing, with references to the literature to back up the methodology. Following that, the results part consists primarily of objectively presenting the findings; eventually, in the discussion and/or conclusion section, writers begin to express an opinion on the study results and focus on promoting the unique assertion, and afterwards make comparisons them to the findings of other studies to persuade readers that it is a well-founded claim. This purpose of this part is to reflect the writer's opinions and deep involvement in the work's worth (Swales, Feak, 2012). The goal of genre studies in the EAP paradigm is to teach academic writers to the underlying organizing characteristics of a RA.

2.4. Previous Studies on English Research Articles

According to Yang and Allison (2004), most empirical investigations of previous research articles have adopted the IMRD pattern. Maswana, Kanamaru, and Tajino (2015) examined how RAs are organized in five different engineering domains. The results of this study reveal that certain specializations have different moves and processes, while certain subfields have the same actions and steps. For example, the introduction part of Structural Engineering and Chemical Engineering follows the same moves and phases cycle, whereas the main section follows the same moves and steps cycle. These distinctions represent the sociocultural context of a particular engineering specialty. Graves, Moghaddasi, and Hashim (2013) also investigated the organization of research articles in the discipline of mathematics. They discovered that RAs in Mathematics do not match the IMRD's predicted trend. Interestingly, because Mathematics discipline lacked an empirical foundation, the method and debate parts are not evident in this field. Posteguillo (1999) studied the general structure of RAs in Computer Science and found no patterns and structures. Nevertheless, the

introduction, findings, and discussions/conclusion portions of the IMRD model remained in the expected order.

According to Safnil (2013), the introduction is the most significant element of RAs because it is the first component that readers read. If this portion grabs the readers' interest, they will want to read the rest of the piece. As a result, this section of RAs should be as compelling and engaging as possible. In the disciplines of Wildlife Behavior and Conservation Biology, Samraj (2002, 2005) examined the introduction and abstract portions of Ras, discovering that abstracts from these two areas overlap several steps, including a statement of aim, research results, and conclusion. In addition to this, Samraj (2002, 2005) discovered that abstracts in Conservation Biology are more like introductions than abstracts in Wildlife Behaviour in terms of structure. This research revealed that the abstract and introductory patterns in the two disciplines varied slightly. One another scholar, Pho (2008), aimed at understanding the rhetorical structure of abstracts in the disciplines of Applied Linguistics and Educational Technology that were chosen from TESOL Quarterly, Computers & Education and the Modern Language Journal. The outcomes of this investigation revealed that in these three publications, certain movements are required. Even though practice of debating research is popular in the field of Applied Linguistics, it was not widespread in the field of Educational Technology. In these three journals, the move detailing the approach was the most common.

Can, Karabacak, and Qin (2016) found that in the abstracts of RAs in the field of Applied Linguistics, the goal and methods parts were more thorough than the implications and background informatio. This research findings were consistent with those of most previous investigations. According to Öztürk (2007), not only distinct disciplines, but also allied disciplines, vary in their structural structure of RA introductions.

Discussion parts in RAs play a significant role, and that both native and non-native English speakers may have difficulty in meeting the standards of the genre. Because academics make additional assumptions herein, the discussion parts, particularly the remarking on results sections, are important (Le, Harrington, 2015). According to Le and Harrington (2015), Applied Linguistics has a very modest number of studies on the rhetorical structuring of discussion sections when compared to other fields. Background information, reporting of results, findings or results, referral to earlier

research, clarification, exemplification, inference and hypothesis, and suggestion are some of the basic actions Swales (1990) argues that discussion sections of RAs contain. Dudley-Evans (1994) presented a new paradigm with nine steps: information transfer, declaration of result, findings and outcomes, reference to past studies, explanations, allegation, limitations, and suggestions. As per Baştürkmen (2012), the discussion part of a scientific article is perhaps the most important component since it summarizes the findings, compares them to certain other studies, and offers further recommendations. Her research focused on the rhetorical structuring of the discussion section in the field of dentistry, specifically with reference to one specific action, remarking on outcomes. Finally, the organizational structure of the discussion part in the discipline of Dentistry followed a similar pattern as Applied Linguistics and had comparable rhetorical goals. In the discipline of Applied Linguistics, Liu, and Buckingham (2018) also investigated the rhetorical arrangement of discussion parts.

While there has been abundant research on the results parts of research articles, the preliminary ones were conducted in the fields of Sociology and Organic Chemistry by Brett (1994) and Bruce (2009). Khansari (2017) examined the result sections of RAs from the perspectives of Applied Linguistics and Chemistry. He discovered that all moves in the RAs' results sections were visible in both fields. Yet, the only move discovered in the Applied Linguistics literature was sharing examples.

The conclusion parts of RAs concentrate on the general findings of the investigation. This part provides a review of the study as well as recommendations for further research (Adel, Moghadam, 2015). According to Toprak (2011), the conclusion part is regarded a complementary to the discussion part, however research on concluding parts is scarce. In Applied Linguistics, she looked at the textual arrangement of conclusion parts. She also discovered that the most common action was deductions from the study.

Information scientists have conducted several research on titles (Hartley, 2005; Lewison, Hartley, 2005; Yitzhaki, 1994). These researchers concentrated on title length and categorisation. These research findings can assist organize and retrieve papers from catalogs, indexes, and databases. However, research on titles from the standpoint of applied linguistics or genre has been neglected when it is compared to the other studies regarding other sections of research articles.

2.5. Title Length

Several studies have explored the length of text in scientific publication titles. The length of a writing in a certain genre is important in distinguishing it as a unique piece (Kang, Yu, 2011). The proper length of a title is disputed and not conclusive (Bavdakar, 2016). Anthony (2001) did research on 600 titles of RAs in several computer science sub-disciplines because of the debate about the appropriate length of titles. His findings revealed that text length showed significant difference between sub-disciplines. According to Haggan's (2004) survey, the average word per title for Literature, Linguistics, and Science RA titles was 9.4, 8.8, and 13.8 correspondingly. This shows that Science titles are lengthier than Literature ones. In Sciences, Anthony (2001) reported that the average title length was 9 words, whereas Haggan (2004) observed that the mean title length was 13.8 words.

Similarly, Busch-Lauer (2000) found that, among the 150 German and English titles in Linguistics and Medicine articles from research articles and conference papers, Linguistics titles were shorter than Medicine titles, with 8.4 and 9.9 average words for every title, respectively. This study corroborated Haggan's (2004) hypothesis that Science titles are longer than Linguistics titles. In a survey of 200 research article titles in Computer Science, Applied Linguistics, Business, Economics, and Chemistry, Fortanet et al. (1997) discovered that Chemistry and Linguistics titles had the most and least terms, respectively. Their findings suggested that title length diversified between disciplines, which is aligned with the findings of Busch-Lauer (2000). According to Gesuato's (2008) corpus, the average number of words in book titles, dissertations, research articles, and conference papers is 9.2, 12.9, 10.8, and 9.9 consecutively. With these findings, book titles were found to be shorter than dissertation titles.

The length of 78 conference paper titles of four academics in Education and Applied Linguistics was evaluated by Afful and Mwinlaaru (2010). According to the research, two Applied Linguistics professors averaged 12.1 and 7.5 words per title, whereas two Education scholars averaged 6.4 and 10.1 words per title. Although these researchers worked in the very same genre, their titles varied in length, indicating that individual tastes might explain for disparities in CPT title length. Cianflone (2012) examined 241 poster titles in the field of food science. The average number of words per title was 12.02, with the nominal and compound forms being used exclusively.

Certain title length study has mostly concentrated on title length fluctuations over time (Whissell, 2013) and the connections between title length and other title parameters such as article length (Yitzhaki, 2002), author numbers (Kuch, 1978; White, 1991; Yitzhaki, 1994), and citation rates (Yitzhaki 1994). (Gnewuch and Wohlrabe 2017; Nair and Gibbert 2016). Although title length may vary among fields, all diachronic analyses of title length tended to suggest that titles had gotten significantly longer with time (Méndez et al. 2013; Yitzhaki 1994). Méndez et al. (2013) discovered that titles in biological sciences articles were lengthier than those in social sciences, indicating that they included greater information. Looking at the relation between title length and citation rates, Rostami et al. (2013) discovered that title length of scientific publications in Addictive Behaviors Journal had no evident relationship with citation rate, but Paiva et al. (2012) discovered that shorter titles in Biomed Central publications garnered more citations. Several investigations, meanwhile, either confirmed or complemented the findings of prior studies. According to Jacques and Sebire (2009), there is a substantial positive link between title length and citation rate in medical research journals, which is consistent with Habibzadeh and Yadollahie's findings (2010). They concluded that lengthier titles of medical research publications increased the quantity of citations.

Natural science titles are said to be lengthier than social arts titles, and compounded titles with colons are said to be longer than those without, reflecting a greater amount of and more particular information (Buxton, Meadows, 1977; Fortanet et al., 1997; Lewison, Hartley, 2005; Nagano 2015; Soler, 2011; Yitzhaki, 2002). English research paper titles are lengthier than many of their equivalents, such as German (Busch–Lauer, 2000), but shorter than others, including Spanish and Persian (Shahidipour, Alibabaee, 2017; Soler, 2011).

Whissell (1999) discovered that the length of titles in research articles in Psychology was 12 words in average, whereas Wang and Bai (2007) discovered that the length of titles in research articles in Medicine was 10.9 words in average. Salager-Meyer, Alcaraz Ariza, and Luzardo Briceo (2013) found that the length, grammatical complexity, lexical diversity, and title type variety of clinical case report titles has been gradually growing.

Prior studies on title features and citations are summarized well by Subotic and Mukherjee (2014) and Nair and Gibbert (2016). There seems to be no agreement on

whether there is a link between title length and citations or not, and if there is an obvious link, there is no agreement if it is a positive or negative one. The findings differ throughout scientific domains and even between investigations in the same field. For example, Rostami et al. (2014) discovered that title length had no effect on citation rate. Alimoradi et al. (2016) arrived at same conclusions. Paiva et al. (2012), on the other hand, claim that shorter titles receive more citations.

Recent research has revealed that authors prefer titles that are longer and more comprehensive (Cheng et al., 2012; Moattarian, Alibabaee, 2015; Pearson, 2020). Shorter titles across a range of fields tend to receive more citations, according to regression analyses (Gnewuch, Wohlrabe, 2017; Jamali, Nikzad, 2011; Letchford et al., 2015; Paiva et al., 2012; Subotic, Mukherjee, 2014), implying that some readers appreciate simplicity over cramming a title with information about the study.

Citations decrease with title length and rise with the number of authors in a variety of fields, according to Van Wesel et al. (2014).

2.6. Title Structural Construction

Syntactic structure is another trait for title analysis utilized in this study. Several approaches for assessing syntactic structure have been widely used, each based on a differing categorization.

The functional systemic approach to nominalization (Eggins, 1994; Halliday, 1994; 1998) is illuminating in understanding why nominal titles are so significant and common in academic papers. Nominalization is seen as a linguistics device that enables authors to compress information, especially information involving a process or sentence, into a nominal group while still achieving cohesiveness. RA authors can compress more lexical material into a nominal title when writing titles. The employment of premodifiers and postmodifiers is crucial for lexical information packing.

Fortanet et al. (1998) investigated the syntactic structures of two hundred research article titles in Computer Programming, Applied Linguistics, Economics and Business, and Chemisty Science in previous research. The noun phrase with a premodifier, head, and post modifier was found to be the most often utilized syntactic structure upon further investigation. Haggan (2004) looked at 751 research article titles

in Linguistics, Literature, and Science and divided them into three groupings: full-sentence titles, compound titles, and the others. Noun phrases, prepositional phrases, and participial phrases were all included in the category of the "others" title structures. The findings have showed that compound titles prevailed in Literature RAs, whereas nominal constructs were utilized in around two-thirds of titles in Science and Linguistics. The preposition is succeeded by the grammatical object in a prepositional phrase title structure. The prepositional phrase structure had the lowest rate among all structures, according to Haggan (2004); regarding the fields, linguistics and literature had more instances of this pattern in RA titles than hard sciences.

Earlier research comparing RA titles across fields yielded inconsistent outcomes. In a study of seventeen fields, Hartley (2007) discovered that compound titles are more common in social sciences than in natural sciences. In linguistics, however, Haggan (2004) found that, while compound titles had a far larger proportion with 60.8% than nominal titles with 32.8% in literature, nominal titles with 64.2% triumphed over compound titles with 30.4%. Such disparity shows that RA titles in these discliplines should be investigated further.

Some preceding research has focused the syntactic categorization of head pre-modifiers and post-modifiers in nominal titles (Wang, Bai, 2007). Wang and Bai (2007), for this instance, investigated the syntactic patterns of 417 titles in medical publications and discovered that nominal titles made up a large majority of them.

Soler (2007) studied titles in two different genres – research articles and review articles – and established four structures: nominal, question, compound, and full-sentence structures. The use of full sentences in research article titles was discovered to be unusual in Biology, Medicine, and Biochemistry, but not in review article titles. Soler (2007) discovered that full-sentence titles account for 51% and 46% of all research article titles in biology and biochemistry; however, no instances of this form were detected in linguistics or psychology. Despite focusing on two genres, Soler (2007) discovered that the nominal group construction is the most common in all the fields she has studied.

Gesuato (2008) found that the noun phrase was the most often used form in 250 analysed titles in each of the four categories, accounting for around 87.5 percent, 86.9%, 83.5 percent, and 82.0 percent for books, dissertations, research articles, and

conference papers, respectively. Moattarian and Alibabaeen (2015) studied the syntactic patterns employed in research article titles in Applied Linguistics, Dentistry, and Civil Engineering in a recent study. They chose 420 RAs at arbitrary from four respected journals in each discipline and analyzed their titles using taxonomy of Dietz (1995) for the syntactic structure of RA titles. Although there were some commonalities in title structures, field-specific distinctions were found during the study.

A lot of research has shown that the nominal construction has been dominant (Siso, 2009; Cianflone, 2010; Afful, Mwinlaaru, 2010). In their work, Afful and Mwinlaaru (2010) examined at the syntactic structure of CPTs and found academics had a similar preference for noun phrases, with a total of 88.7%, while V-ing phrases comprised 11.2 percent and were largely enlarged by complementarity of the noun phrase heads.

Cheng et al. (2012) identified five categories of titles in their study of the syntactic structures of research paper titles in applied linguistics, namely, compound, nominal, full-sentence, V-ing phrase, and prepositional phrase. The most often used titles were compound titles, which account for most of all instances, preceded by nominal titles.

Furthermore, the research on compound titles mentioned above concentrated on the frequency of this structure in relation to other structures. In-depth examination of the components of compound titles in a particular field should give additional information about the use and functions of compound titles in relation to the discipline's research emphases. Swales and Feak (1994) listed four potential compound title pairings in their renowned book on academic writing. These pairing were called as Problem-Solution, General-Specific, Topic-Method, and Major-Minor. Anthony (2001) conducted an empirical analysis of computer science research paper titles and discovered further specific combinations such as Name-Description, Topic-Scope, Topic-Method, Description-Name, and Topic-Description.

2.7. Lexical Diversity

In the topic of titles, lexical variety is also an essential factor. Lexical variety, according to Bérubé et al. (2018), indicates whether academic discourse advances into a more scattered or condensed lexicon. On the one hand, it appears that as an academic subject progress, its language may get more diverse. Sustaining the vocabulary, on the

other hand, is important for efficient information transfer within a topic field (Jacob, 2004). This inconsistency would logically prompt empirically research on the linguistic variety of scientific speech, notably journal research article titles. Unfortunately, there are just a few research studies that address this topic. Milojevi (2015) began tracking the growth of lexical variety in three scientific subjects, specifically physics, astronomy, and biomedicine with the goal of quantifying the scope of cognitive domains in various volumes of scientific literature irrespective of publication volume. Bérubé et al. (2018) investigated the trend of lexical variety in academic titles. The results of this study demonstrated that titles in the domains of natural sciences and engineering, as well as social sciences and humanities, used a more limited and cross-disciplinary collection of terms, as evidenced by a minor drop in lexical variety. The type-token ratio has been the most widely used and straightforward method of quantifying lexical variety based on word recurrence patterns. (Bérubé et al. 2018). Regrettably, TTR is proportional to sample size, therefore a higher sample size may result in a lower TTR. Other extensively used TTR-derived metrics, although being stated to be sample size independent, are equally problematic. Malvern and Richards (2002) established Measure of Textual Lexical Diversity (MTLD) in 2004 to address TTR's sample size reliance using fixed size sampling approaches. Milojevic (2015) then calculated the number of distinct noun phrases inside successive segments of 1500 noun phrases in Library and Information Science, a strategy similar to that proposed in Malvern et al. (2004)'s study. According to the findings, the fastest growth happened between 1998 and 2001, owing to a greater emphasis on the Internet. The advent of new information technologies is discovered to be driving changes in the cognitive environment.

2.8. Informativeness/Lexical Density

Since Diener's investigation of the informative dynamics in journal article titles in 1984, a growing number of academics explored the informativity of article titles. The relevance of title informativity is critical, and titles that are highly informative tend to accomplish their duties more efficiently (Yitzhaki, 1994). As a result of this acknowledgment, the study on the informativeness of journal article titles received further attention (Buxton, Meadows, 1977; Nagano, 2015). Counting the number of lexical words was a common strategy in related studies. Tocatlian (1970) explored the

informativity of chemistry research paper titles over time. Informativity can be described by creating a distinction between content and function words. Function words, including articles, prepositions, conjunctions, pronouns, and auxiliary verbs, are words that carry little or no information. Scholars studied title informativity thoroughly using this distinction. Numerous topic domains or disciplines have been explored, including ecology (Rodriguez, Moreiro, 1996); humanities (Yitzhaki, 1997), and multi-disciplines (Buxton, Meadows, 1977). Current research on the informativity of journal article titles have been all diachronic, with the quantity of lexical words in titles continually increasing over time.

Several additional researchers (Afful, 2004; Afful, Mwinlaaru, 2010; Gesuato, 2008; Goodman et al., 2001; Kaur et al., 1997) have investigated the linguistic knowledge or information content in scientific publication titles.

Afful (2004) discovered that nominal expressions, and time-related terms were the main and dominant linguistic characteristics of dissertation titles using a corpus size of 355 dissertation titles from the Department of English at the National University of Singapore.

It was found out by Afful and Mwinlaaru (2010) that the lexical richness, title length, structural organization, and syntactic encoding of conference paper titles in education and applied linguistics varied according to writers' preferences.

Gesuato's analysis showed that in both the overall corpus of her study, content words exceed function terms. There were around 7.3 content words per title and 4.8 content words per title unit on average.

Goodman et al. (2001) studied the components of the research article titles using a typological approach. Each research article was classified into four categories: topic only, methodology or design, data set, and findings. They discovered that 40 percent of the 420 RA titles focused solely on the topic mentioned, 33 percent onn the methodology, 18 percent on the topic and findings, and 2% on the topics and conclusion.

In their examination of textbook and RA titles, Kaur et al. (1997) discovered two types of words: keywords and non-keywords. They discovered that, although the overall number of keywords in 100 Library and Information Science (LIS) textbook titles was

500, the total number of keywords in 100 RAs titles was 770, based on an initial count of non-keywords and keywords.

Applied Linguistics has played an important role in many studies, particularly cross-disciplinary ones (Afful, Mwinlaaru, 2010; Busch-Lauer, 2000; Gesuato, 2008; Haggan, 2004; Moattarian, Alibabaeen, 2015; Soler, 2007, 2011). The prevalence and significance of Applied Linguistics in such studies might be due to the fact that many of the researchers interested in titleology have originated from Applied Linguistics and want to know and explain their own research writing techniques for various goals.

2.9. Word Frequency

The most popular title words in technical communication papers were analyzed by Boettger and Friess (2014), who discovered variations between the publication genres. Their study corpus covered article titles published in Intercom journal and five other prominent journals between the year of 1996 and 2013. The final corpus of technical communication publications in the study comprised of 3697 titles, 5018 word types and 31,331 word tokens. The corpus was investigated by the help of AntConc, which helped to create a wordlist of the most common title words in trade and scholarly publications. Unique keywords to each publication category were also determined through AntConc. For starters, this research showed that the keywords in the titles of scientific and commerce journals in the realm of technical and professional communication do, in fact, differ. Second, the research has revealed that the popular terms used in scientific and commercial publications have evolved over time. The overall pattern appears to suggest that the first eight years of this study focused on tangibility concepts like *writing, document/s, computer, and site*.

Through the frequent words used in the titles of research publications, Yong Kim (2019) examined and assessed the research trends in medical education. This study aimed to compare and investigate research trends in medical education through the words utilized in the titles of research articles. Academic Medicine, Medical Teacher, the Korean Journal of Medical Education, and Korean Medical Education Review were chosen and examined for the purposes of this research. From 2009 to 2018, the study revealed that Academic Medicine and Medical Teacher published approximately 10 to 20 times more research publications than the Korean Journal of Medical Education and Korean Medical Education Review. “Medical,” “student,” “education,”

and “learning” were found to be the most frequently used words in these research publication titles. The study finding also revealed that issues such as problem-based learning, team-based learning, program evaluations, burnout, e-learning, and technology showed that Medical Teacher journal focused on teaching and learning approaches, whereas Academic Medicine covered all elements of medical education. It was also reported that since Korean Journal of Medical Education and Korean Medical Education Review journals publish smaller articles, they did not cover all topics.

Anthony (2000) studied the frequency of words in research paper titles in computer science examining several traits of research article titles such as length, punctuation usage, word frequency, and preposition usage utilizing a corpus of 600 research articles titles from six journals of the Institute of Electrical and Electronics Engineers Society. Because each publication reflected a separate subdiscipline of computer science with its own body of knowledge and technical jargon, he predicted the word frequency to vary the most across the journal titles. There was a lot of diversity among the journals, which reflected the character of each subdiscipline. For example, Pattern Analysis and Machine Intelligence journal titles had a high frequency of phrases like *recognition, image, detection, learning, and matching*, yet Visualization and Computer Graphics journal titles had a high frequency of words such as *visualization and rendering*, which were associated to computer graphics.

3. METHODOLOGY

The purpose of this study is to analyze and profile five different traits, namely title length, syntactic structures, lexical diversity, lexical density/informativeness, and word frequency, of research article titles of SSCI-indexed Q1 quarterly journals on English laguaage and linguistics for the last five years (2017-2021). The principles of selecting the corpus of this study and different analysis procedures for each selected trait of research article titles are presented in detail in separate sections.

3.1. Data Collection

The Web of Science is a platform that gives users access to several databases that contain reference and citation data from academic journals, conference papers, and other publications in a variety of fields.

Journals in this study were filtered through the Web of Science Master Journal List following the criteria below:

- The Language and Linguistics journals are all SSCI-indexed (Social Sciences Citation Index).

- The quartile for all the journals was determined as Quartile 1 (Q1) to be able reach and analyze prestigious and mainstream data.

- The journals' country/region option was chosen according to the specific country's official language or one of the official languages being English.

- The publishing years of the journals were selected as the last five years, namely 2017, 2018, 2019, 2020, and 2021.

- The frequency of the journals was selected as Quarterly.

With the criteria above, nineteen journals were selected (See Table 1)

Table 1. Selected Journals Published between 2017-2021

Journal	**Vol./Issues**
Assessing Writing	31 – 50
Computational Linguistics	43(1) – 47(4)
ELT Journal	71(1) – 75(4)
English for Specific Purposes	45 – 64
Foreign Language Annals	50(1) – 54(4)
International Journal of Multilingualism	14(1) – 18(4)
Journal of Fluency Disorders	51 – 70
Journal of Language and Psychology	36(1) – 40(6)
Journal of Second Language Writing	35 – 54
The Language Learning Journal	45(1) – 49(6)
Language Speech and Hearing Services in Schools	48(1) – 52(4)
Language Teaching	50(1) – 54(4)
Language Testing	34(1) – 38(4)
Modern Language Journal	101(1) – 105(4)
Research on Language and Social Interaction	50(1) – 54(4)
Second Language Research	33(1) – 37(4)
Studies in Second Language Acquisition	39(1) – (43(5)
TESOL Quarterly	51(1) – 55(4)
System	64 – 103

Upon selecting journals, only titles of research articles were selected, excluding book reviews, case reports, bibliographies, research timelines, discussions, short reports, announcements, remarks, as well as corrections, and replies. The final total number of titles collected from the journals is 3200 for the corpus of this study. The detailed information on the corpus data is presented in Table 2.

Table 2. The Corpus Data

Journal Name	**2017**	**2018**	**2019**	**2020**	**2021**	**Total**
Assessing Writing	28	23	26	28	39	144
Computational Linguistics	20	19	18	18	12	87
ELT Journal	31	33	31	36	39	170
English for Specific Purposes	29	25	28	30	34	146
Foreign Language Annals	42	49	40	49	36	216
International Journal of Multilingualism	28	25	32	28	32	145
Journal of Fluency Disorders	17	26	15	15	32	105
Journal of Language and Social Psychology	29	26	36	32	33	155
Journal of Second Language Writing	13	20	26	29	28	116
The Language Learning Journal	30	47	43	52	51	223
Language Speech and Hearing Services in Schools	11	32	33	53	51	180
Language Teaching	20	20	21	16	14	91
System	86	107	105	117	170	585
Language Testing	25	22	24	25	25	121
Modern Language Journal	38	39	42	34	42	195
Research on Language and Social Interaction	22	22	23	23	20	110
Second Language Research	19	18	21	20	20	98
Studies in Second Language Acquisition	25	31	38	33	25	152
TESOL Quarterly	24	30	33	34	40	161
Total	**537**	**614**	**635**	**672**	**743**	**3200**

3.2. Data Analysis Procedures

This study will investigate English language and linguistics journals in terms of form features such as average title length and structural construction and content characteristics such as lexical diversity and informativeness as well as frequent word usage in detail. Separate analysis methods are given below.

3.2.1. Title Length

The number of running words in a title is referred to as the title length. In this research, we employed a typographic definition to establish the word count. According to the given typographic definition, words were regarded as strings of letters preceded and followed by spacing or punctuation marks. Any abbreviation or acronym (either uppercase or lowercase) was counted as one word. Since the semantic constituents of hyphenated words are frequently treated as compound words in the field of linguistics, a hyphenated word in our corpus was counted as one word. Contracted words joined by an apostrophe, if there were any found in our corpus, were counted as the number of the words they would have been if they had not been contracted. For example, isn't, didn't were counted as two words, replacing is not, did not. Where the contraction replaced one word as in can't for cannot, it was counted as one word. (See examples below).

- Are TOEFL IBT writing test scores related to keyboard type? A survey of keyboard-related practices at testing centers (18 words)

- If you can defend your own point of view, you're good: Norms of voice construction in student writing on an international Master's programme (24 words)

Deciding the method of counting words with the help of typographic definition, the title length data later was calculated using Microsoft Excel. As there is no built-in Excel formula to find the word count, the formula should be manually generated by combining the functions that Excel already offers. The formula is as follows:

$$= LEN(TRIM(cell)) - LEN(SUBSTITUTE(cell,"\ ",""")) + 1$$

We used the exact same formula in Turkish due to the Excel programming language being Turkish on the researcher's computer:

$$= UZUNLUK(KIRP(hücre)) - UZUNLUK(YERİNEKOY(hücre,"","")) + 1$$

To better understand how the formula works, the "SUBSTITUTE" function is used to remove and displace all spaces in the cell with a vacant content string ("). The "LEN" function recovers the string's length without any spaces. Next, the string length without spaces is subtracted from the absolute length of the string. Thereafter, the string's absolute length is deducted from the string's length without spaces. The number of words in a cell equals the number of spaces plus 1. That is why we add 1 to the word count. We also use the "TRIM" function to eliminate any extra spaces in a cell. There may be silent spaces on a worksheet. Such an occurrence could appear towards the beginning or end of the text. Therefore, the "TRIM" function is used before calculating the length of the string because extra spaces might provide an inaccurate word count.

To ensure consistency, the automated statistical tool Word Counter was used to execute calculations as well.

Title length average for each journal was calculated by dividing the total word count by the total number of titles collected. For example, for the selected TESOL Quarterly journal, the title length average was 13.33 obtained by dividing the total number of words 2,053 by the total number of titles extracted from this particular journal which was 154.

3.2.2. Title Structural Construction

The framework developed by Cheng et al. in 2012 was used to explore the syntactic structures of our corpus. The structure types in their framework were developed with the help of a pilot study and also consulting previous studies (e.g., Soler, 2007; Haggan, 2004).

Table 3. The Framework of Structural Construction

Categories	Definition
Nominal	It consists of one or more nouns (that is, a head or heads) that can be preceded by pre-modifiers or followed by post-modifiers
Compound	It consists of two parts separated by a colon, dash, a question mark, or a period

Full sentences	It comprises a complete sentence or a clause, including both declarative structures and interrogative structures
V-ing phrase	It is the V-ing form of one or more verbs, followed by objects or modifiers of the verb(s)
Prepositional Phrase	It starts with a preposition that is followed by the object of the preposition

Namely, nominal, compound, full sentences, V-ing phrases, and prepositional phrases were classified as the five types of syntactic structures studied in our corpus.

Sample Titles Representing Each Category:

- Language learning strategies of multilingual adults learning additional languages – nominal

- Good or bad collaborative wiki writing: Exploring links between group interactions and writing products – compound

- What is the nature of change in late elementary writing and are curriculum-based measures sensitive to that change? - full sentence

- Exploring the relationship of organization and connection with scores in integrated writing assessment - V-ing phrase

- Toward Useful Assessment and Evaluation of Heritage Language Learning - prepositional phrase

Within the analysis, it was seen each component of a compound title could be nominal or any other category. To be able to calculate the frequencies more efficiently, we adopted the decision made by Cheng et al. 2012 distinguishing a category like nominals within a compound title from this category in a complete title, because the rhetorical function and focus of the category could be different. Therefore, a compound title consisting of any other category within was counted as a compound title. Besides,

dual counting of nominal or other categories within a compound title may have been confusing for the calculation of the frequency of each structural category.

3.2.3. Lexical Diversity

The term lexical diversity, also used interchangeably with the terms such as lexical variation, lexical variety, lexical variability, and lexical flexibility, is defined as the extent of vocabulary disparity within a particular language sample. In our research, TTR (Type Token Ratio) was adopted to measure the lexical diversity of the selected corpus. The calculation is done by dividing the number of type count in a title by the total number of token count in it:

$$TTR = \frac{Number\ of\ Types}{Total\ Number\ of\ Tokens} \times\ 100$$

The overall number of words in any language sample is represented by the token count, yet the type count corresponds to the number of different words in it. For instance, the lexical diversity percentage of the title Degrees of Reasoning: Student Uptake of a Language-Focused Approach to Scaffolding Patterns of Logical Reasoning in the Case Analysis Genre is %85 (the total number of words in this title is twenty, while the number of different words in it is seventeen).

Automated statistical tool Measures of Lexical Diversity (LD) was used to execute and confirm the Token-Type Ratio of our corpus as well.

3.2.4. Word Frequency

The corpus was analysed through RStudio, a free open sourse software for data science, which allows text analysis. This software works with commands that are put on the system and these are the commands that were used to get the most frequent words of the last five-year period, which consequently helped us to comment on the latest trends in the field in order:

install.packages("tm")

library(tm)

getwd()

text <- Corpus(DirSource("corpus data in txt. format"))

```
text1 <- tm_map(text, removePunctuation)

text2 <- tm_map(text1, removeNumbers)

text3 <- tm_map(text2, content_transformer(tolower))

text4 <- tm_map(text3, removeWords, stopwords("english"))

text5 <- tm_map(text4, stripWhitespace)

dtm <- DocumentTermMatrix(text5)

inspect(dtm)

freq <- colSums(as.matrix(dtm))

freq_d <- sort(freq, decreasing = TRUE)

freq_d[1:15]
```

With the commands above, any text can be analyzed for their frequent words. For further suggestion, the software also allows the users to create wordclouds and barplots.

3.2.5. Informativeness/Lexical Density

Lexical density (also known as substantive word rate) means the quantity of information a title conveys. To be able to calculate lexical density, all the words in the title texts were required to be divided into content words and function words. AntConc 3.5.9 tool was used to find the total number of function and content words to analyse lexical density as well in the first step.

The formula which later provided the lexical density data is as follows:

$$Lexical\ Density\ = \frac{the\ number\ of\ content\ words}{total\ number\ of\ words} \times 100$$

Upon AntConc giving us the numbers, the lexical density percentages were calculated manually per journal and by year.

4. FINDINGS

In this chapter, the results of the analysis on five different selected traits of 3200 research article titles extracted from 19 different SSCI-indexed quarterly journals are presented separately.

4.1. Title Length

The collected data (Figure 1) regarding title numbers extracted from all the journals selected has shown that over the last five years, research article numbers concurrently title numbers have steadily increased.

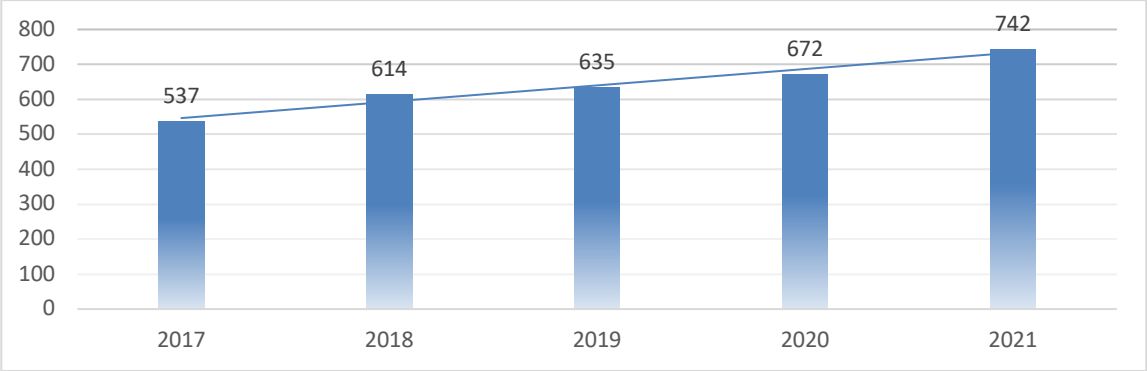


Figure 1. Title Numbers by Year

With the increase and dominance of research carried out in the field, the numbers of titles increasing were expected. However, especially the years of 2020 and 2021 also showed increase in research, which suggests that COVID-19 was not a factor negatively affecting the research done in the field.

As the figure 1 shows, in 2017, 537 research article titles in total were extracted while in 2021 the number of the titles extracted was 742. In five-year time period, there was 38,1 % increase in the numbers in total.

Table 4. Average Title Length by Year

	2017	2018	2019	2020	2021
Total words/number of titles	6780/537	7784/614	8164/635	8567/672	9599/742
Average title length	12,62	12,67	12,85	12,74	12,93

As seen in Table 4, the average title length of research article titles has kept slightly increasing, from 12,62 words per title to 12,93 words per title, with the exception of the year 2020, revealing that over the previous five years, the average title length of research articles has remained around 12 words per title.

In general, from 2017 to 2021, the title length has increased by 0,31 words, an increase of 2,4% on average.

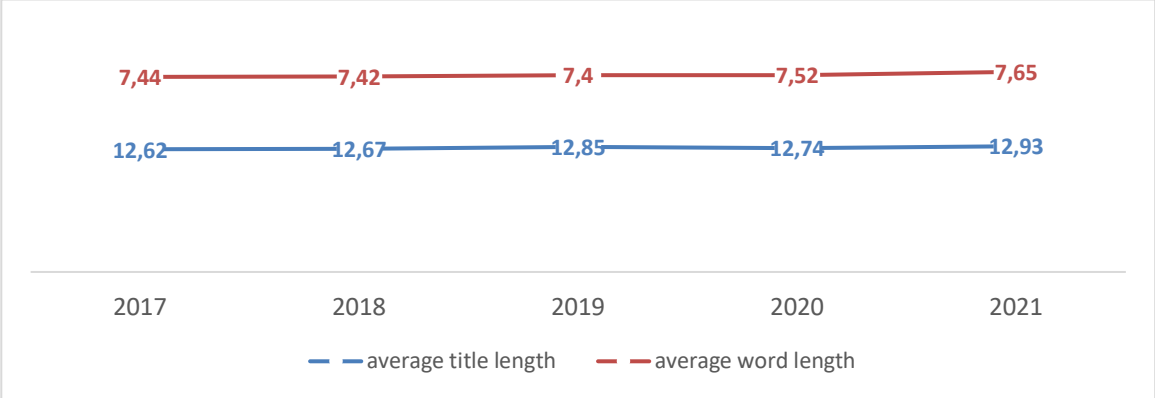


Figure 2. Average Title and Word Length by Year

As shown in Figure 2, on the other hand, the average word length as assessed by the number of characters has nearly leveled out throughout these years, showing that the average word length of chosen journal research article titles has not changed much over time.

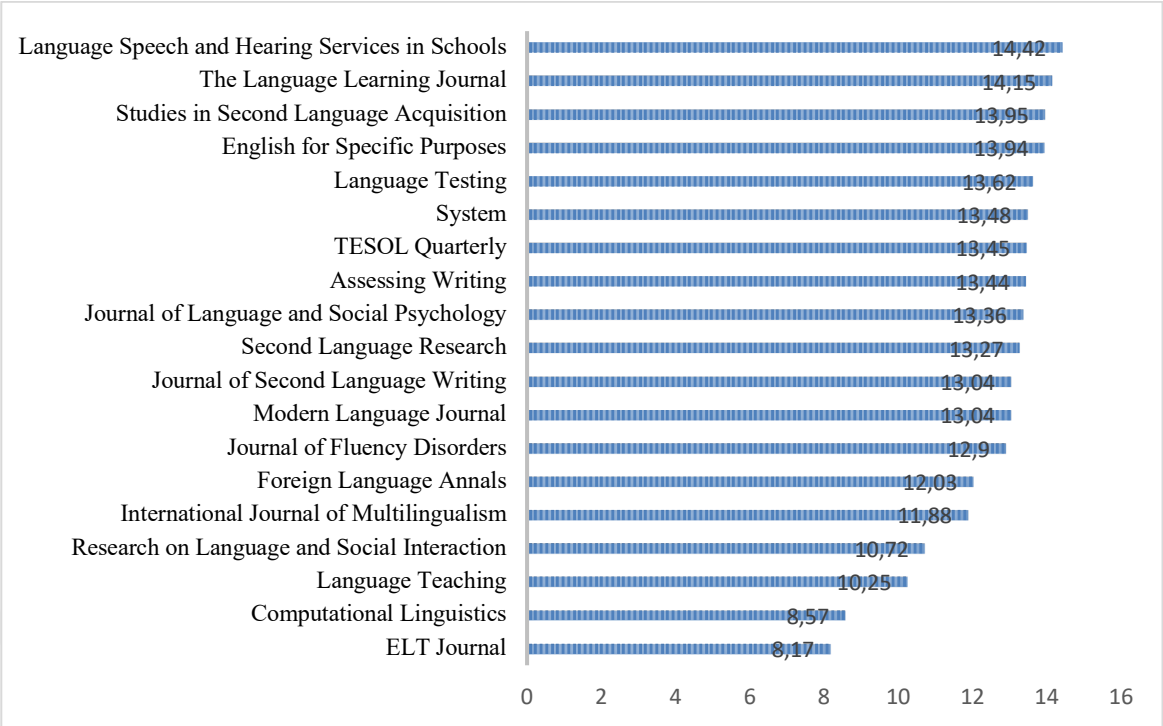


Figure 3. Title Length Data by Journal

Out of nineteen journals analysed, as seen in Figure 3, the journal which has the maximum title length was Language Speech and Hearing Services in Schools, while the journal which had the minimum title length was ELT Journal. With an average of 14,42 words per title, Language Speech and Hearing Services in Schools is higher 6,25 words per title than ELT Journal with 8,17 words per title.

Language Speech and Hearing Services in Schools is published by American Speech-Language-Hearing Association (ASHA) where research publications include pathologists, audiologists, speech, and hearing scientists. This kind of medical-sided language journal research article titles have statistically been shown to be both indicative and informative at the same time. Indicative titles tell the readers what the study is about and informative titles describe the study's message. Therefore; when the research article titles tend to be in nature of both, they also tend to get longer. The Language Learning Journal, which has more than average title length, has also author guidelines, suggesting inserting all the keywords into the title created and avoiding abbreviations.

On the other hand, it is seen that ELT Journal has a significantly lower title length average compared to the majority of the selected journals. ELT Journal has author

guidelines, suggesting potential writers and researchers conform to the maximum title length of preferably 50 characters with an absolute maximum of 70 characters with space.

These guidelines explain ELT Journal having the least average out of all the nineteen journals. Apart from ELT Journal, the Computational Linguistics journal has a minimum average length compared to other journals selected. Computational Linguistics title structures are commonly nominals, and nominal titles are generally shorter than compound titles, which are common in the most journals.

Moreover, with the analysis of the study, the titles which have the most and least number of words were determined.

Examples:

- Using the research article as a model for teaching laboratory report writing provides opportunities for development of genre awareness and adoption of new literacy practices – *25 words - English for Specific Purposes Journal*

- Current Methods of Evaluating the Language Abilities of Multilingual Preschoolers: A Scoping Review Using the International Classification of Functioning, Disability and Health–Children and Youth Version – *25 words – Language Speech and Hearing Services in Schools Journal*

- The impact of expanding advanced level secondary school students' awareness and use of metacognitive learning strategies on confidence and proficiency in foreign language speaking skills – *25 words – The Language Learning Journal*

- The effectiveness of classroom instruction 'at home' versus study abroad for learners of English as a foreign language attending primary school, secondary school, and university – *25 words – The Language Learning Journal*

The Effects of The Timing of Isolated FFI on the Explicit Knowledge and Written Accuracy of Learners with Different Prior Knowledge of the Linguistic Target – *25 words – Studies in Second Language Acquisition Journal*

Sparse Transcription – *2 words – Computational Linguistics Journal*

Tractable Lexical-Functional Grammar – *3 words – Computational Linguistics Journal*

4.2. Title Structural Construction

Figure 4 depicts data on the syntactic structure of titles in our selected journals. On the overall, nominal and compound structures are the most often utilized structures, accounting for about 90% of the total, with nominal structure making up 28% and the compound structures totaling up 61%.

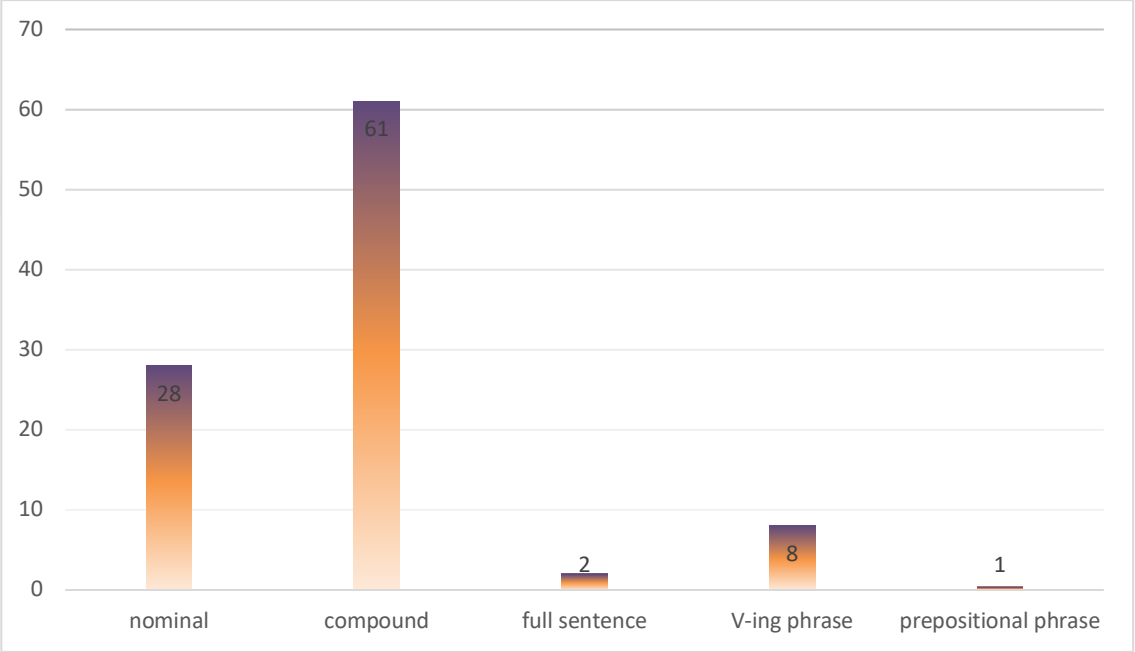


Figure 4. Syntactic Structures Data 2017-2021

The other three structures, full sentence, V-ing phrase, and prepositional phrase, were also used in our journals, but only to a minor extent, accounting for around 10% of the total five years collected. The full sentence and prepositional phrase structures were the least utilized structures totaling up to 2% and %1, respectively. V-ing phrase structures came third after nominal and compound structures with 8%.

Table 5 shows the syntactic structures data divided into five categories utilized per journal selected for this study. The table refers to detailed sum data for the last five years, namely 2017, 2018, 2019, 2020, and 2021.

Examples:

- How students' ability levels influence the relevance and accuracy of their feedback to peers: A case study – *compound structure – Assesing Writing Journal*

- Effects of Community Service-Learning on Heritage Language Learners' Attitudes Toward Their Language and Culture – *nominal structure – Foreign Language Annals Journal*

- Towards a quantitative model of understanding the dynamics of collaboration in collaborative writing – *prepositional phrase structure – Journal of Second Language Writing*

- Does the bilingual advantage extend to trilingualism? – *full-sentence structure – International Journal of Multilingualism*

- Determining cloze item difficulty from item and passage characteristics across different learner backgrounds – *V-ing structure – Language Testing Journal*

- Homo Pedagogicus: The evolutionary nature of second language teaching – *comppund structure – Language Teaching Journal*

Table 5. Syntactic Structures Date by Journal (2017-2021)

Journal	Nominal	Compound	Full-sentence	V-ing	Prepositional
Assessing Writing	25%	55,5%	1,3%	18%	0%
Computational Linguistics	60,9%	1,5%	1,1%	14,9%	3,4%
ELT Journal	43,5%	31,7%	0,5%	24,1%	0%
English for Specific Purposes	24,6%	65,7%	2,7%	6,8%	0%
Foreign Language Annals	29,1%	58,8%	0,4%	11,1%	0,4%
International Journal of Multilingualism	26,8%	60%	1,3%	11,7%	0%
Journal of Fluency Disorders	60%	28,5%	5,7%	4,7%	0,9%

Journal of Language and Social Psychology	20,6%	69,6%	5,1%	4,5%	0%
Journal of Second Language Writing	30,1%	61,2%	0,8%	6%	1.7%
The Language Learning Journal	29,5%	60,9%	1,7%	7,1%	0,4%
Language Speech and Hearing Services in Schools	41,6%	43,8%	3,8%	10,5%	0%
Language Teaching	29,6%	59,3%	1%	8,7%	1%
System	29%	54,7%	1,7%	14,5%	0%
Language Testing	28,9%	53,7%	2,4%	14,8%	0%
Modern Language Journal	31,2%	59,4%	2%	7,1%	0%
Research on Language and Social Interaction	23,6%	66,3%	3,6%	4,5%	1,8%
Second Language Research	32,6%	63,2%	2%	1%	1%
Studies in Second Language Acquisition	26,9%	56,5%	5,2%	10,5%	0,6%
TESOL Quarterly	21,1%	66,4%	1,2%	10,5%	0,6%

Aligning with the most used structures being compound and nominal information, some journals favored nominal structures more than compound structures, even though compound structures are the most frequently used structures in total. The journals that used nominal structures more than compound structures were ELT Journal, Computational Linguistics, and Journal of Fluency Disorders, with 43,5%, 60,9%, and 60%, respectively.

The journal, which utilized the compound structures most, was the Journal of Language and Social Psychology, with 69,6%, which is more than average use. The

journal, with the least average compound structure use by a large margin, was Computational Linguistics with 1,5%.

4.3. Lexical Diversity

Table 6 shows the lexical diversity data by year in detail. The lexical diversity data was gained by TTR approach in this study. This approach is based on rate of the number of overall number words (tokens) in the research article titles and the number of different words (types). Table 6 shows all the token and type numbers extracted from the titles.

Table 6. Lexical Diversity by Year

	2017	**2018**	**2019**	**2020**	**2021**
TTR Type/token	3696/6798	4188/7805	4330/8188	4448/8597	4823/9645
Lexical Diversity	54,3%	53,6%	52,8%	51,7%	50%

From 2017 to 2021, lexical diversity went through an overall decrease from 54.3% to 50%. Nonetheless, variations in lexical diversity of titles in English language and linguistics journals appear to be minor as seen in Table 5.

On the other hand, Figure 5 shows the average lexical diversity data per journal selected. As seen, with the highest percentage of 72i16%, Computational Linguistics journal titles are the most lexical diverse out of all nineteen journal research article titles, while System journal titles, with the percentage of 38,82%, are the least lexical diverse titles compared to other journals in the corpus of this study.

As seen in Figure 5, apart from the drastic gap between Computational Linguistics and System, all the other journals show consistency and closeness when it comes to their lexical diversity rates. Selected English Language and Linguistics journals for the corpus of this study have an average lexical diversity between 50% and 60. With

these findings, it can be suggested that the majority of the selected journals were lexically varied enough to represent the studies they refer to.

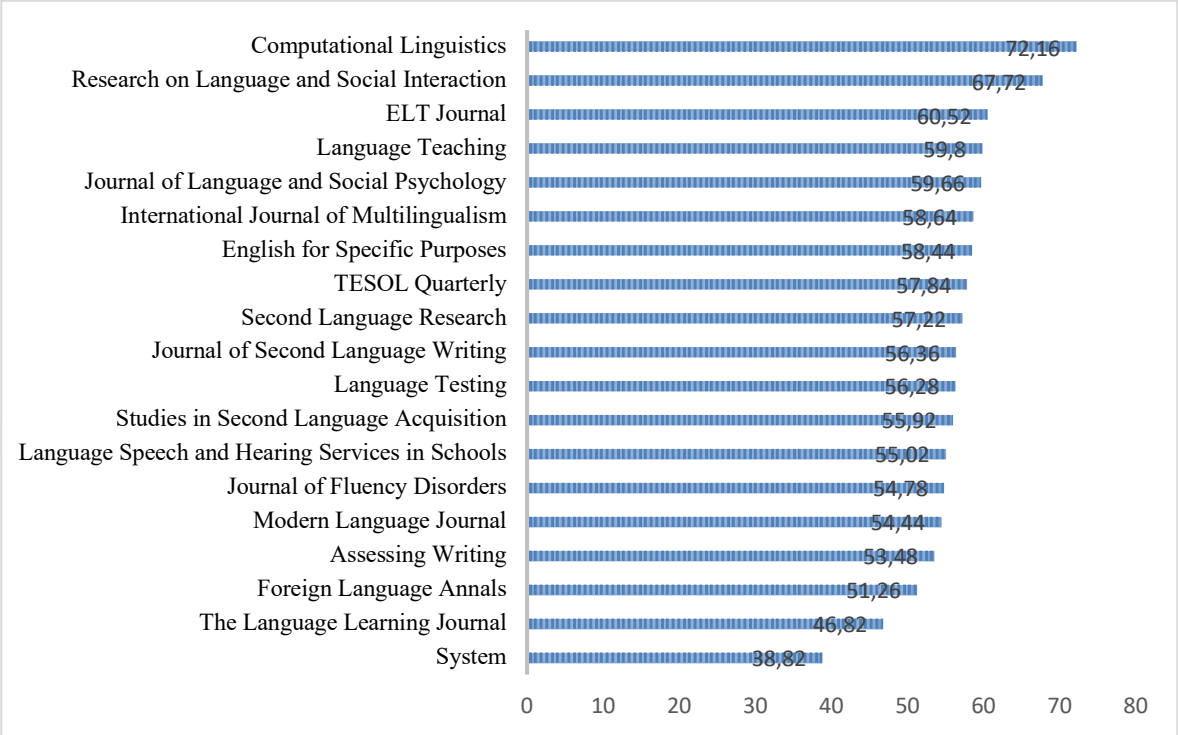


Figure 5. Lexical Diversity by Journal

Examples:

- Hybrid Grammars for Parsing of Discontinuous Phrase Structures and Non-Projective Dependency Structures – *TTR 92% (13 tokens-12 types) - Computational Linguistics Journal*

- On the Use of "I Just Thought" Formulations for Modifying One's Stance Toward a Problematic Action – *TTR 100% (16 tokens- 16 types) – Research on Language and Social Interaction Journal*

- The effects of deductive instruction and inductive instruction on learners' development of pragmatic competence in the teaching of Chinese as a second language *– TTR 83% (23 tokens- 19 types) – System Journal*

- The Benefits of Multilingualism to the Personal and Professional Development of Residents of the US – *TTR 73% (15 tokens- 11 types) - Foreign Language Annals Journal*

- Degrees of Reasoning: Student Uptake of a Language-Focused Approach to Scaffolding Patterns of Logical Reasoning in the Case Analysis Genre – *TTR 85% (20 tokens- 17 types) – TESOL Quarterly Journal*

4.4. Word Frequency

Table 6 demonstrates the twenty most common words and their frequencies that occurred in all journals selected during the last five years. The most common words, which may inform a lot about the current picture in the field were identified with the goal of reaching out to some recent trends in English Language and Linguistics.

Table 7. Twenty Most Common Words (2017-2021)

Rank	Frequency	Word
1	1008	Language
2	416	Learning
3	382	Writing
4	380	English
5	379	Learner(s)
6	288	Student(s)
7	261	Study
8	199	Teacher
9	188	Teaching
10	170	Foreign
11	169	EFL
12	165	Development
13	156	Classroom
14	150	Research

15	147	Vocabulary
16	133	Analysis
17	129	Chinese
18	114	Assessment
19	112	Reading
20	111	Instruction

First of all, “Language”, “Learning”, “English”, and “Teaching” are the top words that are naturally in the most frequent word list.

Examples:

Linguistically Responsive Instruction for Latinx Teacher Candidates: Surfacing **Language** Ideological Dilemmas – *TESOL Quarterly*

The relationship between **English** language learners’ motivation and online self-regulation: A structural equation modelling approach – *System Journal*

Foreign **language** vocabulary learning using the keyword method: strategy and meta-strategy knowledge – *The Language Learning Journal*

Teaching multilingual learners in Canadian writing-intensive classrooms: Pedagogy, binaries, and conflicting identities – *Journal of Second Language Writing*

The word “Writing” making the list in the top three showed us it is the most studied and researched skill of all. Writing skills in English Language Teaching Methodology has shown itself great various times, offering services in enhancing students’ thinking skills as well as language skills. The words “Learner(s)” and “Students” are also on top of the most frequently used words in our analysis. With changing ways of language teaching, it can be seen that “centering learning” is showing itself in the studies and as a trend in the field.

Examples:

- Language Attitudes in a Lingua Franca: The Case of Black South African College **Students** – Journal of Language and Social Psychology

- Digital multimodal composing and investment change in **learners**' writing in English as a foreign language – Journal of Second Language Writing

- **Writing** for the (virtual) other: Bakhtinian intertextuality within online L2 **writing** exchanges – *The Language Learning Journal*

- Student Self-Initiated Use of Smartphones in Multilingual **Writing** Classrooms: Making Learner Agency and Multiple Involvements Visible – *Modern Language Journal*

It was also witnessed the word "Assessment" making its way into the top used words in the field in the last five years. Assessments are of great significance to measure or gauge the performance of the students and identify their weaknesses in particular aspects and correct them for their improvement in the subject or an activity they do, and they are studied extensively in the field recently. It is assumed that assessment practices of virtual teachings during COVID-19 made their contributions to the word to be in one of the most frequent words on the list.

Examples:

- Exploring the relationship of organization and connection with scores in integrated writing **assessment** – *Assesing Writing Journal*

- Prompting All Students to Learn: Examining Dynamic **Assessment** of Special Needs and Typical Students in a Prekindergarten Inclusive French Program – *Foreign Language Annals Journal*

- The Japanese version of the overall **assessment** of the speaker's experience of stuttering for adults (OASES-A-J): Translation and psychometric evaluation – *Journal of Fluency Disorders*

As seen in Table 6, it was noticed that "Chinese" was on the list of most frequently used words in specific journals selected. This was the only mentioned language other than "English", which means it is researched and studied extensively. English language teaching and learning are undergoing reform and renovation to fulfill the requirements caused by China's economic, scientific, and technological development. It is no surprise that there is abundant research in the field from and about China and Chinese.

Examples:

- English article acquisition by **Chinese** learners of English: An analysis of two corpora – *System Journal*

- The impact of face-to-face oral discussion and online text-chat on L2 **Chinese** writing – *Journal of Second Language Writing*

- Pinyin or no pinyin: does access to word pronunciation matter in the assessment of **Chinese** learners' vocabulary knowledge? – *The Language Learning Journal*

- A generalizability theory study of optimal measurement design for a summative assessment of English/**Chinese** consecutive interpreting – *Language Testing Journal*

- Prosody–syntax integration in a second language: Contrasting event-related potentials from German and **Chinese** learners of English using linear mixed effect models – *Second Language Research Journal*

- "I Mean I'm Kind of Discriminating My Own People:" A **Chinese** TESOL Graduate Student's Shifting Perceptions of China English – *TESOL Quarterly Journal*

Except for the most common twenty words that can be seen in Table 6, in some journals, we noticed the word "Spanish" came up in the most used frequent words in the journal's top fifteen words. It is thought that "Spanish" has been extensively studied and was in the most common words list due to the majority of the Spanish-speaking learners of English in the countries where the selected journals and studies originated from. Native speakers of Spanish abundantly reside in the U.S. and the U.K. where most of the selected journals are from.

Examples:

- Do Learners Lighten Up?: Phonetic and Allophonic Acquisition of **Spanish** /l/ by English-Speaking Learners – *Studies in Second Language Acquisition Journal*

- Motivation, Comprehensibility, and Accentedness in L2 **Spanish**: Investigating Motivation as a Time-Varying Predictor of Pronunciation Development – *Modern Language Journal*

- Can agreement be suppressed in second-language acquisition? Data from the Palenquero–**Spanish** interface – *Second Language Research Journal*

- Toward Biliteracy: Unpacking the Contribution of Mid-adolescent Dual Language Learners' **Spanish** and English Academic Language Skills to English Reading Comprehension – *TESOL Quarterly Journal*

- The case for Culturally and Linguistically Relevant Pedagogy: Bilingual Reading to learn for **Spanish**-Speaking immigrant mothers – *System Journal*

4.5. Informativeness/Lexical Density

Informativeness was analyzed in this study to determine how informative the research article titles of the English language and linguistics quarterly journals were. Content words, also knowns as lexical words and function words were detected to be able to get the informativeness averages per year and journal. In Table 7, it is seen the overall number of words and content/lexical words.

Table 7 shows that the increase in informativity in journal article titles in the last five years was necessarily linear even if the long-range trend indicated an increase.

Table 8. Informativeness/Lexical Density by Year

	2017	**2018**	**2019**	**2020**	**2021**
Lexical words/tokens	4654/6798	5293/7805	5567/8188	5886/8597	6609/9645
Informativeness (%)	68,4%	67,8%	67,9%	68,4%	68,5%

The numbers shown in Table 7 reveal that informativity of the corpus of this study corpus article titles reached 68.4% in 2017 and did not fluctuate for the last five years. Although the number of substantive words in titles increased in the 2010s, it does not seem to drastically increase over the years, especially in the years of this study covers.

Informativity remained high though with linear progress. As can be found in Table 7, lexical or content words significantly overwhelmed the function words in the given

data set. Because of the high lexical density of linguistics titles, these findings suggest that the titles extracted from the selected journals are particularly informative.

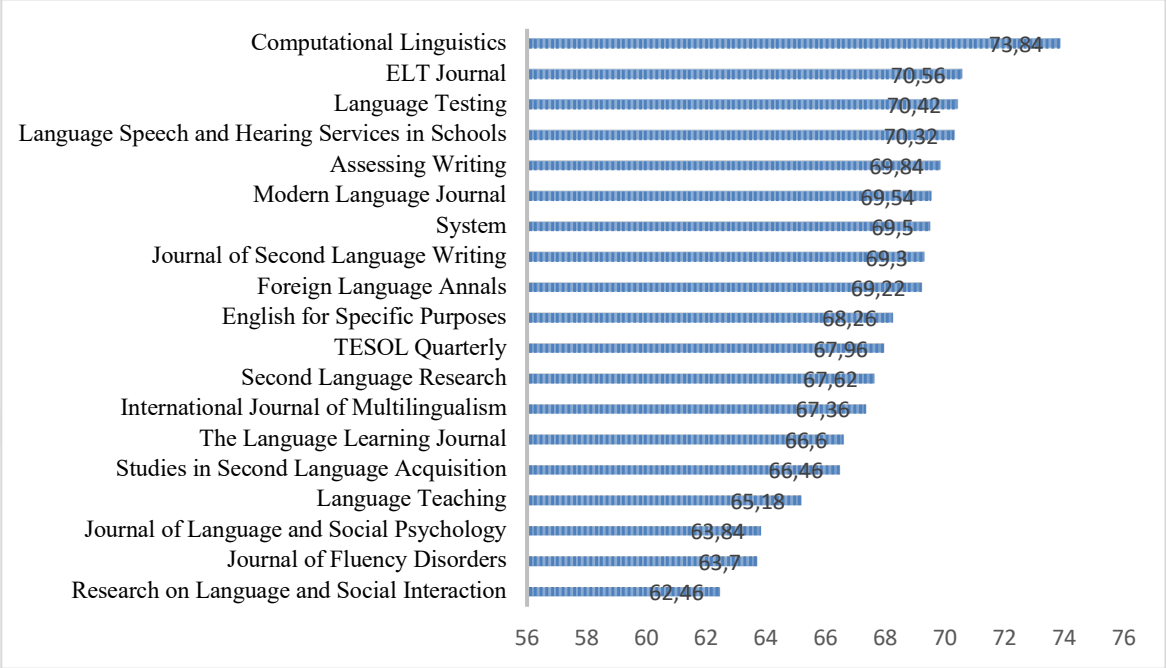


Figure 6. Informativeness/Lexical Density by Journal

Figure 6 shows the average lexical density/informativeness data per journal selected. As seen, with the highest percentage, Computational Linguistics journal titles are the most informative journal titles out of all nineteen journals with 73,84%, whereas Research on Language and Social Interaction has the research article titles with the least informative average compared to others with 62,46%.

Examples:

- The Influence of Context on the Learning of Metrical Stress Systems Using Finite-State Machines – *Informativiy 64,2% (14 tokens, 9 lexical words) – Computational Linguistics Journal*

- Patterns of pair interaction in communicative tasks: the transition process and effect on L2 teaching and learning – *Informativity 64,7% (17 tokens, 11 lexical words) – ELT Journal*

- On the Use of “I Just Thought” Formulations for Modifying One’s Stance Toward a Problematic Action – *Informativity 43,75% (16 tokens, 7 lexical words)- Research on Language and Social Interaction Journal*

- The experience of stuttering among Ultra-Orthodox and Secular/Traditional Jews – *Informativity 55% (9 tokens, 5 lexical words) – Journal of Fluency Disorders*

5. CONCLUSION AND DISCUSSION

In this section, the conclusion, and the discussion for each research question of the study, possible implications, limitations, and further suggestions will be presented.

The goal of this study was to examine the length of titles, syntactic structures, informativity, lexical variety, and frequent words use in 19 English Language and Linguistics journals between the years 2017 and 2021. The research used a corpus of 3200 titles using a qualitative content analysis technique, which was supplemented with descriptive statistics.

5.1. Conclusion and Discussion for Research Question 1

Q1. What are the average research article title lengths for SSCI-indexed Quartile 1(Q1) quarterly English Language and Linguistics journals?

Research article titles in the study were analyzed according to their average title length, which was calculated by dividing the total word count by the total number of titles collected and according to the average length which was assessed by the character count in words.

The average title length of the journals included in this analysis has consistently increased over the last five years with the exception of the year 2020, from 12.62 to 12.93 words per title, which is consistent with prior studies on title length variance (Yitzhaki 1994; Méndez et al. 2013). Furthermore, the average title length of research articles has remained around 12 words per title for the past two decades, with just a minor increase after the 2000s.

The results of the Applied Linguistics study of Afful and Mwinlaaru (2010) revealed varied title lengths with 12.1 words and 7.5 words per title respectively. This means that even though researchers operated in the same discipline, there were significative features that defined each individual researcher. There are notable discrepancies and

parallels in the conclusions from prior research on title length. Differences in genre and discipline are one factor that contributes to this diversity.

Moreover, the average word length has nearly leveled out throughout these years, showing that the average word length of the selected journal research article titles has not changed much over the last five years.Because longer titles offer greater information about the research articles they correspond to, and words with more characters seem to have more syllables, which is a sign of a more exclusive vocabulary, the number of words per title and the number of characters per word can be used as markers of changes in title informativeness, richness and complexity.

With the information gained by the previous studies, the 1990s were a turning point for pragmatic academics and researchers, as they began to produce lengthier article titles. This increased trend in title length has persisted for the next three decades. This trend toward longer titles once more supports findings from a series of studies, including Lewison and Hartley (2005) on science and clinical titles in 1970–1974 and 2005–2009, Méndez et al. (2014) on economics titles from the 1890s to 2000s, and Fox and Burns (2015) on titles from the ecology journals between 1987 and 2013. This indicates that writing longer titles appears to be a widespread tendency across a variety of fields, English Language and Linguistics in this case, which might be linked to titles' core communication function of informing clearly and accurately.

In current age of technology, a massive number of articles are written every year in practically every field, resulting in severe competitiveness among article authors to get their work seen. Article titles are crucial in terms of promoting the studies and their content. As a result, article authors must provide as much precise information and key terms about their study as possible in their titles to allow the readers to easily search their work. In return, providing as much information as possible may mean longer titles.

5.2. Conclusion and Discussion for Research Question 2

Q2. How are the research article titles in SSCI-indexed Q1 quarterly English Language and Linguistics Journals syntactically structured?

This descriptive study's major goal was to investigate the syntactic structures employed in RA titles. The study adopted the framework of the study conducted by

Cheng et al. (2012). According to the framework, the five categories of the syntactic structures were defined and calculated according to their frequencies by journal and year. The five syntactic structures investigated in this study were nominal, compound, V-ing phrases, full-sentence, and prepositional phrases.

According to the study's findings, a couple of syntactic structures are utilized more frequently in academic writing than others. Furthermore, some structures may be better suited to a particular subject than others. This tendency for specific grammatical patterns in RA names demonstrates the academic norms of titles in a particular field, as well as their communicative and rhetorical efficiency in describing the nature of research in that area of study.

The findings of this study showed that the total share of nominal and compound structure is more than 90%, which is consistent with Cheng et al (2012), whose framework was adopted in this particular study. The results are similar to Cheng et al. (2012) findings, which found that between 1999 and 2008, compound structure accounted for 54 percent of applied linguistic journal article titles while nominal structure accounted for 39 percent.

On the other hand, for example full sentence structures make up for a small percentage of the total amount of titles, in accordance with prior linguistics and literature results on titles (Haggan 2004). This supports the theory that complete sentence formulations are mostly common to titles in the natural sciences, especially the biological sciences. (Berkenkotter and Huckin 1995).

Because the English language and linguistics journal research articles mainly focus on one specific subject, the researchers seem to favour compound structure, particularly the use of colons to introduce an abstract notion first, followed by the real issue following the colon.

According to Lewison and Hartley (2005), the prevalence of colons in titles has grown from in the last three decades. The number of question marks and full stops has increased as well. These punctuation marks separate a title into two pieces with a precise logical or semantic link, allowing readers to get more detailed information. Colons, the most common of the punctuation marks used in titles, divide the title emphasis into two parts: the first part generally highlights the study's overall theme, while the second portion usually reflects a more particular feature. Punctuation marks

like colons, make the compound structured research article titles. The longer and more compound a title is, the more likely it is to contain more specific search phrases, making it simpler to find. In the meanwhile, the more detail a title offers about the research, the more likely it is to be discovered as relevant throughout the search screening process.

It is observed that Computational Linguistics journal, which has the maximum percentages in lexical diversity and lexical density has also preferred nominal structures over compound ones. It is suggested that compound structured titles are lengthier and they have a tendency to include function words as much as lexical words, which affects their lexical density. Computational Linguists journal which favored nominal structured titles seems to have the lexical density upper hand.

5.3. Conclusion and Discussion for Research Question 3

Q3. How are the research article titles of SSCI-indexed Q1 quarterly English Language and Linguistics journals structured in terms of lexical diversity?

Lexical diversity may enable assess how complicated a text is, and therefore how challenging it is to read for both native and non-native readers, as well as the author's prospective linguistic proficiency.

In this study, lexical diversity referred to the ratio of the different words to the overall number of words in the selected corpus.

The findings of the study showed that lexical diversity witnessed an overall decrease from 54.3% to 50% over the last five years in the English language and linguistics journals.

Lexical variety grew modestly starting in the 1980s and has been on the decline since the 2000s. This might be due to the increased usage of the same terms to describe significant topics and issues. The declining trend is also similar to the findings of Bérubé et al. (2018)'s study on the lexical variety of humanities and social sciences titles, which showed an 8% decline between 1975 and 2014.

5.4. Conclusion and Discussion for Research Question 4

Q4. How informative are the research article titles in SSCI-indexed Q1 quarterly English Language and Linguistic Journals?

In the study, informativeness referred to the ratio of content words to the overall number of titles. The informative richness of the research article titles reveals how much information titles give to the potential readers.

The informativeness of a title can have a significant impact on whether it is appealing or not. (Nagano, 2015). Although the number of substantive words in titles climbed in the 2000s, it was unable to keep pace with the average title length, resulting in a modest decrease in the decade. The findings of the study are congruent with those of Yitzhaki (1997), who stated that increases in informativity in humanities journal article titles from one decade to the next were not always substantial and not always linear, even if the long-term trend suggested an increase. In his research, Yitzhaki (1997) examined the number of content words in article titles published in the journal Language between 1930 and 1990. He found out that the average number of lexical words in titles published in Language in 1980 and 1990 was four and five, respectively, which was similar to the findings of some journals in this study.

The rise in title lexical density after 1998 is easy to grasp because titles' primary purpose is to inform readers about the message of related papers with as much precision as possible so that readers can decide if the articles are worth their time to read based solely on their titles. As a result, since the late 1990s, article writers have decided to produce more informative titles by using significantly more lexical/content words than function words in the heated battle for engaging readers.

The rising semantic richness and syntactic complexity of the titles which favoured the compound structures the most, may also be connected to the trend toward increased lexical density.

5.5. Conclusion and Discussion for Research Question 5

Q5. What are the word frequencies in SSCI-indexed Q1 quarterly English Language and Linguistics journals for the last five years?

The most prevalent corpus approach utilized by corpus linguistics experts is frequency. This research also investigated the most common title terms over the previous five years and remarked on the most recent developments in the discipline.

The study employed 19 journals, 3200 titles and 41,033 words in total. The most commonly used words were identified with help of the software tool called RStudio, and the most used word was identified as “Language” with the frequency of 1008.

The frequent word usage may indicate the latest research focus on any given discipline, which may also have implications for novice and expert writers and researchers who wish to advance their studies in their own academic communities. With the fast-changing trends in academia, it might be difficult for researchers to keep up with the recent developments, so the findings of the study in terms of frequent words, might be helpful for promoting the disciplinary grasp among researchers who are interested in certain characteristics.

The most frequent words can also point to the pedagogical implications for English language teachers who can utilize the list of common words to educate their novice student writers on the genre and disciplinary customs.

5.6. Implications of the Study

These results help in improving the quality of English language studies in general, as well as the field of 'titlelogy,' as it is currently known. The current research has added to previous title research and may have implications for future research.

First, because titles of English language and linguistics journals have not been explored as thoroughly as in other science fields, our study has confirmed the findings of previous studies and acted as a valuable addition. Furthermore, the findings of the study might be useful in generating a research article title for individuals planning to publish in one of the nineteen prestigious journals studied. Because compound article titles are more common than the other four forms, EAP teachers should encourage linguistic and literary students to employ compound structures more frequently when composing research article titles in academic English writing classes.

Researchers who are familiar with the genre can have a better knowledge of their discourse communities and become more effective participants. The findings of this study might function as an eye-opener by stressing the linguistic and syntactic choices and factors that RA authors employ in constructing their titles; it thus demonstrates writers' grasp of how they portray this seemingly minor but significant rhetorical unit of articles, namely the titles. Given the importance of titles, these findings may be useful to a wide range of members of the English for Specific Purposes (ESP) community; as a matter of fact, the research has educational implications in ESP writing overall, and in the teaching of title formulation for feature articles in particular.

The findings of this study can be used by ESP teachers to teach their students or novice researchers how to read and write RA titles, as they may have difficulty matching the genre's title standards. Because diverse syntactic structures allow writers to arrange and present research data in different ways, beginner RA writers should be aware of their characteristics and functions, as well as disciplinary differences. As a result, in ESP classes, the syllabi should include title writing standards in which students may learn about different forms and how to create good titles in their respective fields. With today's heavy dependence on retrieval technology and the ever-increasing volume of paper and journal publications that can be retrieved electronically, creating highly relevant titles for academic articles will become increasingly important. As a result, researchers must devote adequate time and effort to creating titles that are both appealing and useful.

Furthermore, as previously stated, the findings of this study can assist applied linguists, and English language researchers wishing to publish their research in the journals selected and analyzed in this study. English language researchers might format their study titles to match what has previously been published.

5.7. Limitations of the Study

Despite the fact that the study's objectives were met, there were some inherent limitations. Clearly, the corpus is confined to one discipline and the journals featured; a more complete corpus with more articles picked from a broader variety of journals in other disciplines of social, medical, and hard sciences would provide a more representative sample for title analysis. We are less confident in the generalizations we drew regarding title formation in the area since we chose just quarterly journals on the

subject. Researchers should analyze title structures in journals with different publishing frequencies for future research. Furthermore, the researchers expect that crosslinguistic study will provide a far more complete picture of the syntactic structures utilized in RA titles.

Furthermore, because no empirical examination of the sample size robustness of the TTR on our corpus was undertaken, the conclusions of lexical diversity in this study may still require additional confirmation. In this study, the information kinds and grammatical structure of article titles were manually examined. Despite the fact that two writers followed identical processes and double-checked for consistency, the classification might still be subjective. Furthermore, a bigger corpus of titles covering a longer period of time would likely provide more substantial changes. With a larger sample size, a new lexical diversity metric might be used to overcome the sample size dependency problem, resulting in more compelling lexical diversity results.

5.8. Recommendations for Further Research

Because English language and linguistics, as well as literature, are all language-related fields, it could be worthwhile to do more extensive diachronic research on their respective prominent features, long-term trends, and commonalities and contrasts.

To determine the general developmental trend of article titles, a larger corpus covering a wide range of journals in pragmatics, linguistics, and other disciplines would be required, allowing for in-depth investigation of concerns such as whether the progression of title characteristics is journal-specific and discipline-specific.

This study studies the five characterictics of titles, yet another trait, namely information types (title semantic content) can be focus for further studies.

Further studies can also investigate the connections between titles and other parameters, such as punctuation use/ gender of the authors/ geographical names in titles and citation rates, or the relationship between author numericity and title length.

Moreover, the focus of this research was on the diachronic fluctuation of each of the five traits examined. The probable relationships among the five traits were not given any thought, which may require future examination. Future research can focus on specific forms of compound structure, as Anthony (2001) has already built a thorough model for future examination.

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APPENDICES

Appendix 1

Title Length Data by Journal

Journal Name	Number of Titles	Number of Words	Title Length (Words/Title)
Assessing Writing	144	1.936	13.44
Computational Linguistics	87	746	8.57
ELT Journal	170	1.390	8.17
English For Specific Purposes	146	2.036	13.94
Foreign Language Annals	216	2.600	12.03
International Journal of Multilingualism	145	1.723	11.88
Journal of Fluency Disorders	105	1.355	12.90
Journal of Language and Social Psychology	155	2.071	13.36
Journal of Second Language Writing	116	1.513	13.04
The Language Learning Journal	223	3.156	14.15
Language Speech and Hearing Services in Schools	180	2.597	14.42
Language Teaching	91	933	10.25
Language Testing	121	1.649	13.62
Modern Language Journal	195	2.544	13.04
Research on Language and Social Interaction	110	1.180	10.72
Second Language Research	98	1.301	13.27

System	585	7.886	13.48
Studies in Second Language Acquisition	152	2.121	13.95
TESOL Quarterly	161	2.166	13.45
Total	**3,200**	**40,903**	**12.78**

Appendix 2

Syntactic Structures Data by Journal

Assessing Writing

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	5.5%	11.8%	0%	2%	0%
2018	3.4%	8.3%	0%	4.1%	0%
2019	4.1%	9%	0%	4.8%	0%
2020	%2	15.2%	0.6%	1.3%	0%
2021	9.7%	11.1%	0.6%	5.5%	0%
Total	25%	55.5%	1.3%	18%	0%

Computational Linguistics

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	13.7%	4.5%	0%	4.5%	0%
2018	14.9%	2.2%	0%	2.2%	2.2%
2019	12.6%	3.4%	0%	4.5%	0%
2020	10.3%	6.8%	1.1%	1.1%	1.1%
2021	9.1%	2.2%	0%	2.2%	0%
Total	60.9%	19.5%	1.1%	14.9%	3.4%

ELT Journal

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	10.5%	3.5%	0%	4.1%	0%
2018	9.4%	5.2%	0%	4.7%	0%
2019	8.8%	5.2%	0.5%	3.5%	0%
2020	7%	7.6%	0%	6.4%	0%
2021	7.6%	10%	0%	5.2%	0%
Total	43.5%	31.7%	0.5%	24.1%	0%

English for Specific Purposes

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	2%	15.7%	1.3%	0.6%	0%
2018	2.7%	10.9%	0.6%	2.7%	0%
2019	4.1%	13.6%	0%	1.3%	0%
2020	6.8%	11.6%	0.6%	1.3%	0%
2021	8.9%	13.6%	0%	0.6%	0%
Total	24.6%	65.7%	2.7%	6.8%	0%

Foreign Language Annals

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	4.6%	12.9%	0.4%	0.9%	0.4%
2018	5.5%	14.8%	0%	2.3%	0%
2019	6.4%	9.7%	0%	2.3%	0%
2020	7.8%	10.6%	0%	4.1%	0%
2021	4.6%	10.6%	0%	1.3%	0%
Total	29.1%	58.8%	0.4%	11.1%	0.4%

International Journal of Multilingualism

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	2.7%	13.1%	0%	3.4%	0%
2018	7.5%	8.2%	0%	1.3%	0%
2019	6.2%	12.4%	0.6%	2.7%	0%
2020	4.1%	13.1%	0%	2%	0%
2021	6.2%	13.1%	0.6%	2%	0%
Total	26.8%	60%	1.3%	11.7%	0%

Journal of Fluency Disorders

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	8.5%	5.7%	0.9%	0.9%	0%
2018	16.1%	6.6%	0.9%	0.9%	0%
2019	12.3%	1.9%	0%	0%	0%
2020	7.6%	5.7%	0%	0%	0.9%
2021	15.2%	8.5%	3.8%	2.8%	0%
Total	60%	28.5%	5.7%	4.7%	0.9%

Journal of Language and Social Psychology

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	1.9%	12.9%	2.5%	1.2%	0%
2018	3.8%	11.6%	0%	1.2%	0%
2019	6.4%	14.8%	0%	1.2%	0%
2020	4.5%	15.4%	0.6%	0%	0%
2021	3.8%	14.8%	1.2%	0.6%	0%
Total	20.6%	69.6%	5.1%	4.5%	0%

Journal of Second Language Writing

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	1.7%	7.7%	0%	1.7%	0%
2018	5.1%	11.2%	0%	0.8%	0%
2019	6.8%	13.7%	0%	0.8%	0.8%
2020	7.7%	14.6%	0.8%	0.8%	0.8%
2021	8.6%	13.7%	0%	1.7%	0%
Total	30.1%	61.2%	0.8%	6%	1.7%

Language Speech and Hearing Services in Schools

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	1.1%	2.7%	0.5%	1.6%	0%
2018	9.4%	6.1%	1.1%	1.1%	0%
2019	7.2%	9.4%	0%	1.6%	0%
2020	13.3%	12.7%	0%	3.3%	0%
2021	10.5%	12.7%	2.2%	2.7%	0%
Total	41.6%	43.8%	3.8%	10.5%	0%

Language Teaching

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	6.5%	13.1%	0%	2.1%	0%
2018	7.6%	13.1%	0%	1%	0%
2019	5.4%	16.4%	0%	0%	1%
2020	6.5%	6.5%	0%	4.3%	0%
2021	3.2%	9.8%	1%	1%	0%
Total	29.6%	59.3%	1%	8.7%	1%

Language Testing

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	3.3%	11.5%	0.8%	4.9%	0%
2018	4.9%	9.9%	0.8%	2.4%	0%
2019	9.9%	7.4%	0%	2.4%	0%
2020	5.7%	13.2%	0.8%	0.8%	0%
2021	4.9%	11.5%	0%	4.1%	0%
Total	28.9%	53.7%	2.4%	14.8%	0%

Modern Language Journal

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	6.1%	10.2%	0%	3%	0%
2018	5.1%	13.3%	0.5%	1%	0%
2019	5.6%	13.3%	0.5%	2%	0%
2020	5.1%	11.2%	0.5%	0.5%	0%
2021	9.2%	11.2%	0.5%	0.5%	0%
Total	31.2%	59.4%	2%	7.1%	0%

Research on Language and Social Interaction

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	6.3%	10.9%	0.9%	0.9%	0.9%
2018	3.6%	12.7%	1.8%	1.8%	0%
2019	7.2%	11.8%	0.9%	0.9%	0%
2020	3.6%	15.4%	0%	0.9%	0.9%
2021	2.7%	15.4%	0%	0%	0%
Total	23.6%	66.3%	3.6%	4.5%	1.8%

Second Language Research

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	6.1%	13.2%	0%	0%	0%
2018	8.1%	9.1%	0%	1%	0%
2019	8.1%	13.2%	0%	0%	0%
2020	8.1%	11.2%	1%	0%	0%
2021	2%	16.3%	1%	0%	1%
Total	32.6%	63.2%	2%	1%	1%

Studies in Second Language Acquisition

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	7.8%	7.8%	0.6%	0%	0%
2018	4.6%	14.4%	0%	1.3%	0%
2019	7.2%	13.1%	1.9%	1.9%	0.6%
2020	2.6%	13.8%	1.9%	3.2%	0%
2021	4.6%	7.2%	0.6%	3.9%	0%
Total	26.9%	56.5%	5.2%	10.5%	0.6%

System

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	4.9%	7.6%	0.3%	1.7%	0%
2018	5.4%	10.4%	0.1%	2.2%	0%
2019	4.9%	9.7%	0.5%	2.7%	0%
2020	5.9%	10.5%	0.3%	3%	0%
2021	7.6%	16.2%	0.3%	4.7%	0%
Total	29%	54.7%	1.7%	14.5%	0%

TESOL Journal

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	2.4%	11.1%	0%	1.2%	0%
2018	2.4%	13%	0%	3.1%	0%
2019	5.5%	13%	0.6%	1.2%	0%
2020	3.7%	16.7%	0%	0.6%	0%
2021	6.8%	12.4%	0.6%	4.3%	0.6%
Total	21.1%	66.4%	1.2%	10.5%	0.6%

	Nominal	Compound	Full sentence	V-ing phrase	Prepositional Phrase
2017	2.6%	8.5%	0.4%	1.3%	0.4%
2018	7.6%	12.5%	0.8%	0%	0%
2019	4.4%	13.4%	0%	1.3%	0%
2020	7.6%	13.9%	0.4%	1.3%	0%
2021	7.1%	12.5%	0%	3.1%	0%
Total	29.5%	60.9%	1.7%	7.1%	0.4%

Appendix 3

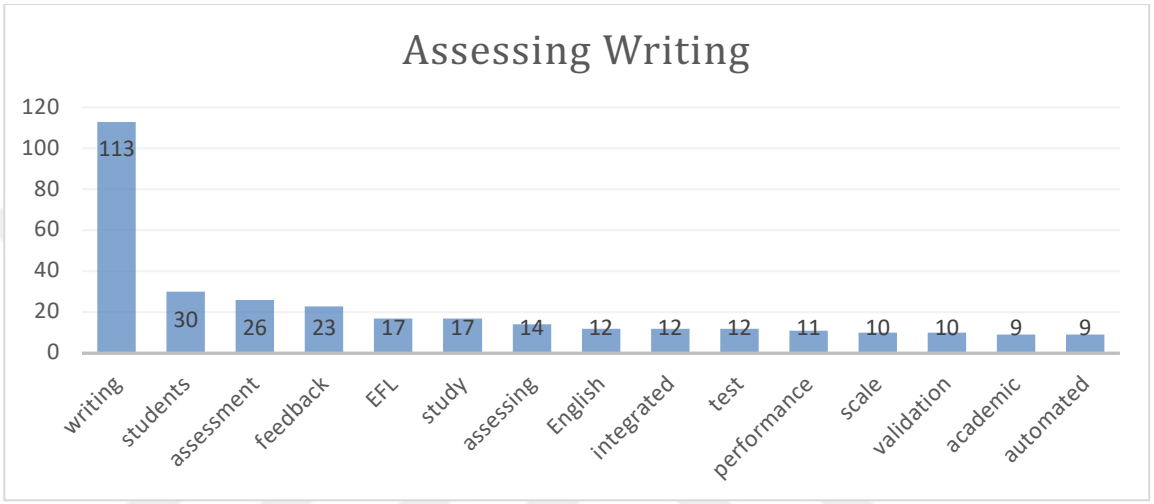
Lexical Diversity Data by Journal

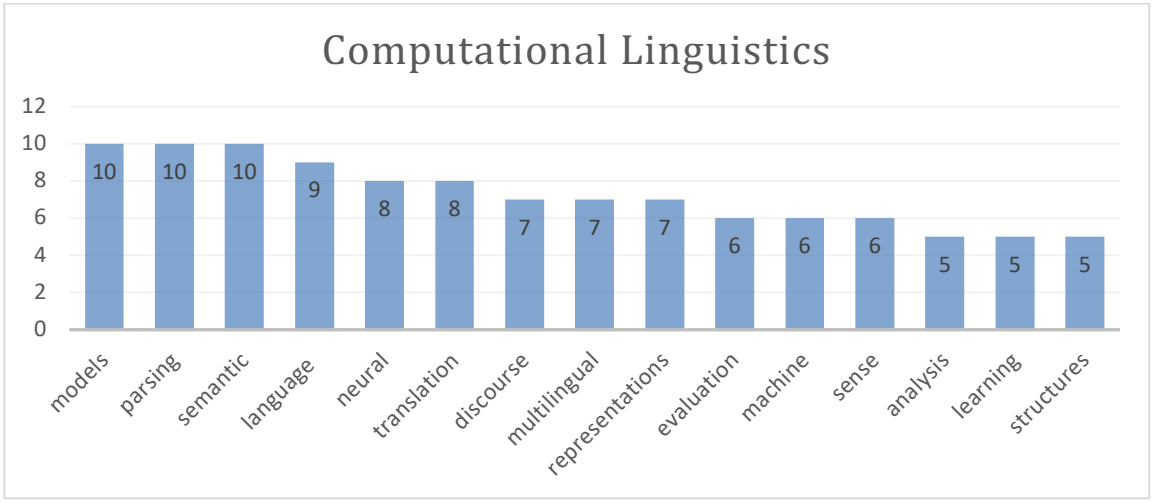
Journal	2017	2018	2019	2020	2021
Assessing Writing	49.6%	53.1%	59.9%	55.5%	49.3%
Computational Linguistics	70.3%	70.1%	75.4%	68.1%	76.9%
ELT Journal	61.5%	56.9%	63.4%	60.6%	60.2%
English for Specific Purposes	57.8%	58.3%	61.5%	60.6%	54%
Foreign Language Annals	50.1%	50.8%	48.4%	49.5%	57.5%
International Journal of Multilingualism	57.1%	59.8%	62.3%	58.4%	55.6%
Journal of Fluency Disorders	57.3%	52.6%	57.6%	52.6%	53.8%
Journal of Language and Social Psychology	57.1%	59.6%	61.7%	60.1%	59.8%
Journal of Second Language Writing	69.1%	54.4%	54.4.%	53.2%	50.7%
The Language Learning Journal	48.7%	44.8%	49.5%	46.6%	44.5%
Language Speech and Hearing Services in Schools	70.4%	56.4%	53.4%	44.3%	50.6%
Language Teaching	57.3%	56%	59.9%	60.9%	64.9%
System	43.2%	40.1%	38.6%	37.5%	34.7%
Language Testing	59.2%	59.1%	53.1%	56.4%	53.6%
Modern Language Journal	52.6%	55.8%	50.2%	56.1%	57.5%
Research on Language and Social Interaction	71.1%	74%	62.6%	67.3%	63.6%
Second Language Research	54.8%	58.9%	53.1%	59.5%	59.8%
Studies in Second Language Acquisition	55.5%	69%	49.4%	52.3%	53.4%
TESOL Quarterly	53.2%	56.1%	60.5%	60.6%	58.8%

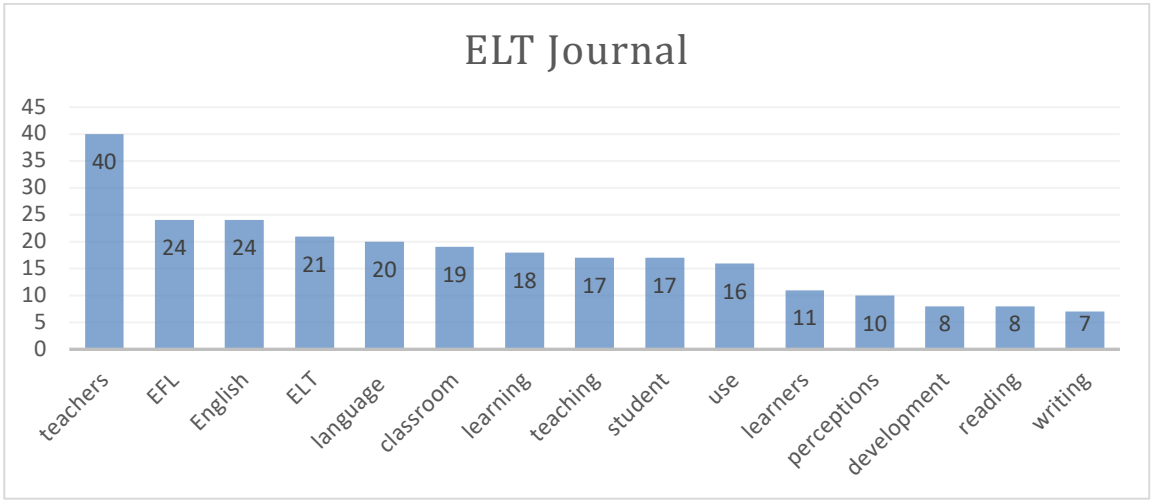
Appendix 4

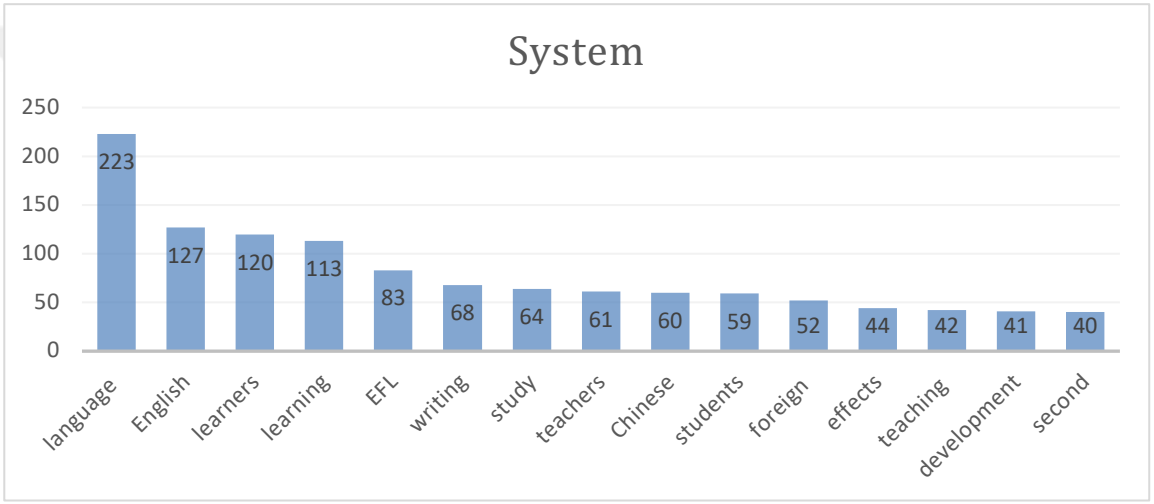
Word Frequency Data by Journal

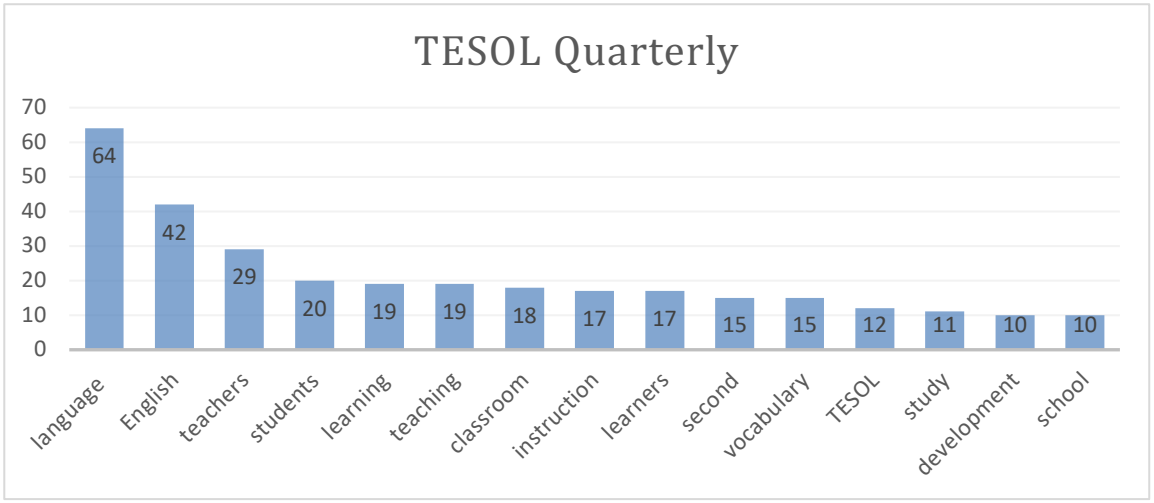
(Top 15 Words 2017-2021)

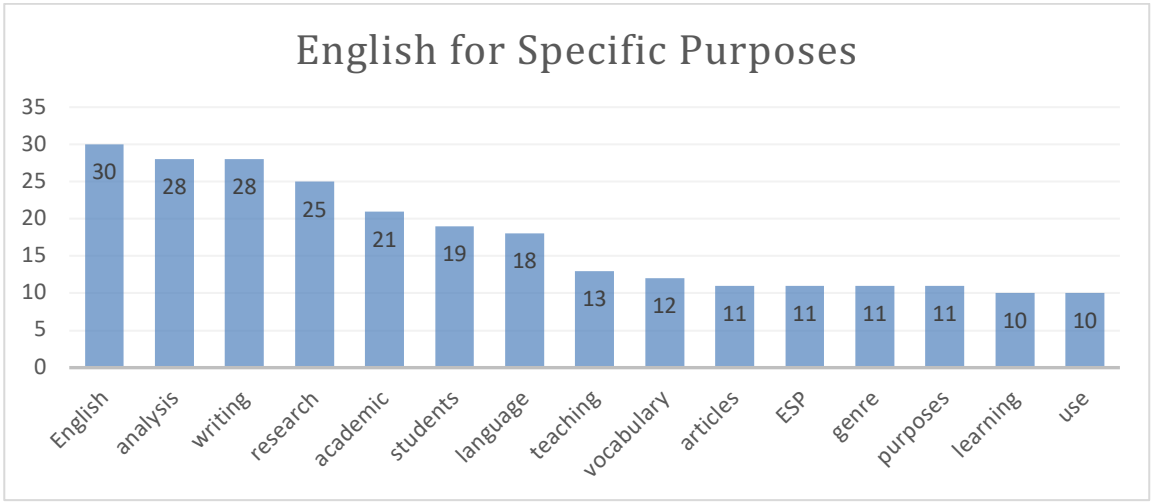


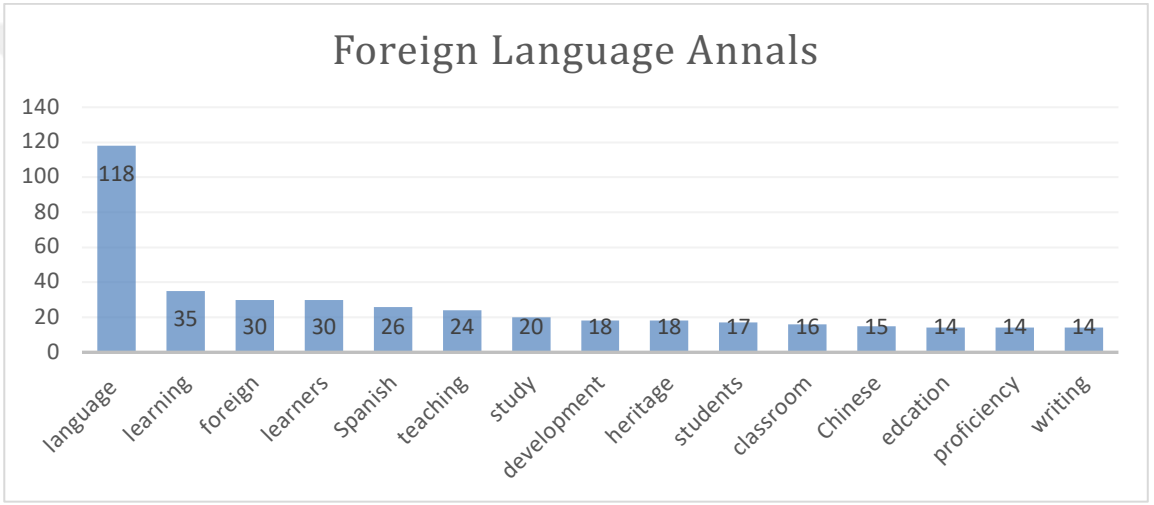


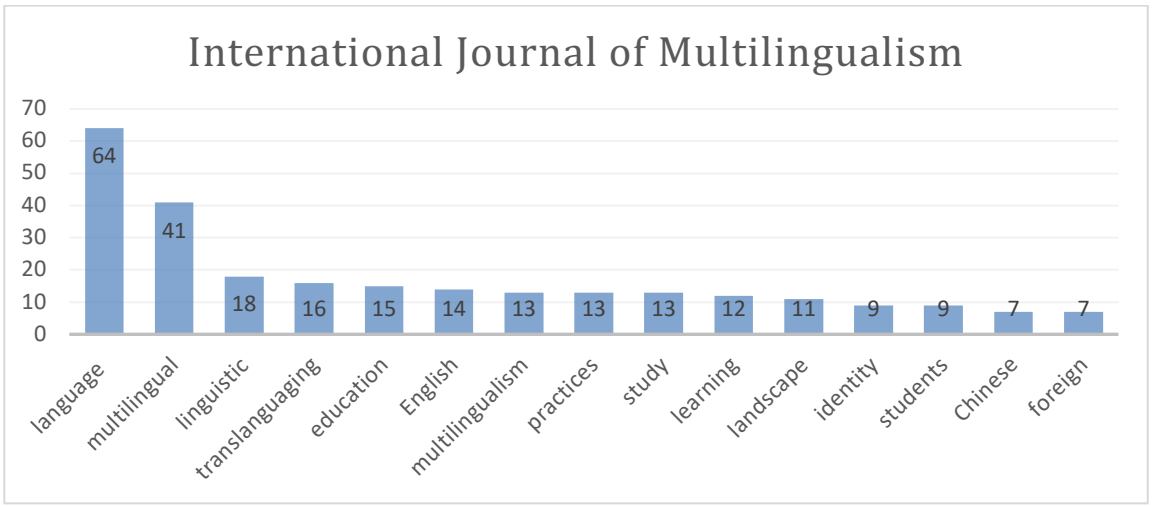

ELT Journal
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35
30
25
20
15
10
5
0
40
24
24
21
20
19
18
17
17
16
11
10
8
8
7
teachers
EFL
English
ELT
language
classroom
learning
teaching
student
use
learners
perceptions
development
reading
writing

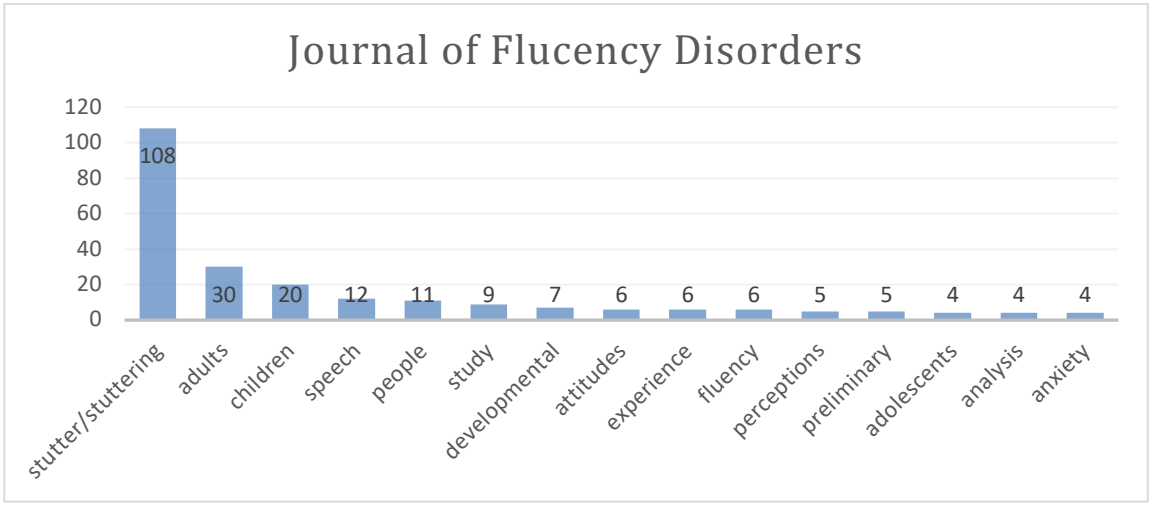

System
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200
150
100
50
0
223
127
120
113
83
68
64
61
60
59
52
44
42
41
40
language
English
learners
learning
EFL
writing
study
teachers
Chinese
students
foreign
effects
teaching
development
second

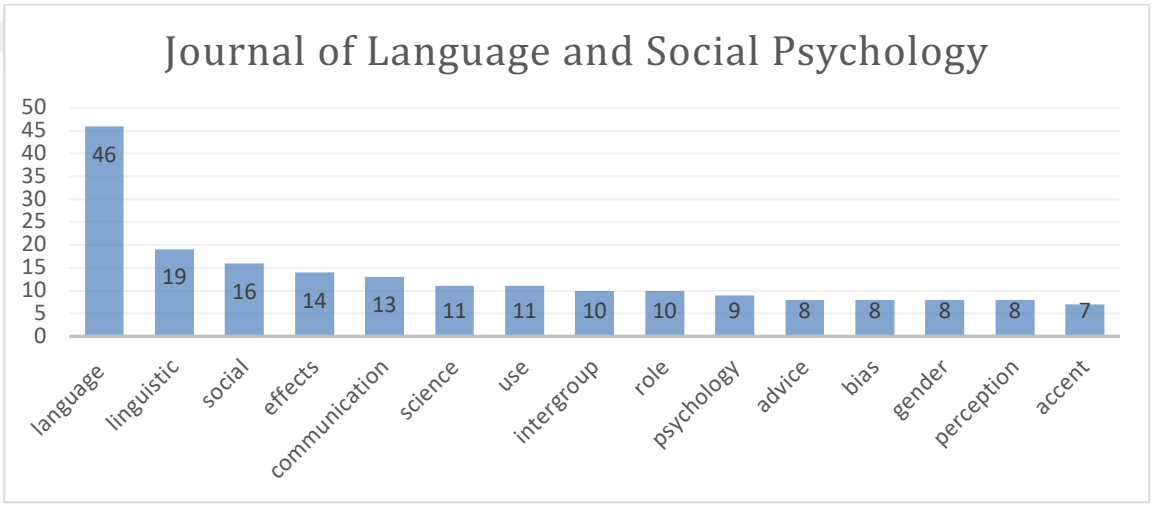

TESOL Quarterly
70
60
50
40
30
20
10
0
64
42
29
20
19
19
18
17
17
15
15
12
11
10
10
language
English
teachers
students
learning
teaching
classroom
instruction
learners
second
vocabulary
TESOL
study
development
school

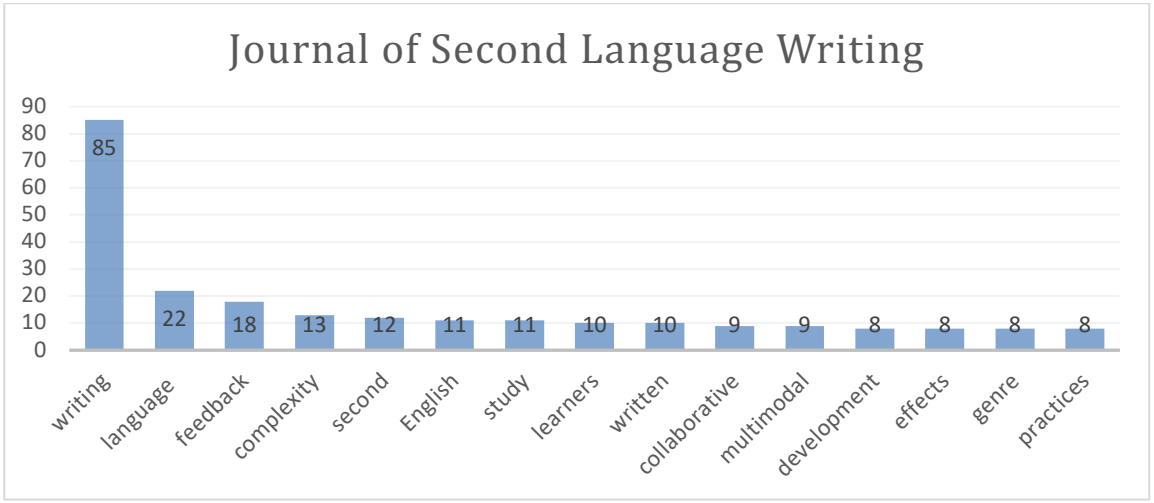

English for Specific Purposes
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30
25
20
15
10
5
0
30
28
28
25
21
19
18
13
12
11
11
11
11
10
10
English
analysis
writing
research
academic
students
language
teaching
vocabulary
articles
ESP
genre
purposes
learning
use

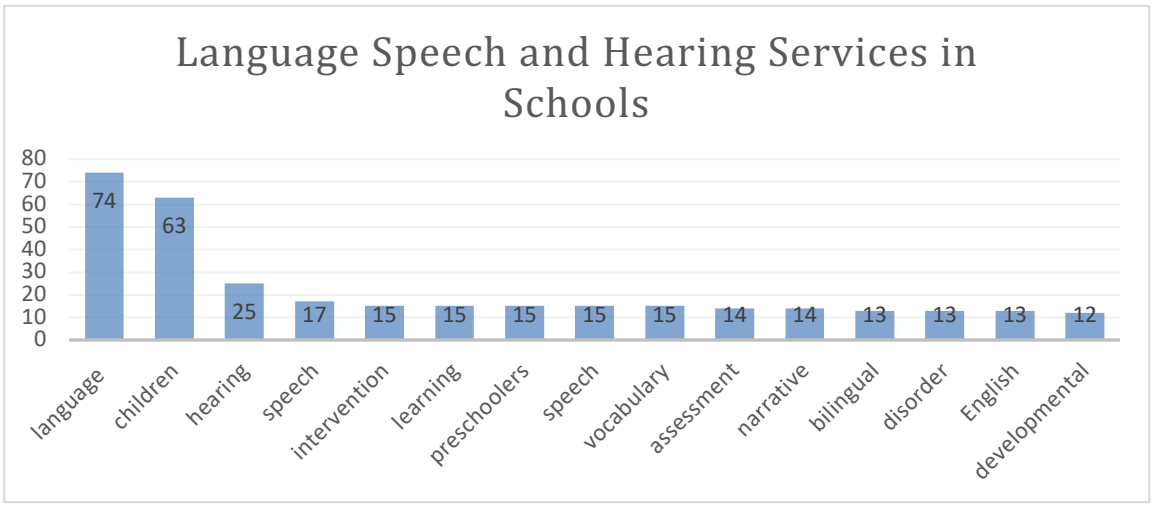

Foreign Language Annals
140
120
100
80
60
40
20
0
118
35
30
30
26
24
20
18
18
17
16
15
14
14
14
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learning
foreign
learners
Spanish
teaching
study
development
heritage
students
classroom
Chinese
edcation
proficiency
writing

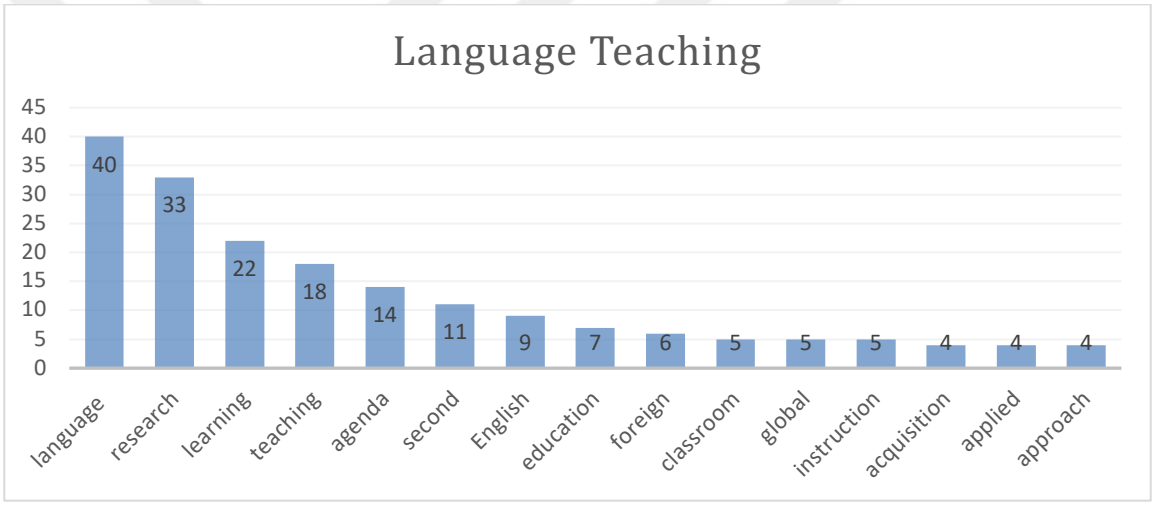

International Journal of Multilingualism
70
60
50
40
30
20
10
0
64
41
18
16
15
14
13
13
13
12
11
9
9
7
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translanguaging
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English
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practices
study
learning
landscape
identity
students
Chinese
foreign

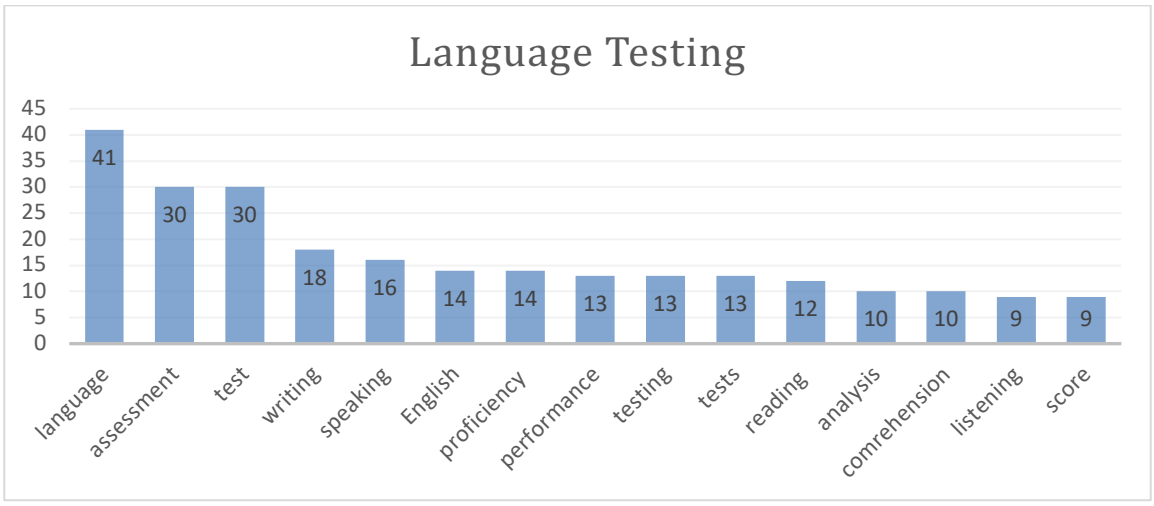

Journal of Flucency Disorders
120
100
80
60
40
20
0
108
30
20
12
11
9
7
6
6
6
5
5
4
4
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children
speech
people
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experience
fluency
perceptions
preliminary
adolescents
analysis
anxiety

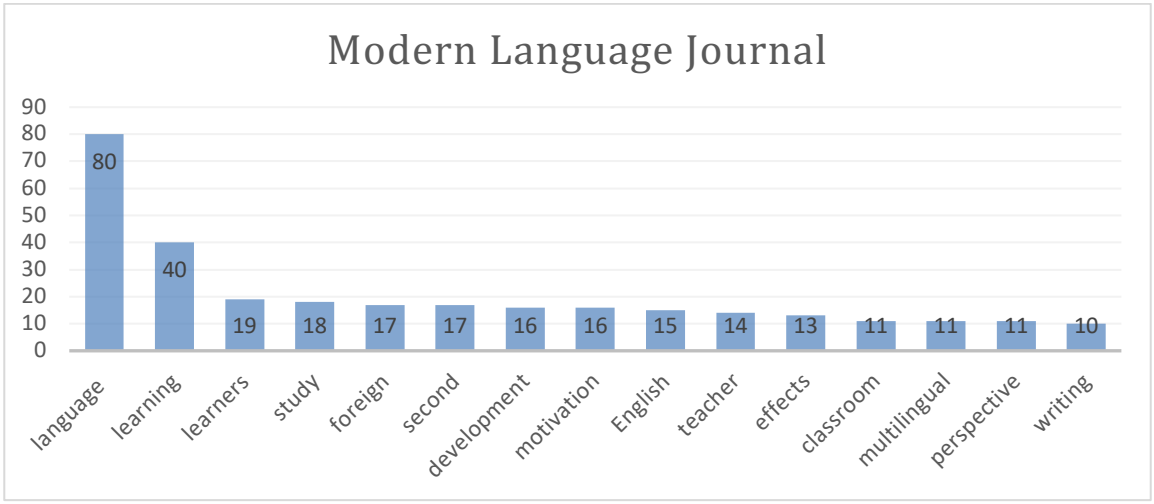

Journal of Language and Social Psychology
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45
40
35
30
25
20
15
10
5
0
46
19
16
14
13
11
11
10
10
9
8
8
8
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linguistic
social
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science
use
intergroup
role
psychology
advice
bias
gender
perception
accent

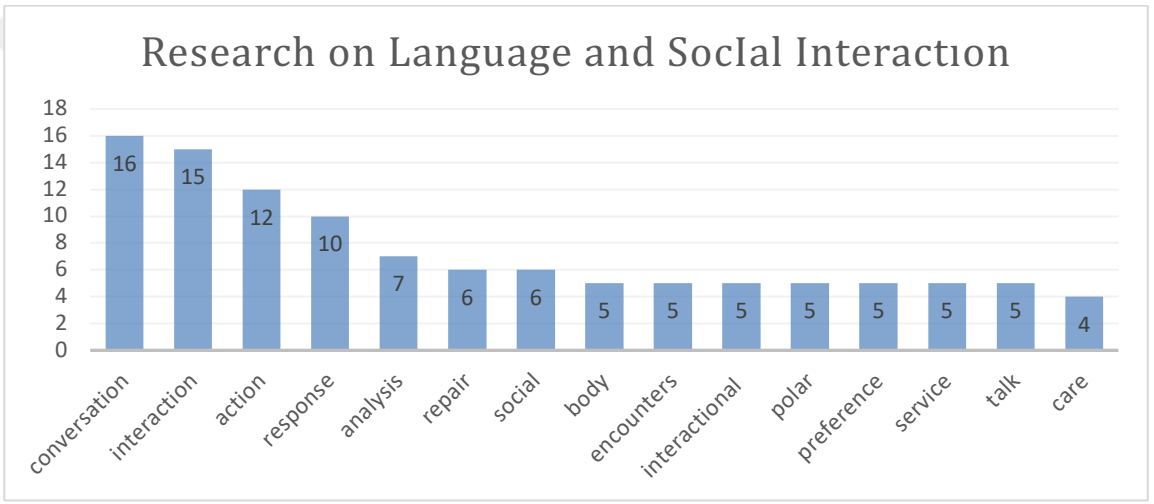

Journal of Second Language Writing
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80
70
60
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30
20
10
0
85
22
18
13
12
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11
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9
9
8
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complexity
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multimodal
development
effects
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practices

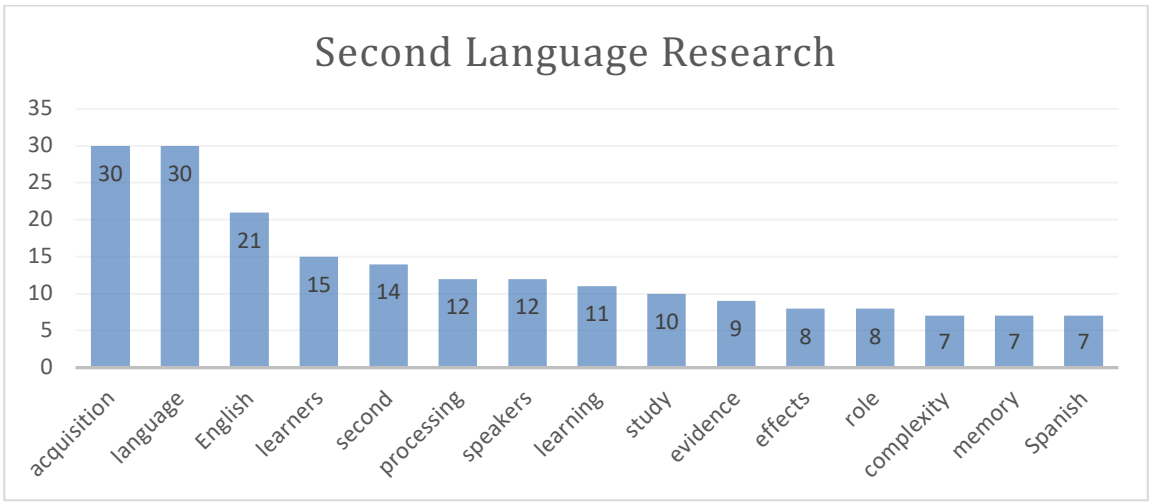

Language Speech and Hearing Services in Schools
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70
60
50
40
30
20
10
0
74
63
25
17
15
15
15
15
15
14
14
13
13
13
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speech
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learning
preschoolers
speech
vocabulary
assessment
narrative
bilingual
disorder
English
developmental

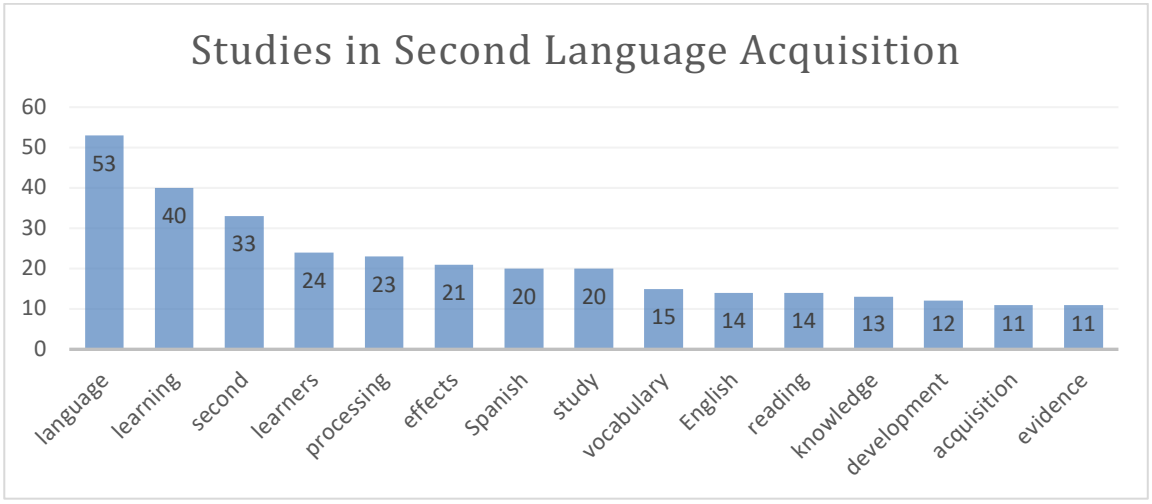

Language Teaching
45
40
35
30
25
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10
5
0
40
33
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18
14
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5
5
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global
instruction
acquisition
applied
approach

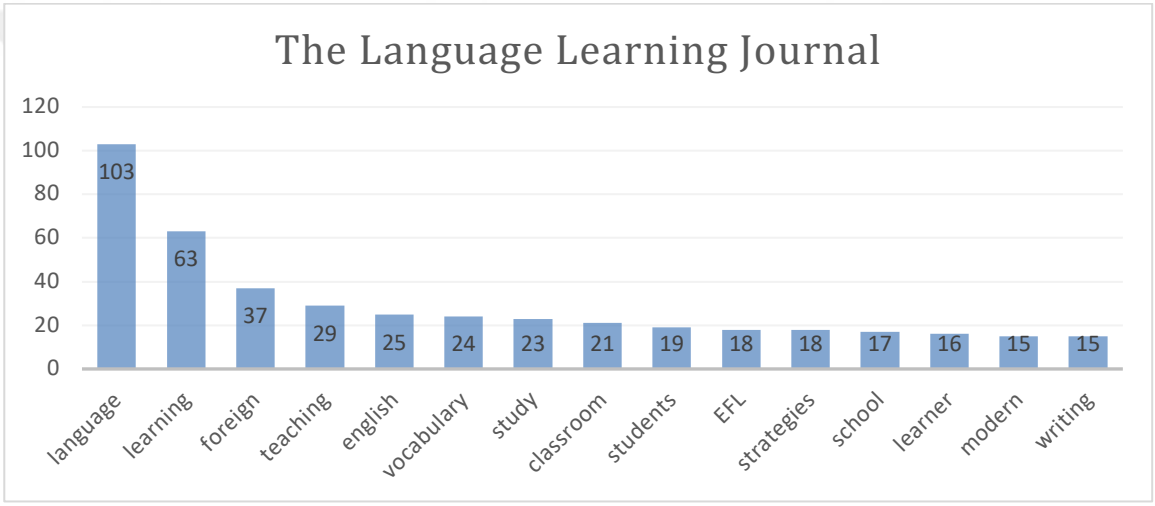

Language Testing
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30
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0
41
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16
14
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13
12
10
10
9
9
language
assessment
test
writing
speaking
English
proficiency
performance
testing
tests
reading
analysis
comrehension
listening
score


Modern Language Journal
90
80
70
60
50
40
30
20
10
0
80
40
19
18
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17
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16
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14
13
11
11
11
10
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learning
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foreign
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development
motivation
English
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effects
classroom
multilingual
perspective
writing


Research on Language and Social Interaction
18
16
14
12
10
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6
4
2
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5
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action
response
analysis
repair
social
body
encounters
interactional
polar
preference
service
talk
care


Second Language Research
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30
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0
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21
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14
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10
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8
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7
7
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English
learners
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learning
study
evidence
effects
role
complexity
memory
Spanish


Studies in Second Language Acquisition
60
50
40
30
20
10
0
53
40
33
24
23
21
20
20
15
14
14
13
12
11
11
language
learning
second
learners
processing
effects
Spanish
study
vocabulary
English
reading
knowledge
development
acquisition
evidence


The Language Learning Journal
120
100
80
60
40
20
0
103
63
37
29
25
24
23
21
19
18
18
17
16
15
15
language
learning
foreign
teaching
english
vocabulary
study
classroom
students
EFL
strategies
school
learner
modern
writing

Appendix 5

Informativity Data per Journal

Journal	2017	2018	2019	2020	2021
Assessing Writing	70.9%	68.3%	68.4%	71.4%	70.2%
Computational Linguistics	73.9%	71.4%	76.6%	71.4%	75.9%
ELT Journal	71%	70.5%	68.4%	69.1%	73.8%
English for Specific Purposes	66.1%	68.9%	69.8%	70.8%	65.7%
Foreign Language Annals	67.9%	66.6%	70.1%	69.1%	72.4%
International Journal of Multilingualism	68%	64.8%	68.3%	67.4%	68.3%
Journal of Fluency Disorders	61%	66.6%	65.8%	61.3%	63.8%
Journal of Language and Social Psychology	63.4%	61.6%	66.7%	64.2%	63.3%
Journal of Second Language Writing	71.4%	69.7%	64.7%	70.5%	70.2%
The Language Learning Journal	66.3%	64.1%	67.7%	66.9%	68%
Language Speech and Hearing Services in Schools	73.4%	69.4%	68.8%	71.4%	68.6%
Language Teaching	65.1%	68.1%	67.5%	64.3%	60.9%
System	70.7%	70.3%	67.9%	69%	69.6%
Language Testing	74.6%	69.3%	69.8%	68.2%	70.2%
Modern Language Journal	69.3%	69%	68.3%	70.8%	70.3%
Research on Language and Social Interaction	60.2%	68.1%	61.7%	59.9%	62.4%
Second Language Research	71.5%	65.1%	67%	66.2%	68.3%
Studies in Second Language Acquisition	66%	67.6%	67.1%	67.5%	64.1%
TESOL Quarterly	67.9%	66.2%	67.4%	69.6%	68.7%