



**A GENRE ANALYSIS OF ABSTRACTS IN THE
ACADEMIC WRITING OF HARD AND SOFT
DOMAINS: ESP AND FUNCTIONAL GRAMMAR
APPROACHES**

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MASTER`S THESIS

Department of English Language and Literature

Mohammed Abdulwahhab Ahmed AHMED

**Thesis Supervisor
Assist. Prof. Dr Nayef JOMAA**

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Mohammed Abdulwahhab Ahmed AHMED

T.C.

Karabuk University

Institute of Graduate Programs

Department of English Language and Literature

Prepared as Master's Thesis

Thesis Supervisor

Assist. Prof. Dr Nayef JOMAA

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THESIS APPROVAL PAGE

I certify that in my opinion, the thesis submitted by Mohammed Abdulwahhab Ahmed AHMED titled “A GENRE ANALYSIS OF ABSTRACTS IN THE ACADEMIC WRITING OF HARD AND SOFT DOMAINS: ESP AND FUNCTIONAL GRAMMAR APPROACHES” is fully adequate in scope and in quality as a thesis for the degree of Master of Arts.

Assist. Prof. Dr. Nayef JOMAA.
Thesis Advisor, Department of English Language and literature

The examining committee accepts this thesis a unanimous vote in the Department of English language and literature as a Master thesis. On Nov10, 2021.

Examining Committee Members (Institutions) Signature

Chairman: Assist. Prof. Dr. Nayef JOMAA (KBU)

Member: Assoc. Prof. Dr. Irfan TOSUNCUOĞLU (KBU)

Member: Assist. Prof. Dr. Elaf Riyadh Khalil (UOB)

The degree of Master of Arts by the thesis submitted is approved by the Administrative Board of the Institute of Graduate Programs, Karabuk University.

Prof. Dr Hasan SOLMAZ

Director of the Institute of Graduate Programs

DECLARATION

I hereby declare that this thesis is the result of my work. All information has been obtained and expounded following the academic rules and ethical policy specified by the institute. Besides, I declare that all the statements, results, materials not original to this thesis have been cited and referenced literally.

Without being bound by a particular time, I accept all moral and legal consequences of any detection contrary to the statement as mentioned earlier.

Name Surname: Mohammed Abdulwahhab Ahmed AHMED

Signature:

FORWARD

First of all, and proudly, I would like to express my thanks and gratitude to our greatest creator “Allah” for his blessings that have been bestowed upon me; besides, a special thank goes to the most incredible teacher, prophet Muhammed (Peace Be Upon Him). Secondly and sincerely, I have a thankful heart to every member of the family, especially my parents, for encouraging and supporting me throughout my life, Specifically this study.

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DEDICATION

This Study is Dedicated To

My Parents with Special Respect and Love



Abstract

Academic writing is highly significant for communicating knowledge to readers, so the new writers and students should learn how to write the different academic genres. The abstract is an essential component in identifying the primary content since it provides critical research information. The verb processes are also one of the characteristics of abstract. Therefore, the purposes of the current study are to identify the structure moves and verb processes in the abstracts of research articles. The present study uses the qualitative approach as a methodology. The data are chosen from Scientific Journal Rank; the total data are 80 articles analyzed through two theories: ESP by Swales (1990) and SFL by Halliday (1985). The findings show that there are five moves in the abstract: Introduction (72.5%), Purpose (96.25%), Methods (91.25%), Findings (90.25%), and Conclusion (15%). Besides, the finding of the second theory, SFL by Halliday (1985), showed that the Material processes reached (564), Mental (18), Verbal (142), Behavioural (1), Relational (108), and Existential (11). This study refers to the differences in structure move used between the two domains and the fields and the use of the verb processes in each move. The findings of this study could be a good source for those who are interested in writing abstracts for teaching students the skills of writing academic genres academically and professionally.

Keywords: Academic writing, Abstract, Genre Analysis, Verb Processes, Functional theory, ESP

ÖZ

Akademik yazı, bilgiyi okuyuculara iletmek için oldukça önemlidir, bu nedenle yeni yazarlar ve öğrenciler farklı akademik türleri nasıl yazacaklarını öğrenmelidir. Özet, kritik araştırma bilgileri sağladığı için birincil içeriğin belirlenmesinde önemli bir bileşendir. İşlem fiilleri de soyutun özelliklerinden biridir. Bu nedenle, bu çalışmanın amacı, araştırma makalelerinin özetlerindeki yapı hareketlerini ve fiilleri tanımlamaktır. Bu çalışma, nitel yaklaşımı bir metodoloji olarak kullanmaktadır. Veriler Scientific Journal Rank'ten seçilmiştir; toplam veri iki teoriyle analiz edilen 80 makaledir: Swales (1990) tarafından ESP ve Halliday (1985) tarafından SFL. Bulgular özette beş hareket olduğunu göstermektedir: Giriş (%72,5), Amaç (%96,25), Yöntemler (%91,25), Bulgular (%90,25) ve Sonuç (%15). Ayrıca, Halliday'in (1985) ikinci teorisi olan SFL'nin bulgusu, ulaşılan Maddi süreçlerin (564), Zihinsel (18), Sözlü (142), Davranışsal (1), İlişkisel (108) ve Varoluşsal (11) olduğunu göstermiştir. Bu çalışma, iki alan ve alanlar arasında kullanılan yapı hareketlerindeki farklılıklara ve her harekette işlem fiilinin kullanımına atıfta bulunmaktadır. Bu çalışmanın bulguları, öğrencilere akademik tür yazma becerilerini akademik ve profesyonel olarak öğretmek için özet yazmaya ilgi duyanlar için iyi bir kaynak olabilir.

Anahtar kelimeler: Akademik yazı, Özet, Tür Analizi, Süreçler, Fonksiyonel teori, ESP

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SUBJECT OF THE RESEARCH

This study is entitled “A Genre Analysis of Abstracts in the Academic Writing of Hard and Soft Domains: ESP (English for Specific Purpose) and SFL (Systemic Functional Linguistics). It analyses two things in abstracts. First, it analyses the structure moves of abstract according to Swales (1990). Second, it analyses the verb processes of abstracts based on Halliday (1985).

PURPOSE AND IMPORTANCE OF THE RESEARCH

This study aims to explain the moves of abstracts and verb processes used in writing abstracts of hard and soft domains.

METHOD OF THE RESEARCH

This study used the theory of ESP (English for Specific Purpose) by Swales (1990) and the theory of SFL (Systemic Functional Linguistics) by Halliday (1985).

HYPOTHESIS OF THE RESEARCH / RESEARCH PROBLEM

The abstract is one of the most critical sections in academic writing. This study tries to persuade readers of a specific discourse community to read the whole article or a specific publication. On the other hand, the students have difficulties in writing the abstract. In addition, the use of the reporting verbs is also vital to writing a good abstract.

SCOPE AND LIMITATIONS / DIFFICULTIES

This study's limitations are restricted to qualitatively analyzing the moves and verb processes in the abstracts of eighty articles in the last decade (2010-2020) in (Scientific Journal Rank).

Chapter One

1.0 Introduction

The urgent need for academic writing has recently become necessary in many aspects of sciences since writers should write in a perfect way to publish their research. So, academic writing skills are essential for writing professionally and academically. The abstract is the first and vital part of the research. Gary and Robert (1993) mentioned that the term “abstract” could be defined as a short description of each article, literary work, dissertation, or even any literary work which examines a specific topic for readers and shows the aim of the study. In the beginning, the abstract and index services for various academic fields seek to collect a corpus of literature for any topic, providing a point of entry for any particular research paper or patent application. Many articles, journals, magazines, researches, and other literary works use the phrases precise or synopsis to refer to what other publications would refer to as an "abstract." In management reports, for example, an overview generally provides more facts and, in some cases, more sensitive material than the abstracts.

Devitt (2006) mentioned that over the centuries, ELFA (English as an academic lingua franca) had caused variations in the socio-linguistic characteristics of academic texts, including Research Articles (RAs) and its components especially the Research Article Abstract (RAA). It elaborates on the issue that shows challenges for academic writing and contacts with members of the same group. It raises the need to make academic writers conscious of the ever-changing genre associated with it.

Furthermore, according to Ventola (1994), “abstracts” can be regarded as a tool for mastering and managing the ever-increasing information flow in the scientific community. The abstract is the entry point for readers to accept or reject an essay, journals to select submissions, or conference organizers to accept or reject papers

1.1 Statement of The Problem

Saboori and Hashemi (2013) stated that the field of the academic community has many genres; the most important one is the research article (RA). According to Hyland

(2000), it serves two main purposes, the first one is conveying new information to the academic community, and the second is encouraging them to accept the assertions. Additionally, as a significant element of a research article (RA), the abstract started to gain strength around the academic world, especially in recent years, as the academic world has become increasingly information-rich. Moreover, what gives the abstract such great relevance is its distinctive role, which leads readers to take up an article or accept and reject papers.

Gholipour and Saeedi (2019) compare the RA to other section research. The authors stated that the research article abstract (RAA) is considerable for research as it is multifunctional. For instance, it helps writers save reading time by getting an RA's vital information, sharing information with others, persuading specific community readers to select an article, specific journal, and tempting seminar coordinators to admit and discard submitted papers (Lores, 2004).

Lorés (2004) stated that the research article abstract (RAA) is the entryway that tries to persuade readers of a certain discourse community to choose an article or a specific publication, or even the organizers of seminars and conferences to accept or reject the papers submitted. Even today, many writers have a lot of mistakes in writing academic research papers, especially the (abstract) which is the most crucial part of the research. Çandarlı (2012) mentioned that abstracts are critical components of the research papers because academics are more likely to read the abstract first and determine whether to read the research article based on the content of the abstract or not. As a result, writing an effective abstract is critical for producing relevant research articles from particular fields in the worldwide discourse community. Another reason is that a significant percentage of the manuscripts submitted to academic journals are rejected because their abstracts are poor and weak. Therefore, writing a good abstract is essential and challenging work (Jalalian, 2012).

Al_Khasawneh (2012) mentioned that most of the non-native speakers of English seem unaware of the standard conventions of academic writing employed by native speakers. Therefore, there was a need to conduct a study to help English non-native writers gain academic writing patterns and conventions by providing them with the necessary

information to read and write research abstracts”. Accordingly, this study aims to identify the main and essential characteristics used in writing the abstract, especially in (Scientific Journal Rank) in the last decade (2010-2020) by the previous questions. Furthermore, it declares what the authors used in writing the abstract and what they focused on in their texts. Hence, the purposes of this study are to analyse the abstract of articles written in (Scientific Journal Ranking) and explore the use of verb processes in the same journal.

1.2 Research Questions

In this part, the researcher sorted out two questions to discuss through this analysis:

- 1- What are the moves used in writing an abstract in soft and hard domains, especially in (Scientific Journal Rank) in the last decade (2010-2020)?
- 2- What are the types of verbs used in each abstract move in the Soft and Hard Domains, especially in (Scientific Journal Rank) in the last decade (2010-2020)?

1.3 Research Objectives

This study has two objectives that can help the readers get the answers to the main problems of this research. These objectives can summarize as:

- 1- To identify the moves of writing an abstract, especially in (Scientific Journal Rank) in the last decade (2010-2020).
- 2- To explore the types of verbs used in Soft and Hard Domains, especially in (Scientific Journal Rank) in the last decade (2010-2020).

1.4 Domain of the Study

The current study emphasized mainly on the genre analysis of writing the abstract in Hard and Soft Domains confined to some articles which belong to the Soft and Hard Domains in (Scientific Journal Rank) particularly (As a soft domain: Applied linguistics, Business, Management, Social Sciences, and as Hard Domains: Biology, Chemistry, Computer, and Engineering). It employs a qualitative approach under the (ESP and SFL) theories.

1.5 Significance of the Study

Although several studies have addressed the issue of writing the abstract, the current study is considered one of the limited studies that explored the main and essential characteristics in writing abstracts faced by non-native speakers and new writers. Therefore, the results will add to the body of knowledge and improve our understanding of the problems of writing abstracts and how to solve it.

Due to the importance of writing abstracts for postgraduate students' studies, exploring the main and essential characteristics could help non-native speakers and writers write abstracts better. The findings of the current study could add the solutions to the problems of writing the abstract.

1.6 Definitions of Terms

Research Abstract

According to Lores (2004) a research abstract can be defined as an abbreviated, correct description of the contents of a document, usually written by the document's authors for publication with it. Besides, the move is a functional term that refers to a defined and bounded communicative act designed to contribute to one main communicative objective, that of the whole text" (p:281).

Abstract

Sheppard (2012) stated that an abstract is a brief statement that summarizes the key elements of a lengthy legal document or a group of interrelated legal documents. A genre can define as "a type of text or discourse designed to achieve a set of communicative purposes" (Swales & Feak, 2009, p:25).

Colombelli-Négrel (2019) mentioned that "It is an original work, not an excerpted passage. An abstract must be fully self-contained and make sense by itself, without further reference to outside sources or the actual paper. It highlights key content areas, your research purpose, the relevance or importance of your work, and the main outcomes.". Additionally, it is a shortened, accurate representation of the contents of a document,

ideally created by the document's authors for publishing with it. (ANSI, 1979, as cited by Bhatia, 1993).

1.7 Summary of the Chapter

This chapter introduces the introduction of this study, the problem statement of previous studies with the current one, the research questions and objectives, the domain of the study, the significance, the definitions of the basic terms, and the organization of the study. The following chapter presents and discusses previous and related studies.



Chapter Two

2.0 Introduction

This chapter introduces the theories related to the current study, namely English for Specific Purpose (ESP) and Systemic Functional Linguistics (SFL). It reviews the most related studies to the topic of writing the abstract. The emphasis is mainly on the theories of the current study. It explains the theoretical framework used in the current study. Finally, a summary of the chapter will present at the end of the chapter.

2.1 Theories and Taxonomies

First of all, the ideas, taxonomies, and definitions relevant to this study are presented in the subsections below. Abstracts from many fields continued to be a common subject of scientific inquiry (Donesch-Ježo, 2016). Additionally, two main trends can be explained. The first trend is to explore the structural taxonomy of specific studies' sections. (Hyland, 2000; Samraj, 2005; Swales & Feak, 2009). The second trend is to examine the functions of different linguistic elements found in these studies, for instance, hedging (Hyland, 1994, 1996; Salager-Meyer, 1994). Another example is modality (Salager-Meyer, 1992); besides, passive voice also can be regarded as one of these examples (Tarone et al., 1981, 1998; Lachowicz, 1981).

Numerous Studies have examined the rhetorical structure and linguistic characteristics of several academic genres published in various languages and discourse groups with varying cultural backgrounds. (Árvay & Tankó, 2004; Čmejrková, 1996; Donesch-Ježo, 2011; Duszak, 1994, 1997; Hirano, 2009; Mauranten, 1993; Melander et al., 1997; Moreno, 1997; Povolná, 2016; Taylor & Chen, 1991) (as cited in Bhatia, 1993). This sort of analysis explains how cultural variables, features of a specific discourse community, and characteristics of a country's intellectual tradition impact a genre's macrostructure and rhetorical organization (Duszak, 1997; Yakhontova, 2006).

Moreover, because of the critical function that both research articles (RA) and conference abstracts serve, they have drawn the attention of many academics who have undertaken studies of this genre. (Hyland, 2000; Lorés, 2004; Melander et al., 1997; Pho,

2008; Povolná, 2016; Samraj, 2005; Santos, 1996; Swales & Feak, 2009). Additionally, Santos (1996) looked at the macro and micro levels of textual structure in RA abstracts. In their study of abstracts from three fields and two languages, Melander et al. (1997) discovered that these genre's rhetorical and linguistic characteristics depend on the discourse community's field and size.

Talking about structures, Lorés (2004) discovered that more than half of RA abstracts followed the IMRD (Introduction, Methods, Results, and Discussion) structure of the research article, one-third followed the CARS structure (Create a Research Space), and the rest had both. Samraj (2005) identified specific discipline and genre-dependent influences on the rhetorical structure of these texts in her comparative analyses of two genres (RA abstracts and introductions) across two disciplines, adjusting for similarities and variations between and within these genres. Povolná (2016) investigated and explored the rhetorical structure of conference abstracts to see whether there was any cross-cultural variance between CAs written by native English speakers and CAs written by Slavonic-language speakers, which included academics from the Czech Republic, Ukraine, Poland, and Slovakia. In addition, she also contrasted the rhetorical arrangement of conference abstracts to the rhetorical organization of RA abstracts. Her research found cross-cultural variations in CA rhetorical structure and evidence that CA and RA abstracts differ in terms of the amount and types of movements.

According to Akr (2016), writers on intellectual context, soft science, and complex scientific authors connect with their audience distinctively (Hyland, 1998, 2001). Soft sciences, sometimes known as social sciences, include psychology, sociology, linguistics, and political science. On the other hand, physical or hard sciences encompass subjects like physics, chemistry, and biology. According to Becher (1989), knowledge creation differs between the soft and hard sciences. While hard scientific writers are more objective, soft science authors are more subjective. As a result, there is an impersonal voice in the hard sciences, while there is a personalized position in the soft sciences (as cited in Martín, 2003).

Another characteristic of texts is the idea of the topic and rhyme of a phrase or clause. It is important to remember that a phrase order uses a subject, verb, and complement to determine theme and rhyme. Additionally, writers can evaluate numerous topics in written and spoken discourses using this form of language structure. Writers also can extract features such as the subject of discussion and complements from phrases that follow these or other complicated patterns. McCarthy (1991). However, the theme may be viewed as the message's starting point. For the time being, writers may use the subject noun phrase as the topic of a clause, or if this isn't the case, they use whatever comes before it.

Swales (1990) stated that genre analysis had first appeared in the ESP field previous studies in this area indicated the various influences on genre analysis such as “genre as social action, Tests of the writing of learners, and genre as anew rhetoric (partridge,2007). Notably, the word “genre” indicates different types of works of art and literature; however, linguists have extended their use to cover, the language classes and all communicative areas (Allison, 1999) (as cited in Bensaid, 1993).

Additionally, Swales (1990) described a genre as a class of communication occurrences whose members share a common set of communicative goals. This definition indicates that a genre is categorized based on its communicative aims. In genre analysis, the description of the genre movement's rhetorical structures plays a critical function. Furthermore, according to Swales and Feak (2009), a genre is a type of text or discourse structured to accomplish a set of communicative goals. These communicative goals, represented in diverse structural patterns, are the most significant common elements shared by texts of the same genre and the most important unique features that separate them.

2.2 Approaches for Analysing Discourse

Zellig Harris (1952) used the term ‘discourse analysis’ for the first time to describe a method of analysing linked speech and writing. He was particularly interested in studying language beyond the sentence level and linking linguistic and non-linguistic behaviour.

Paltridge (2012) stated, “Discourse analysis examines language patterns across texts and considers the relationship between language and the social and cultural contexts in which it is used. Discourse analysis also considers how the use of language presents

different views of the world and different understandings. It examines how the use of language is influenced by relationships between participants and the effects the use of language has upon social identities and relations. It also considers how views of the world, and identities, are constructed through the use of discourse” (p.2).

Paltridge (2012) in a discussion, a conversation or a piece of writing, discourse analysts are also interested in how people organize what they say in terms of what they say first, what they say next, etc. This is something that differs by culture and isn't general between languages.

Gee (2004) mentioned, “in discourse analysis, we are not interested in specific analyses of data just in and for themselves. A discourse analysis must have a point. We are not interested in simply describing data so that we can admire the intricacy of language, though this is, indeed, admirable” (p.8).

Bhatia (2004) Discourse as a genre broadens the scope of research beyond the textual result, accounting for not only how text is generated, but also how it is frequently understood, employed, and exploited in institutional or more strictly professional contexts to achieve specific disciplinary purposes. The nature of the problems addressed in this type of study can frequently involve not just linguistic, but also socio-cognitive and anthropological elements. This type of grounded examination of the literary output is characteristic of any genre-based theoretical framework. The awareness and comprehension of the common practices of professional and discourse communities (Swales, 1990) and their choice of genres in order to execute their everyday duties are all part of the genre knowledge that makes sense of the text at this level.

2.2.1 Genre Analyses

Swales (1990) defines genre as a group of communication occurrences with a common set of communicative goals. Genre, according to Master (1992), is a category of communication occurrences that serves three goals: first, sharing a set of communication purposes acknowledged by the parent discourse community; second, imposing content,

placement, and form constraints on contributions; and third, establishing nomenclature for genres chosen by the discourse community. A genre distinguished in this way from what Master (1992) refers to as "pre-genres" like dialogue and narrative, as well as "category labels" like letters. The task is defined as a series of diverse, sequence-able goal-directed tasks that draw from various cognitive and communicative procedures related to learning pre-genre and genre abilities suited to an anticipated or emergent socio-rhetorical context. Thus, in a language-centered approach, tasks focus on vocabulary and syntax, while in a learner-centered approach, tasks focus on notional or functional properties of language.

According to Hutchinson and Waters (1987), tasks in a learning-centered approach would focus on communicative activities. Furthermore, genre-based approaches to academic writing have made their way into textbooks. (Swales & Feak, 1994,2000). According to Almurashi (2004), genre analysis is the first step in understanding language's cultural and social foundations in use. It may assist writers in clarifying why some texts are successful and suitable while others are not and carrying out critical text analysis. Besides, it may also be used to compare and contrast genres and comprehend the similarities and contrasts between non-fiction and fiction genres.

2.2.2 ESP Theory

Tony (2000) stated that English for Specific Purposes (ESP) had been a vibrant and engaging element of English Language Teaching since the 1960s (ELT). ESP has evolved its methods, such as needs analysis, resources, and teaching approach, while being a part of ELT, it is widely accepted. Moreover, according to Bolton (2008), English is now an Asian language since it is widely used in business, science, and academia. However, he raises concerns regarding proficiency levels. Thus, such a concern about this issue is very important for ESP since the language employed must properly and efficiently receive and transmit signals for business or professional reasons. A business person, for example, may require a good command of English to form connections and conclude business contracts, but a scientist may require it to write well for research publication.

According to Tony (2000), the focus in the definition of ESP has been on how ESP education establishes methods suitable for learners who aim to learn English for a purpose other than simply learning the language system. The study of ESP texts offers a far more

promising approach to a theory of ESP. Thus, this aim might be educational or professional, and ESP explains how successfully it trains learners to achieve the goals set out for them.

Same way, ESP activities must be related to a view of the text because the teaching processes of ESP are connected to a perspective of language and learning. ESP has used a variety of techniques to text analysis over its limited existence. Starting with early register analysis and the identification of essential grammatical components in scientific communication by Barber and Swale (1971), to the rhetorical analysis associated with Trimble and Lack Strom (1985), Selinker and Trimble (1972) through the functional or notional approach associated with the textbooks “*The Nucleus Series*” by Bates and Dudley-Evans (1976), and *The Focus Series* of Allen and Widdowson (1974) through to the dominant approach of the current time in genre analysis (Swales, 1990; Bhatia, 1993).

The previous approaches to text analysis are valuable because they start with the assumption that the texts used in certain specialized settings, such as academic writing, business, or other professional activity, have a unique set of characteristics. Furthermore, the ESP requirement has unique features that set them apart from other texts and generic summaries of linguistic aspects derived from a corpus-based approach to text analysis.

2.2.3 SFL Theory

Because of its effect on the process of analyzing texts, Systemic Functional Linguistics (SFL) has been a well-known phrase since the 1950s. People who use language to build or construct knowledge are the primary focus of SFL (Garcia Montes, 2014). Besides, if words do not handle distinct cultural or contextual difficulties, people will not achieve a conversational goal. As a result, a language is described as a dynamic tool for humans to communicate meaning, yet this meaning cannot be obtained if words are spoken alone. As a result, additional contexts or circumstances in which more phrases and words can be placed are required so that readers can comprehend the meaning behind utterances and words. That leads to a rule which refers to “anyone cannot comprehend the concept of what someone says or writes unless you know something about the context in which it is embedded” (Martin, 1984). This assumption is critical because it raises fundamental questions about the function of instructors in the learning process. Students must examine language in settings to understand how language achieves communicative goals by

experiencing it in cultural and context circumstances. Furthermore, it is critical to teach students that each circumstance involves a range of linguistic options based on the conversation's aim and the environment.

As a result, SFL looks at language in terms of field, tenor, and mode. In any context, the term "field" refers to the topic of conversation. It provides solutions to queries like "what are people doing." and "what is going on in the text." Martin (1984) stated that tennis, opera, linguistics, cuisine, architectural constructions, farming, and others are examples of fields. On the other hand, tenor refers to the major characters' connections and people's social roles. It focuses on investigating people's places in the world regarding knowledge, studies, vocations, and many other things.

According to Halliday and Hasan (1989), tenor refers to who is contributing, the character of the participants, their statuses, and roles what types of role relationships exist among the people involved. In terms of mode, it refers to the concept of a communication channel. Both written and oral modes of conversation are possible. People now have access to a wide range of channels, including social media, websites, Skype, email, phone, cell phone, movies, films, etc. Moreover, according to Halliday and Hasan, the mode of discourse refers to what language-role plays in the situation and what the participants anticipate language to accomplish for them the symbolic structuring of the text. The following figure shows Halliday's (1985) model, which describes the whole theory.

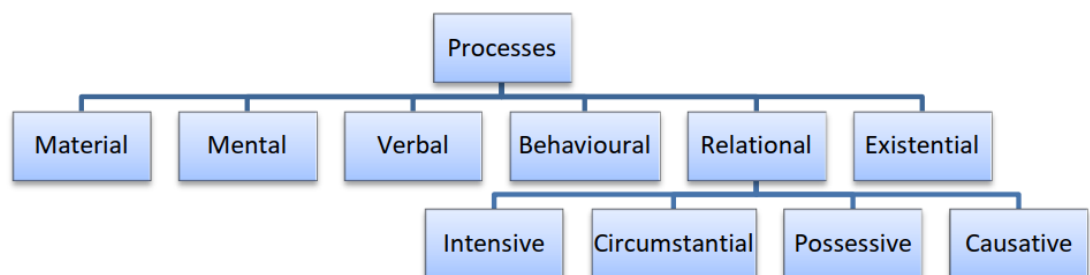


Figure (2.1): SFL diagram

2.3 Related studies

Numerous scholars have examined the abstract analysis. For example, Hongwei Ren and Yuying Li (2011) compared rhetorical moves of 25 abstracts of Chinese master's English theses from the journal of applied linguistics published in (2007), with 25 expert-written abstracts collected randomly from journals of applied linguistics published in (2007). They are using Hyland's (2000) technique to analyze the data. The difference between this study and Ren and Li's study is that this study compares between Soft and Hard domains in writing abstracts of 80 articles through (SFL and ESP), while the previous study compared between 25 abstracts of Chinese masters' English theses and 25 expert-written abstracts selected randomly from Journal of applied linguistics published in (2007). This study used a qualitative approach as a technique rather than the previous study.

In a previous study, Tseng (2011) looked at how abstract writing uses moves structure and verb tenses. The majority of linguistic journal abstracts used four-model movements, according to the data. Furthermore, some verb tenses are used in different ways (Tseng, 2011). The similarity between this study and Tseng's (2011) study refers to the move structure features. The findings showed that the abstract analysis refers to 4 moves instead of 5 moves. In contrast, the differences between the current study and Tseng (2011) study is, to begin with, the writer in the previous study analyzed 90 abstracts of articles in 3 applied linguistic journals "(TESOL Quarterly, Applied Linguistics, and Language Learning), while this study analysed 80 articles of Soft and Hard domains in (Scientific Journal Rank). In addition, the researcher in the current study uses SFL theory to explain the verb processes, while in Tseng (2011), the writer analyzed the verb tense of the moves.

Anakib (2020) examined the move structure and the verb tenses used in writing the abstract. Anakib has analyzed ten (10) students' theses based on Swales' model. The findings of the Anakib study declare that the researcher used four moves structure. The research results show that Introduction Purpose, Methods, Result, and conclusion are used in writing the abstracts of the analyzed thesis. In addition, this study differs from other studies in analyzing the verbs used in writing abstracts through SFL theory. This study

analyzed 80 abstract articles divided into two parts, and each part includes 40 articles as a Soft domain and the other 40 articles as a Hard domain.

Al- Khasawneh (2017) analyzed 20 abstracts written by native and non-native English language speakers in Applied linguistics. The researcher selected the data from international journals interested in applied linguistics. The writer used Hyland's (2000) taxonomy of genre analysis to clarify the differences between native and non-native writers in the structure of abstracts. The previous study's findings showed that native and non-native writers used the rhetorical structure of 3 moves (purpose, method, and conclusion). The similarity between Al- Khasawneh's (2017) study and this study is in analyzing rhetorical structure moves both studies analysed the rhetorical moves of abstracts. The differences between this study and Al- Khasawneh's (2017) study are: first, the researcher compares soft and Hard domains and analyzes 80 abstracts in this study. Second, in this study, the researcher used two theories (ESP, SFL) to analyze the data.

Darabed (2016) analyzed 63 abstracts of the article. The writer compared the previous study between 3 journals Applied Linguistics, Applied Mathematics, and Applied Chemistry. He focused on the rhetorical structure moves in their analysis, citation, and tense verbs in writing abstracts of articles. Darabed (2016) used Hyland's (2000) model as a basic model for the analysis (Darabed,2016). The similarity between Darabed (2016) and this study is in analysing the rhetorical structure moves used in writing abstracts of articles.

In contrast, the differences between the current study and Darabad's (2016) study, to begin with, Darabad (2016) compared three Journals, while the researcher in the current study compares the Soft and Hard domains of each domain includes four fields. In addition, the total of abstracts was 80 articles. In conclusion, this study explores the verb processes used in each move and how the writers have used them.

Behnam and Golpour (2014) analysed the data to notice the differences in rhetorical structure of abstracts of articles written by native and non-native (Iranian) students in two fields of applied linguistics and Math; therefore, the writer chose 20 articles written by native speaker's students from Math and applied linguistics. On the other hand, the writer selected 20 articles written by non-native speakers (Iranian) student's. Hyland's (2000) model is a basic model for analysis of the data. In addition, the writer found that applied

linguistics follows the basic design. At the same time, Math abstracts in native and non-native students' texts showed that the rhetorical structure did not follow a conventional scheme (Behnam & Golpour: 2014). The similarity between (Behnam & Golpour: 2014) and the current study that both studies analyzed the rhetorical structure to notice the differences between the writers in the use of structure in their texts. The differences between the current study and (Behnam & Golpour: 2014), the current study used Swales (1990) and Halliday (1985) models to analyze the data of the research. On the hand, (Behnam & Golpour: 2014) used Hyland's (2000) as a model to analyze their data. In addition, the data in the current study differ from the previous study. In conclusion, this study is one of the few studies that used both theories ESP and SFL simultaneously.

In recent years, all studies focused on academic writing, especially on published texts. This study focused on "the writing practices of young scholars who pursue a master's degree in Teaching English to speakers of other languages (hence forth TESOL) in a Greek distance learning environment" (p:31) The writer selected fifty abstracts of the MA dissertation as the data to analyse the introduction of research articles. Swale's (1990, 2004) used create a research space (CARS) model as a basic model for analysis the data in this study (Hatzitheodorou, 2019). In addition, there are three other models where the findings showed that some moves are used more than others. The differences between the current study and Hatzitheodorou (2019) are that the current study compares between the Soft and Hard domains through two models, Swales (1990) and Halliday (1985). In addition, the fields of the two disciplines in the current study differ from the other study.

Wulandari (2018) identified the rhetorical moves of selected ten students' thesis abstracts from English students' thesis in University of Sumatera graduated in 2017. The researcher used a qualitative approach. Swales' model was a basic model to analyze the data. According to the research results, the researcher found four moves in their abstract Introduction, Method, Results, and Conclusion. The 'method' move took the highest percentage in the findings, while the 'conclusion' was the lowest.

In conclusion, many English students did not write good abstracts based on the rules (Wulandari, 2018). The similarity between the current study and Wnlandari's (2018) study appears in two points. First, the qualitative approach is used in both studies. Second,

the Swales model was a basic model to analyze the data of both studies. The differences between the current study and (Wulandari, 2018) are that the current study is based on Halliday (1985) as a second model to analyze the data. Furthermore, the researcher in the current study compares two disciplines, the Soft and hard domains.

2.4 Conceptual Framework

Academic writing has a lot of genres; the most important one of these genres is the research article (RA). According to Hyland (2000), it serves two main purposes; the first one is conveying new information to the academic community, and the second is encouraging them to accept the assertions. Additionally, as a major element of a research article (RA), the abstract started to gain strength around the academic world, especially in recent years, as the academic world has become increasingly information-rich. Moreover, what gives the abstract such great relevance is its distinctive role, which leads readers to take up an article or accept and reject papers.

This study used two theories in the analysis (English for Specific Purpose & Systemic Functional Linguistics) to answer the research questions. After the researcher has collected the 80 articles, the researcher analysed the articles' abstracts only. This study used hand analysis to analyze the data, and the qualitative approach was used as an approach of this study.

As seen in Figure (2.2), the first theory is based on five significant structure moves. Those components are defined as central as they can be seen in the frame of the ESP. The introduction move encompasses the background of the study and some general information; meanwhile, the purpose move directly shows the study's explicit purpose with no marginal identification. The methodological principle, methods move, implies an extensive frame of research procedures and components such as the Participants, surveys, theories, data used in the research, etc. Moreover, the findings (results) in which the writers attempt to explain the outcomes of their research. Finally, the conclusion implies different presentation styles; sometimes, it contains recommendations, suggestions, and a thorough revision to the results part.

The second column explaining the divisions of the second theory, Systemic Functional Linguistics. As shown in figure (2.2), the SFL has six verb processes. The researcher included them in this chapter to refer to the importance of the second theory as it can be used in the analysis of the 80 articles. The types of verbs can be classified as: material (verbs that have actions and a dynamic process in its nature), Mental verbs which are related to the abstract action (thinking, imagining, dreaming), Verbal, the verbs that have a sounding or speaking nature (assume, illustrate, explain, etc.). On the other hand, some other types are between the mental and material verbs, such as the Behavioural ones (observe and notice). The relational form of verbs can be limited to the auxiliaries when used as main verbs. Finally, the existential verbs are restricted to (there is/are).

Figure (2.2) below offers a simple presentation of the principles of both theories. Moreover, the two theories with their extensive explanation are illustrated in the following chapters.

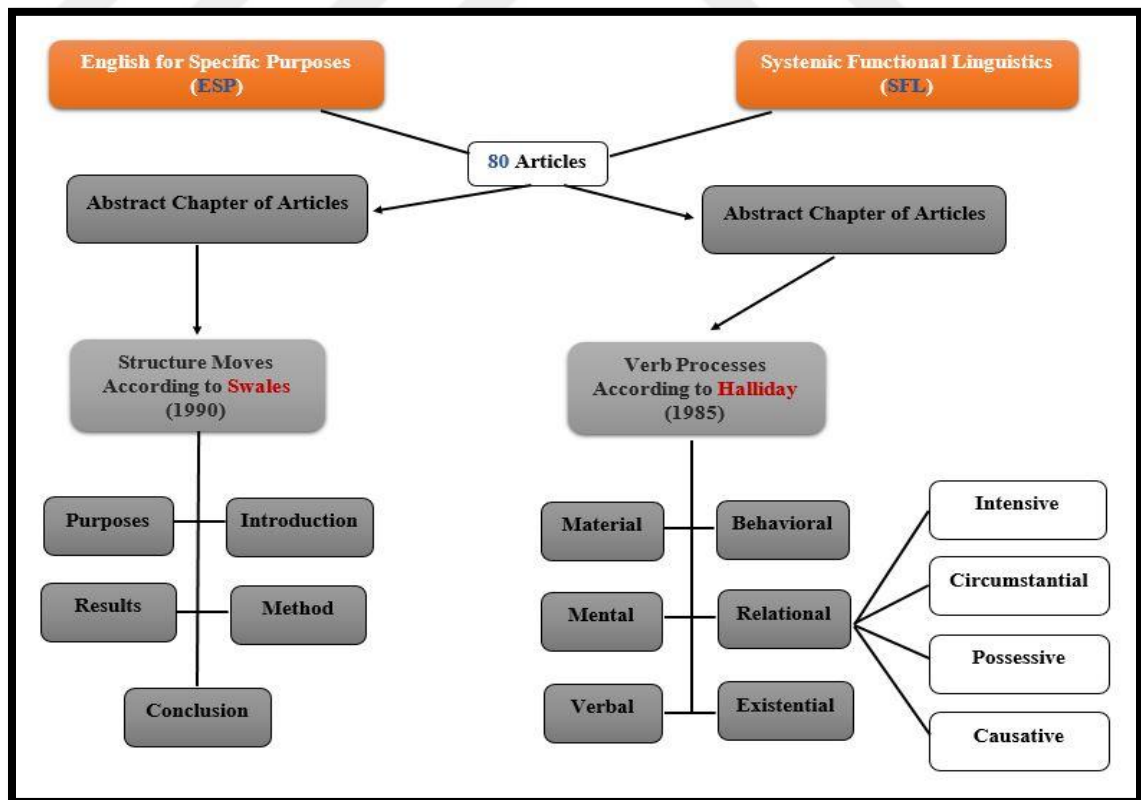


Figure (2.2): Conceptual Framework

2.5 A Summary of the Chapter

Chapter two introduced the theories related to the current study, namely (English for Specific Purpose & Systemic Functional Linguistics). They reviewed the most related studies to the topic of writing the abstract. The emphasis is mainly on the theories of the current study. It also explained the theoretical framework used in the current study. Finally, the next chapter discusses the research methodology.



CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, the researcher discusses some aspects of the research methodology. This chapter also describes the research methods and how the procedures are created to answer the research question. The research objectives describe the approach and research design. It also shows how the data have been collected purposefully from Scientific Journal Ranking, the data analysis technique, data analysis, and research instrument.

3.1 Research Design

This section, focused on the moves structure and verb processes used in writing abstracts by analysing the data based on Swales (1990) and Halliday (1985) models. The qualitative approach was used as the approach of the current study. The data were selected from (Scientific Journal Rank) Quarter 1. The total data 80 articles divided into two parts Soft and Hard domains, each part consists of 40 articles. In addition, the researcher finds out the moves of abstract of each domain by Swales's (1990) model and compares between them. On the other hand, the researcher finds out the main verbs in each sentence of abstracts and classifies them to the models' process. Additionally, the researcher selected the data in the last decade between (2010-2020) purposefully.

3.2 Population (Sampling)

The current study is based on a qualitative approach. Therefore, the researcher in the current study uses a purposeful sampling abstracts of 80 articles in eight different disciplines: Applied linguistics, Business, Management, Social Sciences, Biology, Chemistry, Computer sciences, and Engineering. Forty (40) articles are chosen from the soft domain and forty (40) articles from the hard domain. All these articles were published in free Scopus indexed (2010-2020). The researcher chose all articles that belong to different authors from different countries. Full details about these articles are presented in Table (3.1).

Table (3.1) describes the date information of the Soft domain. It includes the title of journals and the number of articles, then the data of publication, the last filed contains the citation style.

No	Title of Journals	Number of Articles	Date of publication	Citation style
1	Studies in Second Language Learning and Teaching	10	2017	Author, date
2	European Journal of Management and Business Economics	10	2019	Author, date
3	MIS Quarterly. French Journal of Management Information Systems	10	2018	Author, date
4	Journal of Open Innovation: Technology, Market, and Complexity	10	2020	Author, date
Total		40		

Table (3.1) Descriptions of journals of the Soft domain

Table (3.2) below describes the date information of the Hard domain. It includes the title of journals and the number of articles, then the data of publication, the last filed contains the citation style.

NO	Title of Journals	Number of Articles	Date of publication	Citation style
1	Journal of Genome Biology BMC	10	2020	Numbering style
2	Journal of Pharmaceutical Analysis	10	2020	Numbering style
3	Journal of Machine Learning Research	10	2019	Numbering style
4	Journal of Materials & Design	10	2020	Numbering style
Total		40		

Table (3.2) Descriptions of journals in the Hard domain

3.3 Data Collection

The data in this study have been selected from the abstracts in different articles in (Scientific Journal Rank). First, the researcher looked for soft and hard domains articles. Second, the researcher chose the articles published between 2010 and 2020. In the last step, the researcher explained the data according to the research problem.

- What are moves used in writing an abstract in soft and hard domains, especially in (Scientific Journal Rank) in the last decade (2010-2020)?
- What are types of verbs used in each abstract move in Soft and Hard Domains, especially in (Scientific Journal Rank) in the last decade (2010-2020)?

In this section, the current study collected the data purposefully. The data are selected from the last decade (2010-2020). The researcher divided the data into two parts; each part has four fields. The first part is the Soft domain, and the other one is the Hard domain. The researcher made two tables to describe the fields in each part.

No	Field	Articles NO:
1	Applied Linguistics	10
2	Business study	10
3	Management	10
4	Social Sciences	10
total	4	40

Table (3.3) Description of fields in Soft domain

No	Field	Articles NO:
1	Biology	10
2	Chemistry	10
3	Computer	10
4	Engineering	10
total	4	40

Table (3.4) Description of fields in Hard domain

3.4 Data Analysis Technique

The abstract is the most important part in the research since it gives the reader a report about the most important information in the research. If the reader is interested in the abstract, he/she will go through the comprehensive research. As Tullu (2019) stated some journals follow the standard format (IMRAD) for the research structure, this format includes (introduction/ purpose/ methods/ results/ and the conclusion instead of discussion).

In this section, the researcher uses a sample and direct strategies to create a clear vision and classification methodically around the verbs and moves used in writing abstracts. Then steps of data analysis are mentioned.

- 1- choosing soft and hard domains, especially in (Scientific Journal Rank) in the last decade (2010-2020)
- 2- Analysing all abstracts in articles that were chosen and taking notes of verbs and moves used in writing abstracts.
- 3- Classifying the verbs found in the abstract section of all articles based on Halliday (1985)
- 4- Identify sorts of verbs and sort them out, then use the hand analysis.
- 5- Classify the verbs that are found to recognize the type and function of each verb by (Halliday, 1985).

To analyse the data, some steps were followed. The first step was collecting the data from (Scientific Journal Rank) all articles chosen from Q1 (quartile1). In addition, a hand analysis was used to analyze the data. Furthermore, the two theories (ESP and SFL) were used to analyse the data (abstracts). In conclusion, the researcher compared the results and presented the findings.

In this section, the researcher analyzed the data based on the following steps by adopting Swales's (1990) model. First, the researcher found the abstract's moves structure used in writing abstracts of the articles. Second, the researcher classified the structure of abstract moves used in the articles. On the other hand, based on Halliday's (1985) model, the researcher found the main verbs and classified them as their processes. Finally, the researcher designed table of the coding that used in the current study.

No	Code	The fields
1	A.L	Applied Linguistics
2	B.u	Business study
3	MA	Management
4	SS	Social science
5	BO	Biology
6	Ch	Chemistry
7	Co	Computer
8	En	Engineering

Table (3.5): Description of Coding

3.5 Findings of Pilot Study

In this part, the researcher classifies the findings of the pilot study into two parts according to the theories that have been selected, the first part deals with the findings of ESP theory, and the second part deals with the findings of SFL theory.

3.5.1 Findings of pilot study according to ESP theory

In this section, the researcher explains the structure of the move in the abstracts of 8 articles across the two disciplines: The Soft and Hard domains. Four articles are selected from both the Soft and Hard domains. These articles were analysed based on Swales' (1990) model. Wulandari (2018) mentioned that an abstract is a description or a factual summary of the much longer report and is meant to give the reader an exact and concise knowledge of the full article. It contains information on the following aspects of the research that it describes: 1. What did the author do? 2. How did the author do? 3. What did the author find? 4. What did the author conclude?" and they answered these questions through the structure of the move (introduction purpose, method, results, conclusion). Tables (3.5) and (3.7) show the results of the analysis. Table (3.6) consists of 4 articles chosen from the soft domain and clarifies the use of moves in each article.

NO	Introduction	Purpose	Method	Findings	Conclusion
1	√	√	√	√	—
2		√	√	√	—
3		√	√	√	—
4	√	√	√	√	—
total	2(50%)	4(100%)	4(100%)	4(100%)	—

Table (3.6) The findings of the pilot study in the soft domain, according to Swales' (1990)

Based on the pilot study's findings, the researcher found that the writers used the introduction move of abstract 2 (50%) in writing abstracts in the soft domain. In addition, the writers of the articles in the pilot study used the Purpose move 4 (100%) in writing

abstracts of the Soft domain. Furthermore, the researcher found that Method move structures are used by writers 4 (100%) in writing abstracts of Soft domain in different fields. Then the writers used the results move 4 (100%) in writing the abstract of Soft domain. In contrast, the writers in pilot study did not use the conclusion move. These findings refer to three moves (Purpose, Method, and findings) these three moves were used more than (Introduction and Conclusion). Table (3.7) shows the analysis of the results of the Hard domain.

NO	Introduction	Purpose	Method	Findings	Conclusion
1	√	√	√	√	—
2	√	√	√	√	—
3	√	√	√	√	—
4	√	√	√	√	—
Total	4	4	4	4	—

Table (3.7) the findings of the pilot study in the Hard domain according to Swales (1990)

The results in table (3.7) show that the writers in the Hard domain used four moves (Introduction, Purpose, Method, and Results) in writing their abstracts, and the percentage was equal in the use of the moves in the four articles. However, the conclusions move was not used in these articles. In the following sections, the researcher explains each move.

Introduction

This move clearly states the author's purpose, thesis, or hypothesis, which serves as the foundation for the study being presented. It might also include the author's study aims or objectives and the problem they want to solve (Wulandari, 2018). Furthermore, in this move, the writer presents the background of the study.

For example, *“Despite their demographic importance in U.S. classrooms, little is known about how the strengths and needs of English learners are engaged through technology, particularly as it is embodied by one-to-one devices such as iPads and Chromebooks”*. (P.1/ MA/ P. n 1)

Purpose

According to Saboori, & Hashemi, (2013, p:486), “Indicates purpose, thesis or hypothesis, outlines the intention behind the paper”. In addition, in this move, the researcher mentions the purpose directly. For example:

“The purpose of the present work was to develop a quick and affordable method for FITC labeling of human insulin and to determine the effect of different conjugations of FITC to human insulin on its permeability through the MDCK cell monolayer. FITC labelling of insulin gives mono-, di- or tri-conjugates depending on the reaction time and the molar ratio of FITC”
(P.2/ CH/ P.n 1)

Anakib (2020) stated that in Method move, the author offers a good idea of the experimental design, including data, techniques or methods utilized, and, if required, the scope of the study being reported. In addition, the writer in this move explains the participants. Furthermore, the writer mentions the methodology used in the model or taxonomy experiment, describing his writing steps. For example:

“The study used quantitative classroom observations and student surveys to explain variation in English language development among English learners and across classrooms.” (P4/ SS/P. n1)

As Lorès (2004, p.283) mentioned, Results: “In this section, a summary of the general findings appears.” In addition, if there is a problem in move one, the researcher suggests solutions to the problem in this move. For example:

“Findings – Results show that graduates and managers describe differently the use of tools to develop graduates’ soft skills. The large majority of HR managers indicate they offer formal training to young graduates and that they are involved in the performance appraisal sessions, while only 22 per cent of students confirm they receive formal training and only 26 per cent declare to be inserted in a performance appraisal process. Moreover, concerning the assessment of soft skills during the selection process,

significant differences between Italian and German companies emerged”.
(P2/ BU/ P. n1)

Conclusion

there is no conclusion move in these eight articles used in writing abstracts of articles, but these findings did not refer to there is no conclusion moves in abstracts. Based on the pilot study results, the current study found that the most important moves in writing abstracts are (Purposes, Methods, and Results), and the (introduction move and the conclusion move) are optional.

3.5.2 Findings of pilot study according to SFL theory

Table (3.8) describes the pilot study results; it addresses the types of verbs used in writing the abstract section of 8 articles across two disciplines, Soft and hard domains (Four articles from Soft domains and the other four from Hard domains). These articles are analyzed according to Halliday's (1985) taxonomy. The soft domains contain one article from the field of Management, two articles from the Business study, and the last one from Social Sciences. The Hard domains include one from Engineering, two articles from Computer Sciences, and the last one from Biology. The results are presented in tables (3.8) and (3.9)

Article numbers	Domain	Material	Mental	Verbal	Relational	Existential	Behavioural
Article 1	soft	9	0	1	0	0	0
Article 2	Soft	9	0	6	1	0	0
Article 3	soft	4	1	1	1	1	0

Article 4	soft	6	1	2	2	0	0
Total		28	2	10	4	1	0

Table (3.8): Descriptions the pilot study in Soft Domains According to Halliday (1985)

Article numbers	Domain	Material	Mental	Verbal	Relational	Existential	Behavioural
Article 1	Hard	5	0	2	3	0	0
Article 2	Hard	5	0	1	2	1	0
Article 3	Hard	4	0	1	1	0	1
Article 4	Hard	9	1	1	3	0	0
Total		23	1	5	9	1	1

Table (3.9): Descriptions of the pilot study in hard Domains According to Halliday (1985).

Material process

Implies doing something; these reveal that some entity did something, thus involving two participants: “The Actor and the Goal” (Jomaa & Bidin, 2019, p.192). For example, “*This paper **draws** on adaptive systems (CAS) theory to explore*” (P.1/ p.n.192/ L. 1/ MA)

Mental process

mental processes are used to describe thinking, feeling, and perceiving realizations. Mental processes are categorized into three subcategories: (1) Cognition, (2) Affection, (3) Perception. For example:

*“little is **known** about how the strengths and needs of English learners are engaged through technology, particularly as it is embodied by one-to-one devices such as iPads and Chromebooks”.* (P.4/ P.n 52/ L.1/ Ss)

Verbal process

As Jomaa and Bidin (2019, p.194) point out, “Verbal processes imply saying and arguing” For example, “*Results **show** that graduates and managers describe differently the use of tools to develop graduates’ soft skills.*” (P.3/ P.n 114/ L. 12/ Bu)

Behavioural process

As Jomaa and Bidin (2019, p.195) mention, “Behavioural Processes are physiological and psychological behaviours which intermediate between material and mental processes, such as ‘noticed’ and ‘observed.’ For example:

*“We **observe** a favourable trade-off objective function evaluation, classification performance, and complexity of the nonparametric regress or extracted by the proposed method”.* (P.7/P. n 1/ L.12/ Co)

Relational process

As Jomaa and Bidin (2019, p.196) mention, “Relational processes refer to being processes which imply that something is” For example, “*First, workplace ostracism was negatively associated with supervisor-rated in-role performance and organizational citizenship behaviours.*” (P.4/ P.n 333/ L.7/ Bu)

Existential Process

As Jomaa and Bidin (2019, p.198) state, existential types of processes represent the existence of something or that something happened. The word ‘there,’ which has no symbolic functions, must be employed in sentences that involve existential processes;

'there' is used since the clause requires a subject. Additionally, some examples of existential processes are 'be, exist, arise, ...', another example:

“there was a stronger negative relationship between workplace ostracism and supervisor-rated in-role performance/organizational citizenship behaviours for employees with” (P.4/P. n 333/ L.7 / Bu).

3.6 Trustworthiness

Validity and reliability are commonly associated with quantitative research. According to Joppe (2000, p.36), validity can determine “whether the research truly measures that which it was intended to measure” and the extent to which research results are truthful. On the other hand, reliability, according to Joppe (2000, p.36), is the consistency of results over time and the precise. The credibility of the quantitative research is widely based on the instrument, whereas the researcher himself is considered the instrument in the qualitative research.

In the current study, the researcher used the qualitative approach and hand analysis to analyse the data. Modifying the trustworthiness of the findings in the current study was achieved by the pilot study. A pilot study analysed (8) articles from the soft and hard domains; the results of these (8) articles were not included with the current study results. According to Swales (1990), the abstracts of (8) researcher articles chosen from the soft and hard domains were analysed concerning the structure moves. The results of the pilot study were evidenced in Tables (3.6) and (3.7). Also, the researcher was analysed the (8) articles based on Halliday (1985). He classified the verb processes into (6) groups according to the model Halliday (1985). The findings of the pilot study based on Halliday (1985) are evidenced in Tables (3.8) and (3.9).

On the other hand, the researcher sent the current study to his supervisor Assistant Professor Dr Nayef Jomaa. The researcher followed all advice that the supervisor mentioned. Another expert supported was checked the current study. Finally, the credibility of this study relies on two theories: English for Specific Purpose by Swales (1990) and Systemic Functional Linguistics by Halliday (1985) theory in analysing the abstracts on 80 articles, including the soft domain (applied linguistics, business studies, management, and

social science) and the hard domain (biology, chemistry, computer science, and engineering). The researcher analysed the structural moves and verb processes in the abstracts of journal Scopus indexed journals based on SJR website.

3.7 A Summary of the Chapter

This chapter discussed some aspects of the research methodology. It described the used approach, research design, research methods, and the procedures created to answer the research question. It showed how the data had been collected purposefully from Scientific Journal Rank, the data analysis technique, and the research instrument. The next chapter describes the findings of the analysis.

CHAPTER FOUR: FINDINGS OF THE STUDY

4.0 Introduction

In this chapter, the researcher explains the findings of the study. The researcher selected the analysed data from (Scientific Journal Rank) purposefully which were published in (2010-2020). Finally, the researcher classified the moves and verb processes of the abstract of the articles.

4.0 Findings of Research Question One

In this section, the researcher explains the data analysis findings according to Swales' (1990) model. The researcher divided the data into two disciplines: Soft and Hard domains. Each discipline has four fields, and each field has ten articles.

4.1 Part One of Research Question One

In this section, the researcher describes the analyse the abstracts in the articles of the Soft domain according to Swales's (1990) model. The soft domain includes (Applied Linguistics, Business, Management, and Social Sciences). The total articles in this domain is 40, and each field consists of 10 articles. Table (4.1) shows the number and percentage of introduction moves used in the soft domain data writing abstracts.

NO	Discipline	Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10(40%)
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0	0	0	0	0	0	0	0	0	0	0(0%)
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	0	1	0	1	1	1	8(32%)
4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0	1	1	1	1	0	1	1	1	0	7(28%)

Table (4.1): Description of the introduction moves in the soft domain

Based on Table (4.1), the current study found that the writers have used the introduction move in Applied Linguistics 10 (40 %) in the soft domain. It is the highest percentage that was used in writing abstracts. This result presents the introduction move as an important move in writing abstracts through the Applied linguistics field. On the other hand, the writers did not use the introduction move in writing abstracts as in Table (4.1), the researcher mentioned in a pilot study that the most important moves used in writing abstracts are (Purposes, Methods, and Results). The writers are writing purposes directly. Management field, the writers used the introduction move 8 (32%) in writing abstracts of the articles. Based on table (4.1), Social sciences was the last field in the soft domain. The writers used Introduction moves in this field 7 (28%) in writing abstracts. For example,

“Child peer interaction in English as a foreign language (EFL) settings has recently received increasing attention with respect to age, instruction type, and first language (L1) use, but longitudinal studies remain scarce, and the effects of proficiency pairing and language choice on meaning negotiation strategies are still rather unexplored.”. (see appendix) (P.4/ AL/ P. n1).

This is an example of an Introduction move in the soft domain. In the next section, the researcher describes the purpose move in the soft domain.

In this section, the researcher explained the purpose of “move” in writing abstracts of the Soft domain. Table (4.2) shows the use of the Purpose move and includes the number and percentage of using the Purpose move.

NO	Discipline	Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)

4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)

Table (4.2) Description of the Purpose Move in the Soft domain

Based on the table (4.2) findings, the writers used the Purpose move in all articles because the Purpose move is one of the important moves used in writing general articles, not just in the Soft Hard domains. To begin with, in Applied Linguistics, the writers have used the Purpose move 10 (25%). In addition, the same thing in the Business study, the writers have used the Purpose move 10 (25%) in writing abstracts. Interestingly, the exact number and percentage are found in (Management and Social Sciences). For example,

“To address these calls, we conducted a mixed-methods study that examined mobile application users’ coping strategies after highly negative incidents”. (see appendix) (P.6/ MA/ P.n 1).

In this example, the researcher wrote the Purpose of this study directly. In the next section, the researcher describes the method used in writing abstracts of the Soft domain.

In this section, the researcher explained the Method move in the soft domain. Table (4.3) shows the use of Method move in writing the abstract of the fields (AL, BU, MA, and SS). Table (4.3) includes the number and percentage of the Method move.

NO	Discipline	Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)
4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10 (25%)

Table (4.3) Description of the Method Move in the Soft domain

Based on the findings of Table (4.3), the researcher found that the use of the Method move was equal in the number and percentage since the Method move was one of the three

important moves in writing the abstract of articles. To begin with, in Applied Linguistics, the researcher found that the writers used Method move in this field 10 (25%). In addition, the same things in the Business articles, the researcher found that they used Method move 10 (25%) in writing their abstracts. Furthermore, the writers used the Method move in writing abstracts 10 (25%) in the Management. Finally, the same number and percentage are found in Social Sciences.

“The participants were 61 fourth-grade students in the United States, comprising 24 monolingual English-speaking (ME) students and 37 English-as-a-second-language (L2) students; each group was also divided into strong and emergent readers in English. Participants were asked to read aloud paragraphs containing words unfamiliar to them in two different contextual conditions (i.e., explicit and implicit conditions), to guess the unfamiliar word meanings, and to tell a teacher how they arrived at the inferred meanings”. (see appendix) (P.7/ AL/ P.n 1).

In the next section, the researcher explains the Results (Findings) move used in writing the abstracts of the soft domain.

The Results move is one of the most important moves are used in writing the abstracts. In this section, the researcher explains the results used in the four fields (Applied Linguistics, Business study, Management, and Social sciences). Table (4.4) shows the use of the Results move in the soft domain.

NO	Discipline	Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	10 (25%)
		1	1	1	1	1	1	1	1	1	1	
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	10 (25%)
		1	1	1	1	1	1	1	1	1	1	
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	10 (25%)
		1	1	1	1	1	1	1	1	1	1	
4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	10 (25%)
		1	1	1	1	1	1	1	1	1	1	

Table (4.4) Description of the Results Move in the Soft domain

Based on Table (4.4) findings, the researcher found that the writers used the Results move in 40 articles of the soft domain 40 (100%). Therefore, the Results move was one of the three important moves that all writers used in writing their research. The use of numbers and percentages was equal in the soft domain. To begin with, Applied Linguistics, the writers used the Results move 10 (25%), and the same percentage appeared in other fields (Business study, Management, and Social sciences). For example,

“The findings show the necessity of best practices diffused between different types of e-services and present an opportunity to widely spread research findings between different e-service sectors”. (see appendix) (P.1/ SS/ P. n1).

The Conclusion move was the last section in the soft domain. The writers of the 40 articles in the Soft domain did not use the Conclusion move. Maybe the writers are not familiar with academic writing: this can be one of the reasons that the writers did not write the conclusion move or because of the vocabulary limitation in each abstract. In the next section, the researcher will describe the hard domain according to Swales (1990) model.

4.2 Part Two of Research Question One

In this section, the researcher clarifies the structural moves used in writing abstracts of the hard domain (Biology, Chemistry, Computer, and Engineering) according to Swales' (1990) model. A total of articles 40, where each field includes 10 articles. Based on Swales' (1990) model, the formal writing of the abstract consists of five moves (Introduction, Purpose, Method, Results, and Conclusion). According to these steps, the researcher explained the abstracts. In the next section, the researcher describes the Introduction move in the hard domain.

In this section, the researcher explains the Introduction move used in writing the abstracts of the hard domain according to Swales' (1990) model. Table (4.5) includes the number and percentage of the Introduction move used in writing the hard domain abstracts.

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	BO	1	1	1	1	1	1	1	1	1	1	10 (30.30%)
2	CH	1	1	1	1	1	1	1	1	1	1	10 (30.30%)
3	CO	1	1	1	0	1	0	1	1	1	1	8 (24.25%)
4	EN	1	1	1	0	1	0	0	0	0	1	5 (15.15%)

Table (4.5) Description of the Introduction Move in the Hard domain

Based on Table (4.5) the researcher found that the writers used the introduction move in Biology 10 (30.30%) to write the hard domain's abstracts. According to the Biology results in Table (4.5), the writers used the introduction move in all articles. Also, the researcher found the same number and percentage of using Introduction move in Chemistry 10 (30.30%) in writing abstracts. For example,

“Drug stability is closely related to drug safety and needs to be considered in the process of drug production, package and storage”. (see appendix) (P.4/ CH/ P. n 1).

According to the findings in Table (4.5), the researcher found that the writers used the Introduction move in Computer 8 (24.25%) to write the hard domain abstracts. The researcher noticed that two articles did not use an introduction in writing their abstracts in this field. On the other hand, in the Engineering field, there was a high difference between Engineering and the other fields in the Hard domain. The writers in Engineering used introduction move 5 (15.15%) in writing abstracts. In the next section, the researcher describes the use of the Purpose move in the Hard domain.

In this section, the researcher described the Purpose move of the hard domain used in writing abstracts of 40 articles. Table (4.6) shows the use of the Purpose move in (Biology, Chemistry, Computer, and Engineering). It includes the number and percentage of using purpose move in the Hard domain.

NO	Discipline	Participants										Total
1	BO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10(27.02%)
2	CH	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	0	1	1	1	1	1	1	1	9(24.32%)
3	CO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10(27.02%)
4	EN	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0	1	1	1	1	1	0	1	1	1	8(21.64%)

Table (4.6) Description of the Purpose Move in the Hard domain

Based on the findings in table (4.6), the researcher found that the writers of Biology used the Purpose move in all articles 10 (27.02%) in writing abstracts of the Hard domain. In some articles, the researcher found that the Introduction and Purpose movements are mixed in one move. According to the table (4.6), in Chemistry, the writers used the purpose move 9 (24.32%) in writing abstracts of the Hared domain. For example,

“To fulfil the semi-active control of the MR gel in the mechanical application, a highly effective model needs to be proposed to predict the nonlinear hysteresis behaviour of MR gel accurately”. (see appendix) (P.2/ EN/ P.n 1).

According to the findings in Table (4.6), the writers used the Purpose move in Computer 10 (27.02%) in writing abstracts of 10 articles. These findings declare that the writers used the Purpose move in all articles of this field. On the other hand, in Engineering, the writers used the Purpose move 8 (21.64%) in writing abstracts. In the next section, the researcher will describe the Method move in the hard domain.

The Method move was one of the important moves in academic writing of the abstracts of the thesis, research, and paper. In this section, the researcher explains the use of Method move in the Hard domain. Table (4.7) shows the number and percentage of the Method move in the Hard domain.

NO	Discipline	Participants										Total
1	BO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	0	1	1	1	1	9 (24.32%)
2	CH	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10(27.02%)
3	CO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0	1	1	0	1	1	1	1	1	1	8(21.64%)
4	EN	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	1	1	1	1	1	1	1	10(27.02%)

Table (4.7) Description of the Method Move in the Hard domain

Based on table (4.7), the researcher found that the writers in the Hard domain used the Method move 9 (24.32%) in writing abstracts of Biology. Based on these findings, there was one article that did not use the Method move. For example,

“Here, we demonstrate how to use the R-INLA package for R to analyses N-mixture models, and compare the performance of R-INLA to two other common approaches: JAGS (via the run jags package for R), which uses Markov chain Monte Carlo and allows Bayesian inference, and the unmarked package for R, which uses maximum likelihood and allows frequentist inference. (see appendix) (P.5/ CO/ P.n 1).

According to Table (4.7), the writers used the Method move in Chemistry 10 (27.02%) to write the hard domain's abstracts. Based on the results in Table (4.6), the writers used the Method move in all articles of Chemistry. While in Computer, the writers used the Method move 8 (21.64%) in writing abstracts.

In the last field of the hard domain in table (4.7), the researcher found that the writers used the Method move in Engineering 10 (27.02%) to write the hard domain abstracts. Also, in this field, the writers used the Method move in all articles.

In this section, the researcher explains the Results move in the hard domain, especially (Biology, Chemistry, Computer, and Engineering). In addition, the Results

move was one of the basic moves in academic writing of abstracts of (Thesis, research, and paper). Table (4.8) shows the number and percentage of the usage of the Results move in abstracts.

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	BO	0	0	1	0	1	0	0	1	0	0	3 (9.37%)
2	CH	1	1	1	1	1	0	1	1	1	1	9 (28.13%)
3	CO	1	1	1	1	1	1	1	1	1	1	10(31.25%)
4	EN	1	1	1	1	1	1	1	1	1	1	10(31.25%)

Table (4.8) Description of the Results Move in the Hard Domain

As in Table (4.8), the writers used the Results move in Biology 3 (9.37%). These findings have the lowest number in the hard domain, although the Results move one of the important moves. On the other hand, in Chemistry, the writers used the Results move 9 (28.13%). In writing abstracts. For example,

“Our analyses revealed that the top nine hits might serve as potential anti-SARS-CoV-2 lead molecules for further optimization and drug development process to combat COVID-19”. (see appendix) (P.10/ CH/ P.n 1).

Based on the findings in Table (4.8), the writers used the Results move in the Computer Sciences articles 10 (31.25%) in writing abstracts of 10 articles. These findings revealed that the writers used the Result move in all articles in this field: the same number and percentage found in Engineering. The writers used the Results move 10 (31.25%) in writing abstracts of 10 articles in Engineering. In the next section, the researcher describes the Conclusion move in the Hared domain.

In this section, the researcher explains the Conclusion move in the Hard domain (Biology, Chemistry, Computer, and Engineering). The total 40 articles, each filed include 10 articles. The lowest percentage was because of the limitation of vocabulary or may the

writers are not familiar with the academic writing. Table (18) shows the number and percentage of the Conclusion move in the Hard domain.

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	BO	1	1	0	1	0	0	1	0	1	1	6 (100%)
2	CH	0	0	0	0	0	0	0	0	0	0	0 (0%)
3	CO	0	0	0	0	0	0	0	0	0	0	0 (0%)
4	EN	0	0	0	0	0	0	0	0	0	0	0 (0%)

Table (4.9) Description of the Conclusion Move in the Hard Domain

According to the results in Table (4.9), the writers used the Conclusion move 6 (100%) to write abstracts of 10 articles in the Biology field. The writers did not use the Conclusion move in the Other three fields, as shown in table (4.9). For example,

“Dispensable genes usually belong to young and recently expanded gene families enriched in survival functions, which might be the key to explain the resilience and invasiveness of this species”. (see appendix) (P.7/ BO/ P.n 10).

In this section, the researcher explains the differences and similarities in using the structure move of abstracts in soft and hard domains according to Swales’ (1990) model. Tables (4.10) and (4.11) include the number and percentage of moves used in the soft and hard domains.

Moves Fields	Introduction	Purpose	Methods	Results	Conclusion
A.L	10	10	10	10	0
BU	0	10	10	10	0

MA	8	10	10	10	0
SS	7	10	10	10	0
Total	25	40	40	40	0
Percentage	62.5%	100%	100%	100%	0%

Table (4.10). Abstract moves in the Soft domain

Moves Fields	Introduction	Purpose	Methods	Results	Conclusion
B.O	10	10	9	3	6
CH	10	9	10	9	—
CO	8	10	8	10	—
EN	5	8	10	10	—
Total	33	37	37	32	6
Percentage	82.5%	92.5%	92.5%	80%	15%

Table (4.11). Abstract moves in the Hard domains

These two tables show the differences and similarities between soft and hard domains. The results show that the Introduction move is used in the hard domain more than the soft domain. The Purpose move was used in the soft domain higher than the hard domain, but the differences between the two domains were few. Also, the same use of Methods in the soft domain is higher than in the hard domain. In the Result moves, the current study found that the use of the result in soft domain higher than hard domain. Finally, the current study found that the use of Conclusion moves in hard domains higher than soft domains.

4.3 Findings of Research Question Two

In this section, the researcher explains the findings of the analysis based on Halliday's (1985) model. The researcher divides the data into two disciplines: Soft and Hard domains. Each discipline has four fields, and each field has 10 articles.

This study explores the verbs used in writing the abstracts based on Halliday's (1985) model. The data are analysed by using a qualitative method. The writer analysed the data by describing verbs used in abstracts and giving examples from the chosen abstract of articles. In this section, after collecting the data, the researcher analysed them following these steps: First, the researcher found the verbs used in writing the abstract section of the articles. Second, he classified the types of verbs used in the articles.

4.3.1 Findings of Research Question Two (Part One)

In this section, the researcher describes the soft domain and divides it into six parts according to the classification of the theory, which includes: Applied Linguistics, Business, Management, and Social Sciences. Each field consists of 10 articles. Table (4.12) below shows the Material processes used in writing the abstracts of 40 articles in the soft domain.

Discipline		Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		12	10	10	11	6	9	5	8	12	7	90 (29.31%)
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		9	7	9	8	8	4	9	10	2	6	72 (23.45%)
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		8	11	7	11	8	3	6	5	6	6	71 (23.12%)
4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	

6	10	8	5	4	8	6	7	6	14	74 (24.12%)
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Table (4.12). Description of Material processes in the Abstracts of AL, BU, MA, and SS

The writers in Applied Linguistics used material processes more than other processes. The current study found that 90 (29.31%) material processes are used in writing 10 abstracts. Also, the researcher noted that the writers use material processes in the introduction part of the abstract dominantly. For example,

“this paper deals with the problems of teaching English as a foreign language (EFL) and as a lingua franca (ELF) in the Italian educational system and, in particular, with introducing language variation in the English class.

The researcher found that 72 (23.45%) Material processes are used in writing abstracts in the business study. The results stated that there is an equal distribution of these processes in all moves. For example, (2), (3), and (4). In the second example (2),

*“The purpose of this paper is to **analyze** the impact of employees’ perception of performance appraisal (PA) practices on innovative behaviour (IB).” (P.2/ BU/ pn 1). In (3) and (4), “To achieve these goals, data were **collected** from users of gamified sports apps, using an online questionnaire. The data were **analyzed** using partial least squares structural equation modeling”. (P. 7/ BU/ P.n 1)*

Management was the same with Business study and Social science in terms of the use and percentage. The researcher found 71 (23.12%) material processes in 10 abstracts of 10 articles, as shown in Table (3.8). The writers used material processes in Management dominantly like ‘use’, ‘amplified’ and ‘created.’ For examples (5), (6), and (7)

*(5) The other 33 articles **use** GTM to develop models and rich descriptions of new phenomena as their theoretical contribution. (P.10/ MA/ P.n 1)*

*(6) and (7) The reuse of met models is **amplified** when the met models are **created** by designers with greater community experience. (P.9/ MA/ P.n 315)*

The last field is Social science. There is no big difference between Social science and Management in percentage and material processes. The researcher found that the writers in this field used material processes 74 (24.12%), it was distributed identically on all moves of abstracts. For example, ‘analyzed’ and ‘compared.’

(8) *The data of 365 questionnaires were **analyzed** using the Spearman correlation to determine the relationship between the model components. (P.1/SS/P. n 1)*

(9) *The oral language development of advanced learners of English at a Spanish university was **compared** with a control group from the same class who did not participate in the VE.*

Mental processes

In this section, the researcher explains Mental processes. Mental processes are employed to describe thinking, experiencing, and perceiving realizations. This process is used in writing abstracts, based on the findings in the table (4.13), which shows the Mental processes in the Soft domain: Applied Linguistics, Business, Management, and Social Sciences.

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	AL	1	1	0	0	0	0	1	0	0	1	4 (25%)
2	BU	0	1	0	0	0	1	0	2	0	1	5 (31.25%)
3	MA	2	0	0	0	0	1	0	0	0	1	4 (25%)
4	SS	0	0	0	1	0	0	1	0	1	0	3 (18.75%)

Table (4.13). Mental processes in the Abstracts of AL, BU, MA, and SS

The researcher found that the writer of articles in the soft domain used Mental processes in the abstract, but the percentage was small, for example, (10).

(10) “*we draw on usage-based linguistics to analyze performance in terms of test-takers inventories of linguistic constructions and on conversation analysis to **understand** their interactional competence in terms of the relation between the linguistic constructions and the actions they are used to accomplish*”. (P. 10/ AL/ P. n 523)

In Business studies, the writers of articles used mental processes 30 (31.25%). The numbers of mental processes are low in the soft domain in all fields. For example, “*they **perceive** that the assessment system is not arbitrary, i.e., that this HR practice is being applied consistently*”.(P.2/ BU/ p. n 1)

In Management, the exact usage of mental processes was found. The writers of abstracts use it 25 (25%). For example, “*To minimize this harm, it is important to **understand** how users cope after negative incidents*”.(P 6/ MA/ p.n 1)

The lowest use percentage was found in social sciences, and the researcher found 20 (18.75%) in this field. For example,

“*Despite their demographic importance in U.S. classrooms, little is known about how the strengths and needs of English learners are engaged through technology, particularly as it is embodied by one-to-one devices such as iPads and Chromebooks*”.(P 7/ SS/ P. n 1). The following section explains verbal processes in the soft domain.

Verbal processes

In this section, the researcher describes the Verbal processes used in writing abstracts of 40 articles. According to the results shown in the table (4.14), the researcher found that the writers in the Soft domain used verbal processes, and the result in Applied linguistics was 27 (27.38 %). This result is considered the high percentage in the Soft domain. For example, (11) The study shows that teachers with a higher formal qualification tend to assess their L2 proficiency higher and claim to use the L2 more often in the primary EFL classroom. (P. 9/ AL/ P. n 631)

In Business studies, the writers used verbal processes 22 (23.68%); the differences between AL and BU (shown in the table (4.14) refer to the convergence of verbal processes in the soft domain. For example, (12) “*Results **show** that graduates and managers describe differently the use of tools to develop graduates’ soft skills*”. (P. 1/ BU/ P. n 1).

In Management, the writers used verbal processes 26 (25.9%) in writing their abstracts more, which is considered more than Business studies. However, the differences between them are small. For example, (13) “*we **demonstrate** the multilevel and recursive nature of digitally-driven growth in physical product platforms*.”. (P. 5/ MA/ P. n1). These findings state that the use of verbal processes in the soft domain is equal.

The last field in verbal processes is Social Sciences. there is a small percentage of verbal processes in the soft domain, 22 (22.9 %). For example, (14) and (15) “*Following this synthesis, a possible research agenda is **proposed**, and practical implications are suggested*.” (P. 8/ SS/ P. n 1). The findings in the Table (4.14) explain the numbers and percentage of using verbal processes used in writing the abstracts of the Soft domain.

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	AL	3	3	3	4	3	3	2	2	2	2	27(27.38%)
2	BU	6	2	4	-	4	1	-	-	2	3	22(23.68%)
3	MA	1	4	2	2	2	4	3	3	1	3	25(25.9%)
4	SS	3	1	2	2	2	2	2	3	2	1	20 (22.9%)

Table (4.14). Verbal processes in the Abstracts of AL, BU, MA, and SS

Behavioural processes

In this section, the researcher explains the Behavioural processes in the abstracts of the soft domain:- Applied linguistics, Business studies, Management, and Social Sciences. Based on the findings, the writers in the soft domain did not use Behavioural processes.

The possible effect of the common use of behavioural processes is that all chosen articles are based on scientific experiments and numbers, so there was no need to use the behavioural processes.

NO	Discipline	Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	0 (0%)
		0	0	0	0	0	0	0	0	0	0	
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	0 (0%)
		0	0	0	0	0	0	0	0	0	0	
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	0 (0%)
		0	0	0	0	0	0	0	0	0	0	
4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	0 (0%)
		0	0	0	0	0	0	0	0	0	0	

Table (4.15). Behavioural processes in the Abstracts of AL, BU, MA, and SS

Relational processes

In this section, the researcher clarified the Relational processes, which include four parts: intensive, detailed, possessive, and causative that are used in writing abstracts of the soft domain, especially Applied linguistics, Business studies, Management, and Social sciences. Based on the results, Table (4.16) clarifies the percentage and number of using Relational processes in the abstracts (AL, BU, MA, and SS).

NO	Discipline	Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	19 (40%)
		2	2	1	4	2	2	1	1	1	3	
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	17 (30%)
		1	3	0	1	3	1	2	2	3	1	
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	6 (10%)
		1	0	1	2	0	1	0	0	0	1	

4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		1	1	1	2	0	2	2	0	2	0	11 (20%)

Table (4.16) Relational processes in the Abstracts of AL, BU, MA, and SS

In Applied linguistics, the writers used relational processes 19 (40%) in writing abstracts in general. For example, (16), (17) “*Research into the potential of collaborative writing is relatively new* (P 6/ AL/ P.n 1). In this example, the writer used an intensive process which includes verb to be (is, am, are), and (17)

“*The analysis **included** conversational adjustments, self-and other-repetition and positive and negative feedback in the learners’ L1 and second language (L2)*”. (P.4/ AL/ P. n1). In this example, the writer used possessive processes.

In Business studies, based on the findings in Table (4.16), the writers also used relational processes 17 (30%) in writing abstracts. For example, (18) “*Available slack **has** a consistent and positive effect on economic profitability in the short term*”. (P.9/ BU/ P.n1). In this example, the researcher found that the writer used possessive processes (has).

Based on Table (4.16) the researcher found that the writers used the relational processes 6 (10%) in writing abstracts of 10 articles in Management. For example,(19) “*To investigate how GTM is applied in IS research and how the research contributions **are** contingent on those applications, we review 43 GTM-based articles in major IS and related journals*” (P. 10/ MA/ P. n1).

Based on Table (4.16), Social science is the last part of relational processes. The researcher clarified the relational processes and found that the writers used them 11(20%). For example, (20) “*The contribution of this article **is** a critical, sociotechnical reflection on the challenges and opportunities of involving young people in privacy by design decision-making*” (P. 4/ SS/P.n 1). Moreover, in this example, the writer used intensive processes (is). In the next section, the researcher clarifies the Existential processes.

Existential processes

This is the last section in the soft domain analysis of the Existential processes. Table (4.17) shows the number and percentage of using existential in abstracts based on the findings.

NO	Discipline	Participants										Total
1	AL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0	0	0	0	0	0	0	0	1	0	1 (20%)
2	BU	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0		0	0	0	1	1	0	0	1	3 (50%)
3	MA	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0	0	0	0	0	0	0	0	0		0 (0%)
4	SS	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		0	0	0	1	0	0	0	0	1	0	2 (30%)

Table (4.17) Existential processes in the Abstracts of AL, BU, MA, and SS

In Table (4.17), the researcher found that the writers of the soft domain used Existential 1 (20%) in writing abstracts of 10 articles in Applied linguistics. For example, (21)

*“In contrast, **there is** the danger of teachers overusing the L1 and thus disadvantaging their learners by providing less L2 input and fewer learning opportunities (Turnbull, 2001)”. (P.9/ AL/ P.n 2).*

4.3.2 Findings of Research Question Two (Part Two)

Based on Systemic Functional Linguistics (SFL) theory, the researcher explains the hard domain in this section. The Hard domain consists of 40 articles in 4 fields; each field has 10 articles (Biology, Chemistry, Computer, and Engineering). The researcher describes the verb processes used in writing abstracts of the articles. The first process in the taxonomy is material processes. Table (4.18) describes the number and percentage of material processes used in writing abstracts in the hard domain (BO, CH, CO, and EN).

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	BO	7	8	5	8	6	5	6	5	9	4	63(24.10%)
2	CH	9	7	7	8	6	7	5	10	5	7	71(29%)
3	CO	9	11	4	3	5	13	6	4	10	8	68(26.76%)
4	EN	7	7	11	6	5	3	4	5	3	4	55(20.14%)

Table (4.18) Material processes in the Abstracts of BO, CH, CO, and EN

Material processes

The writers used the material processes in writing abstracts in 10 articles of Biology 63 (24.10%). It is not the lowest percentage in the hard domain that was used. For example, (22) “*we **analyse** Ba/F3 cells engineered to express single or multiplexed loss-of-function mutations recurrent in chronic lymphocytic leukemia*”. (P. 3/ BO/ P.n 1) According to the findings, the researcher found that the writers used material processes in a high percentage in writing their abstracts. The following section explains the material processes in Chemistry.

Based on findings in the Table (4.18), the writers used the material processes in Chemistry higher than Biology, and the percentage was 71 (29%). For example, (23) “*A chromatographic method was **developed** for the analysis and quantification of six boswellic acid marker compounds, i.e.* “(P.7/ CH/ P.n 1). The following section explains the material processes in Computer.

Based on Table (4.18), the researcher found that the writers used the material processes in the articles of Computer Sciences abstracts 68 (26.76%). This percentage is near to Biology percentage. For example, (24) “*We **investigated** the feature map inside deep neural networks (DNNs) by tracking the transport map*”. (P.1/ CO/ P.n 1). The last section explains the material processes in Engineering.

Engineering was the last part of the material processes of the Hard domain. The writers used material processes in writing abstracts 55 (20.14%). It was the lowest percentage in the Hard domain. For example, (25)

*“In this paper, we **developed** a new design and preparation method of 2D and 3D composite metamaterial with adjustable isotropic negative hydration expansion (NHE) function based on re-entrant auxetic honeycomb”.* (P.8/ EN/ P.n 1).

Mental processes

The second process in the SFL taxonomy is Mental processes. Table (4.19) explains the number and percentage of the use of Mental processes in writing abstracts in the Hard domain. Based on findings in Table (4.19), the writers did not use mental processes in writing abstracts of 10 articles in the hard domain in Biology. Also, they did not use mental processes in Chemistry.

NO	Discipline	Participants										Total
1	BO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	0 (0%)
		0	0	0	0	0	0	0	0	0	0	0 (0%)
2	CH	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	0 (0%)
		0	0	0	0	0	0	0	0	0	0	0 (0%)
3	CO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	1 (50%)
		0	1	0	0	0	0	0	0	0	0	1 (50%)
4	EN	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	1 (50%)
		0	0	1	0	0	0	0	0	0	0	1 (50%)

Table (4.19). Mental processes in the Abstracts of BO, CH, CO, and EN

In this section, the researcher describes articles on Computer sciences. He found that the writers used metal processes in a low percentage. For example, (26) *“We **expect** that further investigations on these questions lead to the development of an interpretable and principled alternatives to DNNs”.* (P.2/ CO/ P.n 1).

In the last section, the researcher explains the mental process used in writing in the abstract of Engineering. The same low percentage was used in the articles on Computer sciences. For example, (27) “*however, little has been done to **understand** how this impacts the mechanisms of wear. Here we study the impact of initial grain arrangement and crystal orientation on the wear mechanisms of austenitic stainless steel (SS) in dry sliding contact*”. (P.3/ EN/ P.n 1). The next section clarifies the number and percentage of Verbal processes used in writing abstracts in the hard domain.

Verbal processes

In this section, the researcher describes the verbal processes used in writing abstracts of 40 articles in the hard domain. Table (4.20) contains the number and percentage of the use of verbal processes. Based on findings in the table (4.20), the researcher found that the writers used verbal processes in Biology 25 (36.76%). This is the higher percentage in the hard domain that was used in writing abstracts. For example, (28) “*we show that differential editing sites between epithelial and mesenchymal phenotypes function by regulating mRNA abundance of their respective genes.*”. (P.1/ BO/ P.n 1)

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	BO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	25(36.76%)
		2	3	2	2	1	1	4	2	2	6	
2	CH	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	10(14.72%)
		0	0	2	4	1	0	2	0	1	0	
3	CO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	14(20.58%)
		3	1	1	2	0	3	2	0	0	2	
4	EN	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	19(27.94%)
		0	4	1	1	2	3	4	3	1	0	

Table (4.20). Verbal processes in the abstracts of BO, CH, CO, and EN

Based on the findings in Table (4.20), the researcher found that the writers used the verbal processes 10 (14.72%) in Chemistry. For example, (29) “*The results showed that the degradation kinetics of epalrestat followed first-order reaction kinetics.*”. (P.4/ CH/ P.n 1)

In Computer Sciences articles, the researcher found that the writers used verbal processes 14 (20.58) to write the hard domain abstracts. For example, (30) “*We present a detailed description of our algorithm and **show** that it can be formulated as a convex optimization problem*”. (P. 1/ CO/ P.n 1).

In the last section of verbal processes, the researcher explains the processes used in writing Abstracts of Engineering. The writers used verbal processes 19 (27.94%). For example, (31) “*The results **show** that the STF could improve the maximum resistive force and energy absorption of the GFRP-STF composite for both penetration and non-penetration samples*”. (P. 4/ EN/ P.n 1).

Behavioural processes

In this section, the researcher clarifies the number and percentage of behavioural processes in writing abstracts of the hard domain. Table (4.21) shows the number and percentage. Based on findings in the table (4.21), the researcher found that the percentage of Behavioral processes was low. They did not use behavioural in writing abstracts of Biology, Chemistry, and Engineering.

NO	Discipline	Participants										Total	
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10		
1	BO	0	0	0	0	0	0	0	0	0	0	0	0 (0%)
2	CH	0	0	0	0	0	0	0	0	0	0	0	0 (0%)
3	CO	0	0	1	0	0	0	0	0	0	0	0	1 (100%)
4	EN	0	0	0		0	0	0	0	0	0	0	0 (0%)

Table (4.21). Behavioural processes in the Abstracts of BO, CH, CO, and EN

The researcher found that the writers used Behavioral processes just one time in writing the Computer Sciences articles. For example, (observe) (32) “*we **observe** a favorable trade-off of objective function evaluation, classification performance, and complexity of the nonparametric regress or extracted by the proposed method*”. (P.3/ CO/

P.n 1). The section below will explain the Relational processes in writing the abstracts of the hard domain (BO/ CH/ CO/ and EN).

Relational processes

In this section, the researcher clarifies the Relational processes in writing abstracts of the hard domain (BO/ CH/ CO/ and EN). Table (4.22) shows the number and percentage used in writing abstracts of the hard domain. According to the results in Table (4.22), the researcher found that the writers used some of Relational processes 13 (23.65%) in Biology. For example, (is) (33) “*One of the most unusual sources of phylogenetically restricted genes is the molecular domestication of transposable elements into a host genome as functional genes*” (P.2/ BO/ P.n 1). Based on this example writer used intensive processes (is). Intensive processes had a higher percentage usage in Relational processes. For example, (34), and (35) (is), and (are) (34)

” *The Mediterranean mussel *Mytilus galloprovincialis* is an ecologically and economically relevant edible marine bivalve, highly invasive and resilient to biotic and abiotic stressors causing recurrent massive mortalities in other bivalves*”. (P.7/ BO/ P.n 1), and (35) “*Structural maintenance of chromosomes (SMC) complexes are central organizers of chromatin architecture throughout the cell cycle*”. (P.9/BO/ P.n 1).

Moreover, the researcher found that the writers used other Relational processes like possessive processes in the example (36)

“*Dispensable genes usually belong to young and recently expanded gene families enriched in survival functions, which might be the key to explain the resilience and invasiveness of this species*”. (P.7/ BO/ P. n1).

NO	Discipline	Participants										Total
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1	BO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	13(23.65%)
		2	2	0	2	0	0	2	0	3	2	
2	CH	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	14(25.45%)
		4	0	1	1	1	2	1	2	1	1	
3	CO	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	11(20%)
		0	2	1	0	1	1	1	1	2	2	
4	EN	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	17(30.90%)
		2	2	2	1	2	2	1	2	2	1	

Table (4.22). Relational processes in the Abstracts of BO, CH, CO, and EN

Based on the findings in table (4.22), the researcher found that the writers used Relational processes 14 (25.45%) in Chemistry. The intensive processes have the highest percentage in the Relational processes of the hard domain. For example, (37) (was) “*The calibration curve was $A = 1.6 \times 10^5 C - 1.3 \times 10^3$ ($r = 0.999$) with the linear range of 0.5–24 $\mu\text{g/mL}$, the intra-day and inter-day precision was less than 2.0%, as was the repeatability.*” (P.4/ CH/ P.n 1)

In Computer articles, the current study found that the writers used Relational processes to write abstracts 11 (20%). The percentage of the intensive process was the highest in the Relational process. For example, (is) (38)

“One important feature is that zenplot and its auxiliary functions in zenplots distinguish layout from plotting which allows one to freely choose and create one- and two-dimensional plot functions; predefined functions are exported for all graphical systems”. (P.7/ CO/ P.n 1)

The researcher found that the highest percentage was in the Engineering study, which was 17 (30.90). For example, (39) “*Osteogenic and antibacterial activities are two basic requirements for orthopedic implants*”. (P. 10/ EN/ P.n 1). The next section explains the last processes in SFL theory, which was Existential processes.

Existential processes

Existential is the last process in SFL theory, based on the findings Table (4.23), which include the number and the percentage used in writing abstracts of hard domain: Biology, Chemistry, Computer, and Engineering.

NO	Discipline	Participants										Total	
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10		
1	BO	0	0	0	0	1	0	0	0	0	0	0	1(20%)
2	CH	0	0	0	0	1	1	0	0	0	0	0	2(40%)
3	CO	0	0	0	0	0	0	1	0	0	1	0	2(40%)
4	EN	0	0	0	0	0	0	0	0	0	0	0	0(0%)

Table (4.23). Existential processes in the Abstracts of BO, CH, CO, and EN

Based on the findings, the researcher found that the writers used Existential processes in Biology 1 (20%). They used it just one time, for example, (40)

“There is a lack of approaches for identifying pathogenic genomic structural variants (SVs) although they play a crucial role in many diseases. We present a mechanism agnostic machine learning-based workflow, called SVFX, to assign pathogenicity scores to somatic and germline SVs”. (P.5/ BO/ P.n 1)

Based on Table (30), the writers used Existential processes in writing abstracts of Chemistry of hard domain 2 (40%). For example, (41) *“there is still a need to develop a cost-effective, reliable and quick labeling method for insulin”.* (P. 5/ CH/ P.n 1).

In Computer, the same percentage with Chemistry in terms of using Existential processes in writing abstracts 2 (40%). For example, (42) and (43). (42)

*“Unfortunately, for many queueing networks **there is no clear way to proceed with parameter inference from data**”.* (P. 7/ CO/ P.n 1), (43) *“Since the implementation of these methods is not straightforward, **there is a need for a user-friendly tool to perform gene-based gene-gene interaction**”.* (P. 10/CO/ P.n 1).

In this section, the researcher explains the use of Existential processes in writing abstracts of Engineering. Based on the findings in the Table (4.23), the researcher found that the writers did not use Existential processes in writing abstracts of Engineering in the hard domain.

In this section, the researcher explains the differences and similarities in using the verb processes used in the abstracts writing in the soft and hard domains, according to Halliday (1985). Tables (4.24) and (4.25) include the number and percentage of moves used in the soft domain.

Process Fields	Material	Mental	Verbal	Behavioural	Relational	Existential
A.L	90	5	27	—	19	1
BU	72	4	22	—	17	3
MA	71	3	25	—	6	—
SS	74	3	20	—	11	2
Total	307	15	94	—	53	6
Percentage	64.63%	3.15%	19.79%	—	11.15%	1.28%

Table (4.24). Processes (verbs) used in the soft domain articles

Process Fields	Material	Mental	Verbal	Behavioural	Relational	Existential
BO	63	—	25	—	13	1
CH	71	—	10	—	14	2
CO	68	1	14	1	11	2
EN	55	1	19	—	17	—
Total	257	2	68	1	55	5
Percentage	66.44%	0.51%	17.5%	0.25%	14.1%	1.2%

Table (4.25). Processes (verbs) used in the hard domain articles

In these two tables, the current study shows the differences and similarities between soft and hard domains. The findings show that the percentage of all processes (verbs) are nearly similar to each other. For example, the Material processes in soft and hard domains are nearly similar; the differences in use between them are very low, as mentioned in the two tables (4.24) and (4.25). But the current study noted that the Behavioural processes used in the hard domain while did not use in the soft domain.

Chapter five

5.0 Conclusion

In this section, the researcher concluded the findings of the current study. The abstract is one of the most important sections in (thesis, articles, papers) because it helps the reader to decide whether to study and read the research paper or not. The researcher in this study analyzed the data from two points. First, the researcher analyzed the structural moves that are used in writing abstracts of 80 researcher articles. Second, the researcher analyzed the processes verbs that are used in writing abstracts of the same data.

5.1 Review of the Findings

The findings showed that the majority of the writers of the research articles used 4 structure moves for writing research abstracts instead of using five structure moves. The structure moves used in writing research articles are (Introduction, Purpose, Methods, and, Result). The findings show that the writers' methods in writing their articles are unlike Swales' (1990) model. Swales used five moves to analyze the abstract (introduction, Purpose, Methods, results, and conclusion).

The researcher finds out that the writers in the Scientific Journal Rank followed Swales's (1990) model in some moves. However, not all moves are applied in the soft and hard domains. It is mentioned in tables (4.29) and (4.30) in chapter four. The introduction moves; the writers in the soft domain used it 25 (62.5%) while 82.5% in the hard domain. In addition, the writers in the soft domain have used the purpose move 100%, but they used in the hard domain 92.5%. Moreover, the results move used 100% in soft domain whereas they used 80% in the hard domain. Finally, the conclusion moves used in hard domain 15 %, but the writers in soft domain did not use conclusion moves in Soft domain.

In the second part of this study, the researcher analyzed the verb processes used in writing abstracts of 80 articles abstracts. The findings are 475 processes in the soft domain and 388 in the hard domain divided into 6 processes. The first process was material; the writers have used it 307 (64.63%) in writing abstracts of 40 articles in the soft domain, While the hard domain, the writers have used material process 257 (66.44%) in writing 40

abstracts of articles. The second process was the Mental process. The writers have used Mental process 2 (0.51%) in the Hard domain, but in the Soft domain 15 (3.15%). The third process was Verbal; the writers have used it 94 (19.79%) in the Soft domain, while in the hard domain, they have used 68 (17.5%). The fourth process, Behavioral process zero (0%) in soft domain whereas in the hard domain and Existential the writers have used it 6 (1.28%) in Soft domain whereas they used it 5 (1.2%) in the hard domain.

The researcher found that the writers used introduction more than the soft domain in the hard domain, while the writers used Purpose more than the hard domain. Also, the Method move in the soft domain has used more than the hard domain, whereas the result moves in the soft domain more than the hard domain. But the Conclusion move in the hard domain has used more than the soft domain. Based on findings, the researcher concluded that all writers in Scientific Journal Rank did not apply Swales' (1990) model.

Moreover, the researcher found that the writers of soft domains tend to material process more than the writers of hard domains. In addition, the writers in the soft domain used Mental processes more than those in the hard domain. Because the scientific experiments are based on hard domain research, the writers cannot give an idea from their minds. The percentages of the Verbal process are somewhat equal in soft and hard domains. The behavioural process has a low percentage in this study. The researcher found that the writers in the hard domain used it only once, while they did not use it in the soft domain. The same percentage of Relational processes in both field soft and hard domains and the Existential process are also equal. All these findings are mentioned in chapter four.

Finally, the researcher recommends that Swales's (1990) model be advised in (thesis abstract, research abstract, and papers). Swales' (1990) model would make the abstract active and easy for the readers to understand the contents of the (thesis, research, and papers) quickly. Also, if the new writers understand the verb processes and how to use them, it would help them write a good abstract.

5.2 Discussion of the Findings

In this section, the researcher discusses the similarities and differences of the findings between the previous studies and this study. The results of the previous studies and this study have some points cross and some points different.

Some previous studies have found that expert writers tend to be more selective in their moves to promote their papers better. In contrast, the student writers tend to include all the structure moves to be more informative of the content and structure of their papers (Hongwei Ren and Yuying Li, 2011, Fan-Ping Tseng, 2011, Anakib,2020).

In some previous studies (Hongwei Ren & Yuying Li, 2011; Fan-Ping Tseng, 2011; Anakib,2020), the writers analysed verb tense, and they found that the writers used the present tense in the introduction move, the purpose, and the conclusion, while in the method and results, they used the past tense. In addition, some previous studies (Hongwei Ren and Yuying Li, 2011, Fan-Ping Tseng, 2011, Anakib,2020) found that the writers used three moves instead of five moves. The three moves used are introduction, purpose, and results. Anakib (2020) found three types of abstracts: indicative abstract descriptive abstract and informative abstract.

On the other hand, there is a similarity between the previous studies (Al-Khasawneh,2017; Darabed, 2016; Behnam & Golpour; 2014) found that abstracts include four moves instead of five moves, therefore, the writers found that the introduction move is optional and the other four moves obligatory in applied linguistics.

In this study, the researcher found that the introduction moves used in soft domain 62.5% while in hard domain 82.5%. The purpose move used 100% in the soft domain, whereas 92.5% in the hard domain. Method and Results in the soft domain are higher than the hard domain. However, the conclusion moves in the soft domain are lower than the hard domain, as presented in Tables (4.10) and (4.11).

Based on the findings of the second question, the researcher found in this study that the percentage of material processes in the soft and hard domains are equal. The Mental process in the soft domain is higher than in the hard domain. Also, the verbal processes in

the soft domain are higher than in the hard domain. But Behavioural in the soft domain is lower than in the hard domain. The Relational processes are used in the hard domain more than the soft domain. Finally, the Existential processes in the two domains are equal. You can find each field's percentages in soft and hard domains in tables (4.24) and (4.25).

5.3 Strengths of the Study

There are many studies done on the same topic of this study, as mentioned in the previous section, but each study is unique because it tried to cover a new gap. Three strong points distinguish this study from the previous studies. The first point is the researcher selected the data from the top journals (Scientific Journal Ranking). The second point is that the researcher used two theories to analyse the data, which is vital in this study. The third point is the number of data the researcher analysed (80 articles).

5.4 Limitations and suggestions

The current study is limited to mainly to the Genre Analysis of Writing the Abstract in Hard and Soft Domains of some articles published in (Scientific Journal Rank) website especially (As a soft domain: Applied linguistics, Business, Management, Social Sciences, and as hard domains: Biology, Chemistry, Computer, Engineering). It employed a qualitative approach which is under the (ESP and SFL) theories. The researcher analysed the abstracts of 80 articles, divided into disciplines soft and hard domains. The period of conducting the study was in the last decade (2010-2020).

Based on the current study's results, the researcher suggests future studies that like to explore the same topic. This study found that the most used structure moves of abstract are four moves. So the researcher recommended analysing other texts written by non-native speakers in different fields or other journals. Also, future studies can examine the student's research in the English department of any university to obtain new results and address problems that the students or new writers face in academic writing. Last but not least, the research suggests that the writers can explore other data such as research of students in the English department of some Arab countries' universities.

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Appendices

Table 1. Description of Applied Linguistics Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2017	18	194	(Author, data) style
2	ABS	2017	17	174	(Author, data) style
3	ABS	2020	25	202	(Author, data) style
4	ABS	2020	24	209	(Author, data) style
5	ABS	2020	28	149	(Author, data) style
6	ABS	2020	22	225	(Author, data) style
7	ABS	2020	32	199	(Author, data) style
8	ABS	2020	27	228	(Author, data) style
9	ABS	2020	24	219	(Author, data) style
10	ABS	2020	25	210	(Author, data) style
Total	10	10	242	2009	10

Table 2. Description of Business Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2019	12	395	(Author, data) style
2	ABS	2019	20	254	(Author, data) style
3	ABS	2017	19	245	(Author, data) style
4	ABS	2020	18	240	(Author, data) style
5	ABS	2020	19	343	(Author, data) style
6	ABS	2020	13	141	(Author, data) style
7	ABS	2020	17	215	(Author, data) style
8	ABS	2020	18	448	(Author, data) style
9	ABS	2020	21	209	(Author, data) style
10	ABS	2020	18	231	(Author, data) style
Total	10	10	175	2481	10

Table 3. Description of Management Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2018	30	190	(Author, data) style
2	ABS	2018	41	257	(Author, data) style
3	ABS	2020	26	163	(Author, data) style
4	ABS	2018	76	229	(Author, data) style
5	ABS	2020	26	127	(Author, data) style
6	ABS	2020	34	201	(Author, data) style
7	ABS	2017	30	180	(Author, data) style
8	ABS	2019	30	213	(Author, data) style
9	ABS	2017	18	116	(Author, data) style
10	ABS	2017	27	157	(Author, data) style
Total	10	10	338	1698	10

Table 4. Description of Social Sciences Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2020	21	200	(Author, data) style
2	ABS	2020	15	205	(Author, data) style
3	ABS	2020	34	255	(Author, data) style
4	ABS	2020	10	205	(Author, data) style
5	ABS	2020	11	108	(Author, data) style
6	ABS	2020	11	145	(Author, data) style
7	ABS	2020	18	155	(Author, data) style
8	ABS	2020	17	159	(Author, data) style
9	ABS	2020	16	149	(Author, data) style
10	ABS	2020	17	199	(Author, data) style
Total	10	10	170	1575	10

Table 5. Description of Biology Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2020	25	246	numbering style
2	ABS	2020	27	250	numbering style
3	ABS	2020	11	70	numbering style
4	ABS	2020	21	244	numbering style
5	ABS	2020	21	100	numbering style
6	ABS	2020	18	92	(numbering style)
7	ABS	2020	21	244	numbering style
8	ABS	2020	18	94	numbering style
9	ABS	2020	25	209	numbering style
10	ABS	2020	23	242	numbering style
Total	10	10	210	1791	10

Table 6. Description of Chemistry Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2020	14	208	Numbering style
2	ABS	2020	22	150	Numbering style
3	ABS	2019	8	140	Numbering style
4	ABS	2019	8	164	Numbering style
5	ABS	2019	6	144	Numbering style
6	ABS	2019	19	164	Numbering style
7	ABS	2019	9	140	Numbering style
8	ABS	2019	6	138	Numbering style
9	ABS	2019	12	140	Numbering style
10	ABS	2020	7	130	Numbering style
Total	10	10	111	2481	10

Table 7. Description of Computer Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2019	30	127	(Author, data) style
2	ABS	2019	52	318	(Author, data) style
3	ABS	2019	44	166	(Author, data) style
4	ABS	2019	45	90	(Author, data) style
5	ABS	2020	26	155	(Author, data) style
6	ABS	2020	44	290	(Author, data) style
7	ABS	2020	29	170	(Author, data) style
8	ABS	2020	27	96	(Author, data) style
9	ABS	2020	20	175	(Author, data) style
10	ABS	2020	32	202	(Author, data) style
Total	10	10	349	1789	10

Table 8. Description of Engineering Articles

NO	Section coding	Publication of data	Number of pages	Number of words	Citation style
1	ABS	2020	9	181	Numbering style
2	ABS	2020	1	176	Numbering style
3	ABS	2020	14	143	Numbering style
4	ABS	2020	12	194	Numbering style
5	ABS	2020	9	178	Numbering style
6	ABS	2020	15	180	Numbering style
7	ABS	2020	9	140	Numbering style
8	ABS	2020	10	176	Numbering style
9	ABS	2020	9	153	Numbering style
10	ABS	2020	10	167	Numbering style
Total	10	10	113	1688	10

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RESUME

Mohammed Abdulwahhab Ahmed AHMED graduated from the English Language Department in Samarra University. Then, he moved to Turkey to start his Master's education at Karabuk University.

