A DISCOURSE ANALYSIS OF THE ABSTRACTS OF UNDERGRADUATE STUDENTS' RESEARCH: AN INTERDISCIPLINARY STUDY

BY

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Thesis submitted in fulfilment of the requirements for the Degree

DOCTOR OF COMMUNICATION (LANGUAGE PRACTICE)

in the

FACULTY OF HUMANITIES

at the

CENTRAL UNIVERSITY OF TECHNOLOGY, FREE STATE

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June, 2024

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DECLARATION

I, PEACE FIADZOMOR, do hereby declare that this research project submitted to the Central University of Technology, Free State, for the Degree DOCTOR OF COMMUNICATION (LANGUAGE PRACTICE) is my own independent work and complies with the Code of Academic Integrity, as well as other relevant policies, procedures, rules, and regulations of the Central University of Technology, Free State; and has not been submitted before to any institution by myself or any other person in fulfilment (or partial fulfilment) of the requirements for the attainment of any qualification.

…… ……

SIGNATURE OF STUDENT DATE

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DEDICATION

I dedicate this thesis to my dear husband, Mr. Prosper Agbanu, and my lovely children, Cyril, Cecil, and Claudia, for ensuring that I had a peaceful home and mind to complete my thesis. Thank you for your contribution to making this day possible.

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ACKNOWLEDGEMENTS

I wish to first and foremost give praise to God almighty for the precious gift of life and good health and for seeing me through to the end of this tasking voyage.

I would also like to extend my warmest appreciation to my supervisors, Dr. Kabelo Sebolai and Dr. Brenton Fredericks, for making this work possible through their prompt responses, substantial corrections, expert guidance, and constructive pieces of advice.

My heartfelt thanks to the Faculty of Humanities and the Department of Communication Sciences for creating an enabling environment needed to successfully complete this research.

I sincerely wish to extend my thanks to the three schools, the School of Medicine, the School of Nursing and Midwifery, and the School of Allied Health Sciences, for giving me access to the abstracts of their students' dissertations. Without access to data, this work would not have been possible. I am grateful.

I am also indebted to my dear husband for supporting me throughout this difficult but fulfilling journey. God bless and keep you.

To all my close friends and family, especially Ebenezer and all the coders, I say kudos to all of you for your professionalism and for always being there to give me a good push in my time of bleakness.

Finally, I wish to acknowledge the immense contribution of my promoter, Professor Dennis Yao Dzansi. Hats off to you, Professor. I will forever remain grateful.

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ABSTRACT

Research on academic genres like research articles, abstracts, and dissertations has benefited greatly from genre analysis, a text analysis method that emerged in the 1980s. Despite this increasing genre-based research, much research has not been done on undergraduate theses, especially in Ghana. In particular, little is known about the schematic structure and linguistic properties of abstracts of undergraduate theses. In response to this research gap, the present study examined the similarities and differences in theses abstracts written by undergraduates in the Schools of Nursing, Medicine, and Allied Health Sciences of the University of Health and Allied Sciences (UHAS) in Ho, Ghana. Relying on a qualitative research approach backed by the pragmatist research paradigm, this study considered one hundred and 150 abstracts, 50 from each department, focusing on the moves and steps in the abstracts, as well as the transitivity choices made by the writers in each move. In terms of similarities, generally, the dissertation abstracts across the three departments had five moves: Introduction, Purpose, Method, Product, and Conclusion. Relatedly, the Introduction move of the abstracts in all three departments had three steps: the Background, Problem, and Focus. Moreover, the Purpose move was not divided into steps across all departments. The study also found that the Conclusion move had two steps in all three departments: Summary and Recommendations. Concerning differences in the rhetorical structure, the study found that in Nursing, the Method move had eight steps, while in Allied Health and Medicine, the steps were nine and ten, respectively. The study found that the most frequent moves in the Nursing dissertation abstracts were the Introduction, Purpose, and Methods. In Allied Health, the most frequent moves in the analysed data were the Introduction, Purpose, Methods, and Product. In Medicine abstracts, the Introduction, Purpose, and Methods moves were obligatory, with the Product and Conclusion moves to be core. Other differences and similarities emerged regarding the sequence and textual space of moves. In terms of the transitivity choices made, the study found that in the Introduction move, across the three disciplines, material processes were the most used process types, followed by relational processes, mental processes, existential processes, and verbal processes. Across the three disciplines, material and mental processes dominated the Purpose move. In the Method, Product and Conclusion moves, material processes dominated. By adopting an eclectic theoretical standpoint, this study has contributed to the genre theory by extending its application to theses abstracts written by Ghanaian undergraduates. Pedagogically, the study's findings can serve as a starting point for developing teaching materials for academic writing courses targeting the writing of abstracts of undergraduate theses. In addition, the study serves as a starting point for further research into theses abstracts of other disciplines, adopting different theoretical and methodological orientations.

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LIST OF ACRONYMS

AD	Academic Discourse
CARS	Create A Research Space
EAP	English for Academic Purposes
ESP	English for Specific Purposes
IMRD	Introduction-Method-Results-Discussion
NR	New Rhetoric
RA	Research Article
SFL	Systemic Functional Linguistics

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

The results of a study on the choices made for schematic structure and transitivity in abstracts written by students in the Nursing, Nutrition, Dietetics, and Medicine departments at the University of Health and Allied Sciences (UHAS). Schools of Nursing and Midwifery, Allied Health, and Medicine are presented in this thesis. This chapter, which serves as the Introduction, provides background information about the research. This is accomplished by outlining the study's history and the research challenge. This chapter also includes the goal and research questions that guided the study. The study's importance, breadth, constraints, and structure are also considered.

1.1 Background to the Study

Language plays a crucial role in our daily lives as a means to communicate and achieve our goals. When language is used in context, it is referred to as discourse. Thus, discourse is considered a context-oriented utilisation of language (Woods, 2006). In the academic community, a specific type of discourse is used, known as academic discourse (AD). In other words, the language used in the academic community is termed AD (Swales, 2004). Within the larger academy, there are scholarly groups or communities known as disciplines. The scholarly community or discipline is the scholarly setting where academics find themselves. It decides the issues researched, the strategy embraced, the outcomes produced, and how they are composed or shared. Effective scholarly composition, hence, implies projecting a common setting and goals. The concept of the academic community is crucial in English for Academic Purposes (EAP) because it considers how people use language as a community. This suggests that, despite having a recognisable register, scholarly discourse exhibits considerable linguistic differences between fields and sub-disciplines (Hyland, 2006). Crucially, each discipline is concerned with peculiar problems which it seeks to investigate, using distinct methodologies and approaches. These different ways of doing things are also reflected in how they communicate about issues. The implication is that the way language or discourse is structured and used may differ across various disciplines (Moore, 2011). Academic fields of study interpret the world in particular manners, using various forms of language to produce specialised knowledge. This suggests that one must adhere to certain academic standards in order to interact effectively in a given discipline (Murray & Moore, 2006). Disciplines thrive on diachronic and geographical variations, even if it is convenient to think of them as clearly distinct

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entities (Becher & Trowler, 2001). It has been discovered that disciplinary building practices are likely to change through time in terms of diachronic or historical variation (Gillaerts, 2013). Similarly, geographical variation explains how authors' disciplinary writing may be affected by their geographical backgrounds. For instance, a study by Ngula (2015) revealed how Ghanaian authors used epistemic modality differently from their AngloAmerican counterparts in the Social Sciences.

Academic communities are primarily engaged in constructing or building knowledge. This process may involve negotiating and evaluating knowledge claims to ensure they meet disciplinary standards. For instance, before new research is published in a peer-reviewed journal, it undergoes peer review and is published only when the editor is satisfied with its informational quality (Swales, 2004). The assessment of academic research considers its content and rhetoric or how the information is communicated to the target audience (Beke & Boliver, 2009). This is crucial because academic discourse involves an addresser and an addressee, just like our daily interactions. In fact, as Suomela-Salmi and Dervin (2009) point out, academic discourse cannot exist without an "I" and an "Other". The "I" refers to the writer in written academic discourse, while the "Other" is the target audience. In academic discourse, hypotheses and arguments are constructed and negotiated with the target audience, including trained professionals, amateurs, the general public, or the media.

Over the years, there have been various attempts to identify and group academic disciplines. One notable classification was proposed by Becher and Trowler (2001), who argued that academic disciplines can be divided into "pure" or "applied" disciplines and "hard" or "soft" disciplines. In this typology, Natural Science disciplines such as Mathematics are classified as "hard-pure", while Science-Oriented professional disciplines like Engineering are classified as "hard-applied". Moreover, Humanities disciplines such as Theoretical Linguistics are considered "soft-pure", while Social Science or Humanities disciplines, which focus on applying knowledge to real-life situations, are considered "soft-applied". Thus, this typology considers disciplines such as Law and Applied Linguistics as soft-applied disciplines. Generally, hard-pure disciplines adopt quantitative approaches to research, resulting in cumulative knowledge, with discoveries arising from the existing literature. In contrast, knowledge in soft-pure disciplines is subjective, and new advancements emerge from combining existing research and results (Holmes & Nesi, 2009).

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Another model by Hyland (2006) presents disciplines as a continuum consisting of Hard Sciences, Social Sciences, and Humanities.

Academic discourse has become a fruitful area of research and has attracted scholarly attention from various fields. In Applied Linguistics, studies on academic discourse have led to the development of the English for Academic Purposes (EAP) field, which has focused on helping non-native speakers of English use English competently in their academic communication (Flowerdew, 2014). The research has mainly concentrated on various academic genres' discoursal, grammatical, and lexical properties, and the findings have been used as teaching material. However, in recent times, the scope of EAP research has been expanded to include examining how knowledge is produced and shared in different disciplines (Suomela-Salmi & Dervin, 2009). As a result, various academic genres are now studied as part of EAP research, including genres produced by experts, such as research articles and those produced by novices, such as theses (Ngula, 2015).

Previous EAP research has primarily focused on the research article, with much of this interest emerging from attention to this genre. Since then, various aspects of the research article, such as its abstract and sections like the Introduction, Method, Analysis and Discussion, and Conclusion, have been extensively studied. Studies on the research article have primarily concentrated on its textual organisation and linguistic characteristics (Byun, 2015; Menezes, 2013; San & Tan, 2012). Apart from the research article, other forms of academic genres, such as textbooks, monographs, conference proceedings, critical reviews, edited collections, festschrifts, viva voce, and theses (Afful & Nartey, 2014), have received less attention despite their importance in academic communication. The dissertation, in particular, has become an increasingly popular area of research, giving its importance in students' lives. In Ghana, some studies have examined the language of dissertations of both undergraduate (Afful & Nartey, 2014) and post-graduate students (Afful, 2016). The present study extends the literature on undergraduate dissertations by examining the textual organisation and linguistic properties of dissertation abstracts written by students in three departments in a Ghanaian university, the University of Health and Allied Sciences (UHAS).

1.2 Statement of the Problem

As a genre of academic writing, the abstract allows investigators to briefly summarise the data presented in their paper. Research papers, symposium presentations, dissertations and theses are just a few academic genres that now come with abstracts. Despite this multiplicity of academic

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abstracts, studies on abstracts have largely focused on the research article abstract. In fields like Accounting, Library and Information Science (Lee, 2017), and Medical Science (Abdollahpour & Gholami, 2018), particular emphasis has been paid to the rhetorical form of academic article abstracts (Amnuai, 2019). In addition, some have considered the linguistic features of research article abstracts (Abarghooeinezhad & Simin, 2015; Bašić & Veselica-Majhut, 2016; Nurhayati, 2017). The linguistic properties examined include tense, modality, hedges and boosters (AlonsoAlmeida, 2014; Kwary, Kirana & Artha, 2017; Hu & Cao, 2011). These studies have suggested that disciplinary and cross-cultural factors and the linguistic background of the writers of abstracts influence the schematic structure and linguistic elements used. Unlike abstracts written by experts, those written by novices have attracted little scholarly attention. This is especially true for low- and middle-income countries, such as Ghana, where research into students' writing practices is considered unattractive (Afful, 2005). A review of the literature suggests that in Ghana, only one published research exists on dissertation abstracts (Afful & Nartey, 2014). Afful and Nartey (2014), in particular, focused on the lexical cohesion in the abstracts without looking at their schematic structure. Given the significance of genre-based research for improving students' writing, it is important to analyse the schematic structure of abstracts written by novices in Ghana. The current study compares the schematic organisation and lexico-grammatical characteristics of dissertation abstracts written by undergraduate students in three UHAS departments focusing on health. With regard to linguistic features, the study focuses on transitivity choices made across the moves of the abstracts.

1.3 Research Aim and Objectives

1.3.1 Aim of study

In conducting this study, I aim to undertake a discourse analysis of the abstracts of undergraduate research students with a view of ultimately producing a framework that can be used to assist students in writing abstracts that meet departmental and disciplinary requirements.

1.3.2 Objectives

1. To examine the structural similarities and variations among the three departments' dissertation abstracts.

2. To assess the variations and parallels between the three departments' movements of the abstracts in terms of frequency and order.

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3. To analyse the lexico-grammatical characteristics of the three departments' abstracts to find out how they are similar and different.

1.4 Research Questions and Sub-questions

1.4.1 Main research question:

1. How are the abstracts written by students in the three departments different and similar in terms of move structure and lexico-grammatical features?

1.4.2 Sub-questions:

1. What differences and similarities exist in the abstracts written by students in terms of their rhetorical organisation?

2. What differences and similarities exist in the frequency and sequencing of the moves of the abstracts in the three departments?

3. What are the similarities and differences in the linguistic realisation of the abstracts in the three departments?

1.5 Significance of the Study

The proposed study is important in two ways: scholarship on academic discourse and pedagogy.

The current study represents a considerable effort to contribute to the body of knowledge on scholarly language. The study's significance is remarkable in that it adds to the body of knowledge on beginning writers in general and abstracts in particular.

Over the years, research into academic writing has substantially paid attention to expert writing. Only a few research on students' writing skills has been done, particularly in Ghana (e.g., Afful, 2005; Afful & Nartey, 2014). As a result, the current study represents one of the first efforts to evaluate the schematic organisation of student abstracts in Ghana, which makes it extremely important.

It is important to understand the educational value of studies focusing on a particular genre, such as this one. Such studies have been shown to improve students' writing skills, especially in countries where English is spoken as a second language, like Ghana (Hyon, 1996). Equally crucial

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is appreciating the study's educational value. It is, therefore, essential for EAP practitioners to utilise the findings of this study to create teaching and learning materials for undergraduate students, particularly those in the disciplines examined in this research. By exposing students to the organisational features and process types found in dissertation abstracts, they can better understand the disciplinary requirements of abstract writing. To this end, it is crucial to draw on the present study's findings to produce teaching and learning materials for undergraduates, especially those in the disciplines considered in the present study. Exposing students to the organisational features as well as the process types in the abstracts will go a long way to open their eyes to the disciplinary requirements pertaining to abstract writing.

1.6 Scope and Justification of the Study

Setting clear boundaries for a study of this nature is crucial to ensure a reasonable scope. In this section, I will outline three boundaries for the theoretical framework, the genre being studied, and the disciplines being examined. I also provide some arguments for my decisions.

One of the main restrictions for this investigation pertains to the fields of study that were selected. As Becher and Trowler (2001) categorise academic fields into three main categories, namely humanities, social sciences, and natural sciences, it is crucial to determine which discipline(s) to concentrate on when examining the impact of disciplinary knowledge on language use. Previous literature suggests that cross-disciplinary studies yield more noticeable differences when the disciplines being compared come from broader disciplinary domains, such as Physics and Applied Linguistics (Ngula, 2015). Therefore, for this study, I decided to select disciplines that fall under one broad domain. This approach is essential as it will help reveal differences among disciplines belonging to one broad domain, which most previous studies have overlooked.

The second delimitation of this investigation is related to the genre chosen for the study. Specifically, this study focused solely on the abstract genre written by novices and did not consider any other academic genres. While this approach may limit the scope of the study, it allows for a more detailed analysis of the impact of disciplinary knowledge on language use within this genre. As significant carriers of the epistemological assumptions of disciplines, abstracts have attracted scholarly attention, with studies focusing on both its rhetorical organisation (e.g., Belyakova 2017, Juan & Tao 2013; Marefat & Mohammadzadeh, 2013) and linguistics features (Bašić &VeselicaMajhut, 2016; Farjami, 2013; Kuhi & Mousavi, 2015). The present study focused on

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undergraduate dissertation abstracts, a departure from previous studies that focused on abstracts written by experts, such as research article abstracts (Farjami, 2013; Nurhayati, 2017; Sarfo-Adu, 2015). This unique approach allows for a more detailed analysis of the impact of disciplinary knowledge on language use within this specific genre, as most previous studies ignored undergraduate dissertation abstracts.

The final delimitation concerns the theory selected for the study. Three theoretical perspectives could be used to analyse the rhetorical organisation and linguistic features of the genre: English for Specific Purposes (ESP), Systemic Functional Linguistics (SFL), and New Rhetoric or the North American School. However, being a linguistic study, the proposed study could use either of the first two theories. However, because SFL concentrates on genres for elementary and secondary schools, the ESP approach is the best choice for a university genre (Hyon, 1996). ESP is consequently used as the theoretical foundation for the current study.

1.7 Limitations of the Study

The study has some limits, as does each academic project, and they must be recognised. The examination of abstracts is the only focused aspect of the study. Therefore, it misses the opportunity to hear from the abstract writers regarding their reasons for the linguistic/rhetorical choices. Consequently, the study may leave out some contextual sensibilities which could be revealed if the text analysis were complemented by interviewing the writers of the abstracts. Additionally, using qualitative methods for the present study has implications for the generalisability of the findings.

Admittedly, 50 abstracts from each department may not be representative of the disciplines in general. However, the findings can be generalised to the specific departments in question.

1.8 Organisation of the Study

There are six chapters in the thesis. The backdrop of the study, statement of the problem, research questions, the scope of the investigation, significance, and organisation are all covered in Chapter One, which is the Introduction. Chapter Two focuses on the conceptual framework used. It discusses key concepts underpinning the study and presents the theoretical framework. The third chapter evaluates the previous studies related to the present study. Chapter Four focuses on the methodological issues of the study. It discusses the research design, research philosophy, sampling

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procedure, etc. The analysis and discussion are presented in the fifth chapter, and the conclusions, study impacts, and further research proposal ideas are summarised in the sixth chapter.

1.9 Chapter Summary

An overview of the complete research project is given in this chapter. It addressed the study's history, problem statement, research aims and questions, significance of the investigation, study scope, study limits, and study summaries. A discussion of the conceptual and theoretical frameworks that the study is placed within is covered in the following chapter.

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CHAPTER TWO

LITERATURE REVIEW I: THEORETICAL AND CONCEPTUAL ISSUES

2.0 Introduction

In the preceding chapter, I provided a comprehensive overview of the general context of this research study. This chapter will focus on the frameworks for the analysis of academic discourse. The aim is to provide a conceptual context for the research. The chapter is divided into two parts. The first part delves into the three analytical/theoretical standpoints employed for genre analyses. The second part introduces key concepts crucial to the study: genre, discipline, and discourse. I addressed the general context of this research study in the earlier chapter.

2.1 Theoretical Framework

This section focuses on the analytical framework used in this study. First, I introduce the three main approaches to genre analysis. I then narrowed it down to the specific approach used in this research and provided a rationale.

Over the years, several theories have been developed for genre analysis. Bawarshi and Reif (2010) classify these theories into literary, linguistic, rhetorical and sociological traditions in their attempt to give a historical review of genre theories. In this study, I exclude the literary theories of genre since the study is linguistic (instead of literary) in nature. This study, therefore, leans more on the classifications of genre presented by Hyon (1996) and Flowerdew (2002).

Hyon (1996) categorises genre scholarship into three groups: English for Specific Purposes (ESP), New Rhetoric (NR), and Systemic Functional Linguistics (SFL). Flowerdew (2002) further divides these categories into linguistic and non-linguistic methods. According to Flowerdew, ESP and the Australian school employ linguistic methods and pay attention to the rhetorical organisation of texts and their linguistic realisations and communicative purpose as embodied by the genre. In contrast, the NR group is more focused on context, purpose and function, as well as the attitudes of members of the discourse community where the genre is located, and are less concerned with lexico-grammar and rhetorical structure.

It must be noted that this research is based on the ESP theory because the method focuses on all three aspects of genre (graphic structure, vocabulary and grammatical function, and context of word use). It is equally important to note that the linguistic resources are analysed using the

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transitivity approach, an aspect of SFL. In the following sub-sections, I start with the NR tradition and discuss the three types of theoretical perspectives in more detail.

2.1.1 New Rhetoric (NR) Tradition

The NR describes North American scholarships from various disciplines related to native language (L1) teaching, including rhetoric, composition, and technical writing (Hyon, 1996). Scholars in these fields are different from those in ESP because they focus more on the situation in which a genre occurs rather than the form and particularly emphasise the social goals or behaviours of these genres in these situations (Mozaheb et al., 2014). Miller's (1984) article "Genre as a Social Action" is influential in shaping the NR genre theory. In it, Miller (1984:151) argues, "a rhetorically sound definition of genre must be centered not on the substance or the form of discourse but on the action it is used to accomplish."

In its earliest days, the NR theory was combined with theories in classical rhetoric, literature, and communication. The focus was on historical and cultural issues that affect the emergence and development of a genre. A genre is considered purposeful, typical social behaviour. Genres are believed to respond to recurrent social behaviour and take shape over time (Miller, 1994). Genres are, thus, considered to be closely associated with the social contexts in which they emerge and the individuals or groups involved in such contexts (Lave & Wenger, 1991). This suggests that the thesis abstracts written by undergraduates in an academic context will have characteristics peculiar to the academic context. In addition, there is a link between the thesis abstract and such undergraduates since they are the primary individuals who engage with this genre.

In the NR, genres are viewed beyond their linguistic properties. Genre is regarded as social artefacts that shape communication, and as such, considerable attention is given to the "social" dimension of genres (Bazerman, 1988). In some cases, NR scholars extend the conceptualisation of a genre to cover artefacts such as drawings, clothing, architecture, etc. (Russell, 1997). The NR initially focused on the study of mundane, daily genres used in "communities of practice", with special attention to whether members of those communities eventually learned the acceptable use of a genre (Berkenkotter & Huckin, 1995).

Because context plays a significant role in NR research, many scholars in NR spheres have used ethnographic rather than linguistic approaches (including observational research, surveys, and

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document collection) to examine texts. They have focused on explaining how academic and professional contexts shape the use of genres (Schryer, 1993, 1994; Smart, 1992, 1993). One particularly useful aspect of ethnographic research is its ability to reveal the perceptions, principles, and ideologies often associated with a given genre within a community. For example, Freedman and Medway (1994) relied on ethnographic research to gain a deeper insight into the acceptable linguistic properties of a particular genre. By taking the social context into account, researchers can uncover important insights about the nature of genres that might not be immediately apparent from a purely linguistic perspective.

2.1.2 Systemic Functional Linguistics (SFL) Tradition

SFL, or systemic functional linguistics, is the second theory of genre analysis that is covered in this thesis. The frameworks for genre analysis in SFL have been created for numerous projects (Mwinlaaru, 2018). One of these models is the generic structural potential proposed Halliday and Hasan (1985). According to Halliday and Hasan (1985), there are two separate ways that a text might be unified: (a) unity of texture and (b) unity of structure. The text's "cohesive harmony" is addressed in the first, which is texture unity, and is achieved through cohesive devices. Unity of structure, often referred to as generic structure potential, is the meaning that a genre's structural parts have with respect to its contextual characteristics. According to Bowcher and Liang (2016:252), "It is an analytical abstraction in realizational relation with the semantic and lexicogrammatical elements of a text". According to Hasan (1985:108), a genre is "a short form for the more elaborate phrase 'genre-specific semantic potential' and the verbal expression of a contextual configuration" that may include both required and optional components. The arrangement of the text parts is also crucial. As a result, the Generic Structure Potential (GSP) responds to the following inquiries: What elements must exist, what elements can occur, where must they occur, where they can occur, what elements must occur, and how often can they occur?

Corollary to Hasan's GSP is Martin's (Martin & Rose, 2008) approach to genre analysis, which emphasises schematic structure and linguistic realisation of genres. A genre is defined as a "system of staged goal-oriented social processes through which social subjects in a given culture live their lives". He argued that genres should be analysed at the level of context of culture, independent of a register which is examined from the perspective of context of the situation. This argument was based on the fact that registers can vary from genre in two respects. First, different

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stages of a genre may vary in terms of the register deployed, and second, there can be register variation that generally reflects field, tenor, and mode. Martin (1992:547) asserted, "The reason for separating field and genre as far as obligatory elements of text structure are concerned is to maintain inter-relationships among activity sequences and inter-relationships among text structures as distinct patterns of agnation regardless of mode." The analysis of the register of the various stages of a genre allows the analyst to offer a meaningful explanation for such a linguistic realisation of the stages.

Matthiessen and Teruya (2015) has recently developed a framework that considers the semantic relations between different text segments. The framework, which is an advancement of the Rhetorical Structure Theory (Mann & Matthiessen, 1991; Mann & Thompson, 1988), allows for the analysis of texts at three levels—(a) context, (b) semantics, and (c) lexico-grammar. At the context level, text analyses focus on the generic or schematic structure, and semantics focus on the logico-semantic relations. At the same time, lexico-grammar considers the linguistic resources used to realise the logico-semantic meanings. Whereas these three theories overlap, they significantly complement one another. Essentially, while Hasan (e.g., Halliday & Hasan 1985) GSP and Martin (e.g., Martin, 1992; Martin & Rose, 2008) seem to focus on schematic structures and their realisations, Matthiessen's RST (e.g., Matthiessen & Teruya, 2015) focuses on the semantic links that exist in texts.

The SFL genre analysis is distinct from the ESP and NR in a number of ways. First, rather than focusing on college and professional writing, the SLF school has since its start concentrated on examining primary and secondary school genres and nonprofessional workplace papers. This focus distinguishes the SFL from the ESP, which (Hyon, 1996) concentrates on genres in higher education settings, especially when English is a second language. Moreover, Freedman and Medway (1994:9) correctly note, "There is far greater emphasis by the Sydney School scholars on explicating textual features, using Hallidayan schemes of linguistic analysis." As a result, SFL genre analysts emphasised textual organisation and register qualities at the sentence level that are connected to the field, tenor, and mode (Hammond, 1987; Martin & Rothery, 1980). We can, therefore, conclude that the SFL is comparable to the ESP and different from the NR to the extent that it places more emphasis on the linguistic characteristics of genres than the social circumstances.

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2.1.3 English for Specific Purposes (ESP) Tradition

The final theoretical perspective of genre analysis considered in this study is the ESP tradition. According to Bawarshi and Reif (2010), ESP is committed to learning and teaching specialised English varieties in advanced academic and professional environments, usually for non-native English speakers.

It is generally agreed that the ESP theory has existed since the 1960s. John Swales further popularised it in his study of the research article. Thus, Swales' (1990) influential book, Genre Analysis, is considered one of the works that strengthened the ESP theory's foundations. In this area, scholars have defined genres as verbal and written text forms identified within social contexts by their formal characteristics and their communicative purposes. Swales (1981, 1986, 1990) has significantly contributed to the ESP genre theory. According to Swales (1990:58), genres are defined as "communicative events" characterised by both their "communicative purposes" and different "structure, style, content and intended audience."

In this book, Swales (1990) delineated the focus of ESP. According to him, research in ESP is intended to concentrate on how language is used in academic settings. This explains the focus of this theory on academic genres such as the thesis, which the present study also analysed. In addition, Swales indicated that the express objective of ESP is to help improve the English language skills of students who find themselves in contexts where English is used as a second or foreign language. Thus, since its inception, the ESP theory has been driven by its objective to use the findings of research to develop academic writing aids for students. This ESP objective aligns with the present study's overall purpose, which is also geared towards applied ends.

As noted earlier, the ESP perspective shares similarities with the SFL approach. In particular, the SFL focuses on the communicative goals of genres and their organisational and linguistic properties. Like the SFL, the ESP also identifies the frequency of occurrence and the sequencing of the rhetorical units identified in genres. Also, in analysing the linguistic properties of genres, ESP researchers have relied on linguistic theories such as Halliday and Matthiessen's (2014) systemic functional grammar, which is associated with the SFL. The present study also relies on this theory of grammar to examine the transitivity patterns employed in each move of the abstracts analysed. On the other hand, ESP researchers situate genres in discourse communities, which allows them to pay attention to the context of genre use.

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2.2 Key Concepts

It is crucial to explain the key concepts involved in the present study. These include the concept of genre, discipline, discourse community and thesis.

2.2.1 Genre

Etymologically, the term “genre” is derived from the Latin word for “kind” or “class” (Liu, 2012). Traditionally, it takes into account various forms of literary and artistic works. Recently, linguists have expanded it to define language use and communication categories. Since the 1970s, the emphasis has been on a deeper and multi-layered description of rhetorical units of texts as well as their communicative functions in fields such as stylistics and text linguistics. Genre analysis has, thus, evolved into a significant branch of discourse analysis (Bhatia, 1993).

Although the 1970s witnessed the introduction of the genre into Applied Linguistics, the formal establishment of genre analysis as a field occurred in the 1980s when some applied linguists began paying particular attention to the socio-cultural aspects of linguistic communities rather than a mere surface description of language. Genre analysis provides text analysts with an analytical framework that allows them to examine genres' communicative functions and linguistic features. It developed as a means of analysing registers and later paid attention to how grammatical resources are used to achieve rhetorical purposes (Bhatia, 2004).

Over the years, the field of Applied Linguistics has seen a proliferation of definitions of genre. Of these definitions, reference is often made to the definition offered by Swales (1990). He defines the concept as a “recognizable communicative event characterised by a set of communicative purpose(s) identified and mutually understood by the members of the professional or academic community in which it regularly occurs” (Swales, 1990:58). Swales also stressed how typical genres are, with limitations on what can be added to their practical use, move order, and communication aim. However, these limitations become tools knowledgeable participants in discourse communities employ to accomplish their personal goals.

Swales developed the concept of genre, which was further elaborated by Bhatia in 1993. Bhatia emphasised the significance of expressive intent and presented the behavioural and cognitive level of genre creation. He stated that the rhetorical structure of genres is shaped by the overall communicative function of a genre, and major changes in these communicative functions can result in entirely new genres, while minor ones result in sub-genres. Bhatia (1993) also pointed

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out that expert members of specific discourse communities know the communicative functions and rhetorical structure of the genres they engage with. For example, a lecturer who routinely writes research papers is familiar with the structure and communication goals of the study article.

2.2.2 Discipline

Scholars have defined the concept of "academic discipline" from two perspectives: narrow and broad. Those who take a narrow view consider academic disciplines only from the epistemologies of the concept. Kiger (1971:52-53) adopted the narrow view and described discipline as a "recognized branch or segment of knowledge within rational learning [with] certain generally agreed upon canons or standard". Kockelmans (1979:127) provided an additional description of discipline as "a branch of learning or a field of study defined by a body of intersubjectively appropriate knowledge relating to a well-defined domain of entities, thoroughly developed using methodological rules or procedures" on a foundation of generally accepted principles.

Unlike the narrow view, which limits the concept to epistemology, the broader perspective covers the epistemic, faculty, administration, research and teaching. A good example of this perspective is the following definition: "the structure of knowledge in which faculty members are trained and socialized; carry out tasks of teaching, research, and administration; and produce research and educational output" (Del Favero, 2003:10). This definition considers a discipline to be a community with its own focus, activities and members. Lindholm-Romantschuk (1998:23) gives a similar definition:

> "A delimited cultural domain, a socially and culturally defined organizational arrangement that focuses on knowledge production and growth. An academic discipline can be characterized as an epistemic community whose members have a special frame of reference oriented toward specific objects of investigation".

The concepts of department, subject, field, and course are sometimes considered synonymous with discipline, though some differences exist. While some scholars (e.g., Robles, 1998) perceive a department as the same as a discipline, others (e.g., Lindholm-Romantschuk, 1998) see the department as the administrative structure of a discipline. The opinion of Lindholm-Romantschuk (1998) mirrors the practices of higher education institutions worldwide, where physical structures and human resources are considered as the department, for instance, 'The Department of Psychology'.

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In addition, scholars do not agree on the relationship between field and discipline. On this, such scholars are divided into three camps. Those who fall into the first camp consider the field a general term under which discipline falls (e.g., Braxton & Hargens, 1996). The second group contends that discipline is a broader term, a sub-division of which is field. For example, Becher (1994) and Akoto (2018) align with this second group. Finally, there is the opinion that the two concepts can be used interchangeably—hence, they are interrelated (Alise, 2008; Del Favero, 2003; Kockelmans, 1979).

Scholarly views on classifying academic disciplines are generally divided into generalist and variationist perspectives (Akoto, 2018). The generalist principle says that all disciplines are comparable regarding rhetoric and language usage, although they vary in content or disciplinary knowledge (Luo & Hyland, 2017). In recent times, studies into disciplinary variation have debunked this view. Afful (2010:26), for instance, has noted that "the notion of disciplinary variation arises partly as a result of the rejection of the traditional view of academic writing as monolithic, predictable, and invariant." The variationist perspective of disciplinarity emerged from this rejection of the generalist view. For the variationists, rhetorical and textual conventional differences exist among disciplines considered unique and specific (Hyland, 2005; Merrill, 2000).

Relying on the variationist conceptualisation of discipline, scholars have attempted to classify disciplines based on their similarities and differences (e.g., Becher & Trowler, 2001; Hyland, 2000; Kuhn, 1970). Some classify disciplines into two broad categories: soft and hard (Becher & Trowler, 2001; Biglan, 1973; Storer, 1972), life and non-life (Biglan, 1973), and pure and applied (Biglan, 1973; Storer, 1972). Classifications by other scholars consider disciplines in terms of three groups: natural sciences, social sciences, and humanities (e.g., Hyland, 2000). Finally, other classifications recognise four sub-groups of disciplines: hard-pure, hard-soft, softpure and soft-applied (Merrill, 2000). The present study adopts Hyland (2000) classification of disciplines. Thus, the disciplines of Nursing, Allied Health, and Medicine used in the present study are considered science disciplines.

Hyland (2009:24) underscores that "differences should be seen on a continuum rather than as polar opposites." Hyland's (2009) model is based on the key parameters of subject classification: paradigm, codification, organisational structure and consensus (Akoto, 2018). Consensus pays particular attention to the degree of harmony among members of the disciplinary community on

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theories, methods, issues, etc. It is believed there is a high, mid and low consensus within physical sciences, social sciences and the humanities, respectively (Del Favero, 2003). Two factors informed the choice of Hyland's classification. First, Hyland's model includes new disciplines that have emerged due to inter-disciplinarity. This gives it an advantage over models such as Biglan's (1973). Additionally, Hyland uses the term Sciences (instead of Natural Sciences or any other term) as an umbrella term:

> "Sciences is conveniently used as an umbrella term for the sub-classifications of sciences into natural sciences, biological sciences, behavioural sciences, medical sciences, physical sciences, etc. The expression Natural Sciences seems emphatic and appears to cut off some other (hard) sciences, which appropriately cannot be described as natural" (Akoto, 2018:40).

Research shows that some scholars do not agree on classifying disciplines into the three areas identified by Hyland (2000). For example, Eslami-Rasekh et al. (2012:5) noted that "the scope of Social Sciences is extremely large, and it contains a wide range of disciplines such as Anthropology, Communication, Education, History, Psychology, etc." Despite this disagreement, there are some conceptual, theoretical, and empirical differences among these three disciplinary domains. It is largely believed that the Humanities emphasise the strength of an argument, the Social Sciences focus on the relevance of methodology, and the Sciences focus on the truism of research results (Afful, 2005, 2010; Swales & Feak, 1994).

2.2.3 Discourse Community

The concept of "discourse community" stems from the assumption that humans use language to interact with specific groups of people rather than the world as a whole. (see Borg, 2003; Ngula, 2015). While the term has a long history in Applied Linguistics, its definition is attributed to Swales (1990), who regarded it as a community of individuals with objectives they aim to achieve through communication. The literature on discourse community also suggests that what defines members of specific discourse communities is their common interest (Johns, 1997). Barton (1994:57) provides a very general definition of discourse community:

> "A discourse community is a group of people who have texts and practices in common, whether it is a group of academics, or the readers of teenage magazines. In fact, discourse

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> community can refer to the people the text is aimed at; it can be the people who read a text; or it can refer to the people who participate in a set of discourse practices both by reading and writing".

Speech community and interpretative community, according to Borg (2003), are the forerunners of the concept of discourse community. Speech community refers to individuals with a particular language and shared language usage standards (Hymes, 1972). In contrast, interpretive community concerns a network of people with common ways of reading literary texts, particularly (Fish, 1980).

Discourse community, however, differs considerably from speech community and interpretive community. On the one hand, one can opt to be a member of a discourse community, but it is impossible to decide to be a member of a speech community (Borg, 2003). In other words, people are born or adopted into speech communities, but in discourse communities, new members are accepted through apprenticeship, recruitment or some required expertise. Moreover, the term "speech" used in speech communities seems to limit the membership of such communities to the use of spoken language. Therefore, it does not include people engaged in writing. Also, while discourse community is typically a socio-rhetorical notion, speech community is typically sociolinguistic (Swales, 1990). On the other hand, the discourse community differs from the interpretive community (whose membership is based on shared ways of reading literary texts), given that members of the former have shared goals achieved through language use or communication (Borg, 2003).

Swales (1990) summarises that discourse communities are goal-driven, have communication mechanisms, transmit information and get feedback from members, have a set of genres and specialised lexis, and have a membership hierarchy. These features, though implicitly, highlight the international nature of discourse communities. This is important, especially to ESP teaching, given that it projects the status of nonnative English-speaking students as well as the interconnection of members of particular disciplines across the globe (Borg, 2003). According to Flowerdew (2000), those in a specific discourse community must recognise these traits. For this reason, it is essential for students who are enrolling in academic fields to master the genres and conventions that are frequently employed by specialists in those particular disciplines. This suggests that students need to be apprenticed into their disciplines by introducing them to these

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features and ways of conducting research and communicating findings. This can be done through independent and collaborative research with experienced practitioners.

It has been acknowledged that the idea of a discourse community holds significance in educational settings (Ngula, 2015). Its significance has been evident especially in academic writing, given that it helps improve the writing skills of novice writers who are "inducted into their disciplinary discourse communities through various forms of apprenticeship" (Flowerdew, 2000:128). The role of academic communities in this is to emphasise "the participatory, negotiable nature of learning and the fact that learning is not always based on overt teaching" (Flowerdew, 2000:128). The concept of discourse community has a powerful clarity that makes it possible for us to recognise individuals in particular social circumstances and how their argumentative tactics vary according to a communication's goals, location, and target (Hyland, 2009). The concept of a discourse community is deemed crucial in the current study to investigate the typical language and grammatical characteristics that distinguish abstracts published by students in the chosen subjects. I, therefore, agree with Hyland's argument that the idea of discourse community represents a "principled way of understanding how meaning is produced in interaction and proves useful in identifying how writers' rhetorical choices depend on purposes, setting and audience" (Hyland, 2009: 66).

2.2.4 Thesis

The term "thesis" can be interpreted as a controversial claim made for discussion or a belief maintained or supported in an argument. According to Afful (2012), a thesis (also known as a "dissertation" in the American context) is a key component of graduate research education. It is often used to prove a writer's expertise in conducting advanced research at universities. According to Hyland (2001), a university student's thesis is their most important writing task. Most people consider the thesis to be a compelling research study. It shows that the person is informed about scholarly discourse and pertinent study areas (Koutsantoni, 2007).

On how to use the phrases "thesis" and "dissertation", academics are divided (Cone & Foster, 2006). Graduate student research papers are referred to as "theses" in the British sense, whereas undergraduate research reports are often referred to as "dissertations". The situation is the opposite in Australia and some European countries (Cone & Foster, 2006). The line between a thesis and a dissertation is frequently blurred. For instance, in the United States, master's degrees

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are typically awarded with a thesis, while doctorate degrees are typically awarded with a dissertation. The two names are, however, frequently used identically in American universities. In Ghana, theses are associated with academic master's or doctoral degrees, while dissertations are linked to practice-oriented programmes (Akoto, 2011).

Theses can be categorised based on the higher education student's level. Undergraduate theses, master's theses, and doctoral theses are all options (Akoto, 2011). Post-graduates produce master's and doctoral theses, but the undergraduate thesis is written by students at the end of their studies. The two postgraduate types (master's and doctoral theses) share similarities and differences. While they share some similarities, such as intellectual works produced by postgraduate students and researchers, there are also some key differences between them. Both types of papers are designed to contribute to the existing body of knowledge and result from extensive research. Additionally, they are created to meet the requirements of advanced degrees. This is supported by research by Akoto (2011) and Koutsantoni (2007).

The undergraduate thesis, which is also known as a final project report or project work, is the focus of the current study. This is the main genre of undergraduate assessment in many universities. Project work typically lasts the entirety of the final year of undergraduate studies or the second semester at most Ghanaian colleges. Typically, it is composed with the guidance of a supervisor who is an authority in the subject matter. Student receives guidance from their supervisor when completing a research project. This involves regular consultations to approve suggestions, monitor progress and provide direction throughout the research process. This genre is purported to demonstrate students' initiative and effective review of literature, conduct research, analyse the results, and make discoveries. To achieve this, the writer must present themselves as competent individuals by projecting their disciplinary self and interacting with readers conventionally. The key challenge lies in demonstrating an acceptable level of intellectual independence while still acknowledging readers' extensive knowledge and expertise in the field, as discussed in research by Scollon and Scollon (1995).

The project work as a whole can be divided into part genres. It has a front matter comprising a cover page, dedication, acknowledgements, table of contents, and a list of tables and figures. Following the front matter is the body of thesis, which usually comprises five chapters: Introduction, Literature Review, Methodology, Findings and Discussions, and Conclusion. After

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the concluding chapter, there is a list of references, followed by an Appendix. Each of these part genres can offer rich opportunities for linguistic analysis. In this particular study, the abstract partgenre will be the primary focus of inquiry.

2.3 Chapter Summary

The conceptual and theoretical underpinnings of the investigation have been presented in this chapter. It has been underlined that this work is positioned within the ESP genre tradition in terms of theory. However, the SFL and NR traditions of genre studies were also covered in the chapter. The chapter further discussed the concept of genre, discipline, and thesis. The aim was to provide the theoretical and conceptual grounding for the present study. In the next chapter, I discuss the empirical literature underpinning the study.

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CHAPTER THREE

LITERATURE REVIEW II: EMPIRICAL REVIEW

3.0 Introduction

The philosophical and conceptual material pertinent to the current topic was reviewed in the previous chapter. This chapter expands on the literature review by concentrating on the empirical research associated with the study. To ensure that the literature remains relevant to this study, I will now focus the review on the rhetorical organisation of abstracts, linguistic features in abstracts, and the disciplinary variation evident in those abstracts.

3.1 Previous Studies on Abstracts

This section presents a critical evaluation of existing research on abstracts. The discussion is divided into two parts: an analysis of abstracts in terms of moves and an examination of their linguistic aspects. The present study investigates the structure of moves and the language used in their execution.

3.1.1 Abstracts in Move Analysis

A number of prior studies on the move structure of abstracts (e.g., Santos, 1996; Lorés, 2004; Cross & Oppenheim, 2006; Zhen-ye, 2008; Vathanalaoha & Tangkiengsirisin, 2018) followed the intradisciplinary method to study, indicating that they concentrated on a single topic. Lorés (2004) analysed 36 RA abstracts from well cited journals in linguistics to uncover the graphical architecture and theme arrangement of linguistics research article abstracts. The research showed two basic categories for the rhetorical organisation of RA abstracts: Introduction-MethodResult and Discussion (IMRD) and Create A Research Space (CARS). The study also revealed a distinct realisation of thematic progression across the moves of the RA abstract. Cross and Oppenheim (2006) explored the semantic and thematic organisation of L2 RA abstracts using the intradisciplinary viewpoint and with an emphasis on the field of protozoology. The writers noted the five moves—Relation to other research, Purpose, Methodology, Summarising the findings, and Discussing the research—that make up the rhetorical organisation of the abstracts. On the other hand, it was discovered that the sentences' themes centred on the "real world".

Zhen-ye (2008) concentrated on personal pronouns and sentence structure in the field of financial economics. In contrast to the research by Lorés (2004) and Cross and Oppenheim (2006),

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Zhen-ye's (2008) study showed that the majority of the abstracts varied from Bhatia's (1993) model, leading to three move patterns: move rearrangement, move absence, and move insertion. The study also showed a higher use of first-person pronouns than other personal pronouns. Similarly, Kanoksilapatham (2013) investigated the abstract movement of civil engineering. The data for the study consisted of 60 English abstracts of studies on civil engineering that were deliberately chosen from prestigious journals. Subsequent analysis revealed how the information in the abstracts was organised through a five-move structure comprising the Background, Purpose, Methodology, Results, and Discussion moves.

Salager-Meyer (1990) performed a move analysis on 77 abstracts published between 1986 and 1989. Abstracts from 37 distinct medical magazines were gathered. The summaries were taken from journal articles, case studies, and scientific papers. The study revealed that more than half of the abstracts were well structured while the others suffered structural deficiency. The study revealed that some of the abstracts lacked clear structure. Specifically, the following structural deficiencies were identified: (a) missing moves, (b) presenting information in an illogical manner, and (c) having overlapping concepts within paragraph structures.

Tankó (2017) analysed RA abstracts in the discipline of literature, focusing on the communicative purpose of identified moves, move structure, and lexico-grammatical realisation of moves. The study included 135 abstracts from four influential global publications and uncovered an eight-move structure that included announcing the research topic (background), stating current knowledge or research gap (statement), announcing purpose or research objective, Method/ research methodology (design), outcome (results and findings), validity and reliability of findings, conclusion, and recommendation. The study found that five of these moves were common in the abstracts and necessary to serve as the study's foundation, purpose, approach, and outcomes. The LRA abstract, which shares a similar style with the RA introduction's rhetorical framework, combines narrative and informational elements. The analysis revealed that the abstracts had a high level of lexical richness and intricate syntactic structure.

In her 2010 study, Fangsa (2010) examined the rhetorical structure of abstracts from PhD dissertations in education administration. The corpus was made up of 100 abstracts that were obtained between 1977 and 2007 from Dissertations International Abstract and ProQuest using an electronic database. The model adopted for the analysis was the five-step model of Santos (1996)

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and the framework proposed by Paltridge and Strafield (2007). The results showed that the rhetorical moves were consistent with the models used for the analysis: positioning the study, displaying it, explaining the approach, summarising the findings, and interpreting the research are the first four steps. It was also found that the distribution rates of obligatory moves were 98%, 96%, 92% and 72%, which were closely related to the models used for the analysis. The relevance of this study to the present one lies in the fact that they both focus on abstracts written by students.

Othman (2011) examined the genre of thesis abstracts produced by learners in the English faculties of Sudanese institutions. The study was primarily concerned with exposing the discursive framework of the abstracts and the tenses of the verbs and tones of voice used in each abstract. The data for the study was made up of 39 randomly sampled abstracts. Results showed that some of the moves found in the abstracts were consistent with those identified by Bhatia (2004), with slight variations according to the sequencing of the moves. The simple present tense was predominately used in all of the moves, with occasional instances of the past tense. Moreover, the passive voice was the most frequently used in all movements. It is worth noting that both studies focused on abstracts written by students, which makes them connected.

Hochhold (2018) aimed to understand the structure and vocabulary selection of L1 Physiotherapy master's thesis abstracts through genre analysis. In terms of methodology, 131 abstracts from Canada, New Zealand and Australia were collected online, and then mobile and corpus analysis were performed. In addition, considering the length of abstracts in English, they were compared with ninety abstracts from Austria and Switzerland. The conclusions had important ramifications for the creation of educational resources. This study is linked to the current study to the degree that it centred on student-written abstracts. Ahmed (2015) studied the rhetorical structure of tourism research abstracts. His data included 30 randomly selected abstracts of tourism research papers. The findings demonstrated that the move structure and communication goalsachieving tactics varied significantly.

In the area of academic writing, Setyorini (2017) examined the rhetorical form and lexicogrammatical characteristics of abstracts. Using a qualitative research design, the author analysed ten abstracts using the genre theory. The study revealed a five move pattern (Research, Purpose, Method, Result, and Conclusion), with the purpose and Method move to be obligatory.

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While Setyorini's study focused on a different discipline, its relevance to the present study is that they both focus on abstracts written by students.

Unlike the studies reviewed in the preceding paragraphs, some intradisciplinary studies encompass other sources of variation. Among studies of this kind are those that add cross-lingual variation to intradisciplinary variation. As an illustration, Marefat and Mohammadzadeh's (2013) study, which examined the generic structure of Literature RA abstracts, did so across RA abstracts written in English and Persian. One key finding of their study was that in literature RA abstracts, more attention is given to the introduction and results sections than the other sections of the RA abstracts. It was also revealed that Persian authors followed their standards, which slightly deviated from international norms. Similar to this study, a 2017 investigation by Ghasempour and Farnia (2017) looked at the rhetorical structure of abstracts in law. Based on Hyland's (2000) fivemove structural model, the study compared the abstracts written in English and Persian. It was discovered that all of Hyland's model's moves were required in Persian abstracts, but only the introduction and Purpose moves were required in English abstracts.

Farzannia and Farnia's (2017) study also aimed to investigate the move organisation in English and Persian mining research paper abstracts. In order to accomplish this, 60 abstracts authored by native English and Persian speakers were studied based on the five rhetoric move models of Hyland (2000) to discover the trends in the abstracts' moves. The results of the study showed that there are 4 types of moves in regular abstracts in the English corpus (Purpose, Method, Product, and Conclusion) and 5 types of regular actions in regular abstracts in the Persian corpus (Introduction, Purpose, Method, Product, and Conclusion). The statistical analysis showed statistically significant differences in the Purpose move across the two data sets. However, there were no significant differences in the other moves across the two corpora.

Similarly, Noorizadeh-Honami and Chalak (2018) explored the structural resemblances and distinctions of RA abstracts authored by English and Persian authors. The authors created a corpus of sixty abstracts in English and Persian, 30 in each language, from English ISI publications and Iranian scholarly journals for this purpose. On Swales's (1990) model, an examination was conducted. The analysis found that, with a few minor differences in the frequency of the moves, abstracts in the two sets of data matched Swales' pattern. Additionally, it was discovered that most of the actions in both groups took place in the order Introduction-Method-Results Discussion.

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Some scholars have also investigated interdisciplinary variations in RA abstracts across cultures. A study by Belyakova (2017) on abstracts produced in English by English-speaking specialists and inexperienced Russian scientists in the field of geoscience serves as an illustration. Similarly, Juan and Tao (2013) also studied RA abstracts in the field of Medicine across Englishmedium and Chinese-medium journals. Compared to their English-language colleagues, they discovered that Move 1 was used less frequently, and the passive voice was used more frequently in the Chinese language journals. Such cross-language comparisons are on the rise due to the growing need for successful interaction with the global discourse community, and they have led to some intriguing results. These results, which various cultural conventions may influence, are highly significant from a teaching standpoint for students learning English as a second language.

Additionally, Vathanalaoha and Tangkiengsirisin (2018) investigated the grammatical constructions and linguistic characteristics of Thai and foreign dental research paper abstracts. The researchers created two distinct datasets with 120 abstracts from dentistry journals accredited by the Impact Factors (IF) and Thai-Journal Citation Index (TCI). The data showed that Thai authors disregarded the Purpose move. It was also found that the Thai and international authors used the Background, Methods, Results, and Conclusion moves. Focusing on the field of Accounting, Amnuai (2019) investigated how authors' cultural and linguistic backgrounds can lead to variation in move structure and linguistic features of abstracts. The author built a corpus of sixty RA abstracts, 30 each written by Thai and international researchers. The international authors came from diverse nationalities. One significant finding of the study was the varied use of tenses across the two categories of writers.

From a comparative perspective, Rawdhan, Ebadi, and Loan (2020) focused on the discipline of Applied Linguistics at a university in Iraq. Specifically, they compared abstracts produced by local and international students, reporting that, unlike the international students, the local students presented hypotheses and outlines of the research in the abstracts. The study additionally revealed that the Product or Result move occurred more frequently in the abstracts produced by the local students. While this study focused on a different discipline, it is related to the present study as it considered abstracts written by students.

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A different line of inquiry with an intra-disciplinary focus contrasted English language abstracts produced by native speakers of the language with those written by non-native speakers. These research studies include Dong and Xue (2010), Ji (2015), and Al-Khasawneh (2017), to name a few. The generic structure of the abstracts provided by both sets of writers followed a threemove sequence (Introduction, Method, and Conclusion), according to Al-Khasawneh's (2017) study, which concentrated on the field of Applied Linguistics. The author, however, reported some significant variations in the realisation of introduction and conclusion moves. Another study by Abarghooeinezhad and Simin (2015) explored the rhetorical structure, verb tense and voice in RA abstracts written by native English speakers and non-native (Iranian) speakers. The author focused on abstracts written in the field of Electronic Engineering. In the study, the author utilised 50 published abstracts as data, twenty-five from each category of writers. The study revealed some variations across the two categories of authors.

Dong and Xue's (2010) study analysed twenty abstracts, ten from each category of writers, focusing on the rhetorical organisation of the moves. Compared to abstracts produced by nonnative speakers, the study found that those produced by native speakers had a more complicated thematic framework. Another interesting finding was the revelation that the introduction and results moves were obligatory, with the methods and discussion moves being optional in the abstracts written by native speakers of English. In general, studies that fall in this category have provided significant pedagogical implications for language teaching. Such research has also shown that writers' linguistic backgrounds could influence how they write abstracts. Given that Ghana is a non-native English-speaking country, this highlights the need for the present study, which will likely influence how the students in focus will structure their abstracts.

Several other studies have also compared RA abstracts written by experts to those written by novices. In this case, abstracts written by graduate students (as novices) are often compared with those written by lecturers (e.g., Byun, 2015; Menezes, 2013; San & Tan, 2012). For instance, a study by Byun (2015) compared abstracts written by graduate students reading English as a Second Language to those written by expert researchers, focusing on the move structure and metadiscourse features. Ninety-one abstracts written by each group constituted his data set. His study revealed that the abstracts written by novice writers followed John Swales' model for analysing abstracts. It was also revealed that novice writers preferred using evidentialities, boosters, and engagement markers.

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Another category of studies has focused on the status of journals, investigating abstracts published in highly ranked journals. Focusing on the status of journals, Oneplee (2008) analysed the rhetorical structure of abstracts written in these two prestigious journals in the field of Science: Nature and Science. The author limited his study to the abstracts published between 2006 and 2008 in those journals. His study revealed a five-move structure characterising the abstracts analysed: Background, Purpose, Methodology, Findings, and Conclusion. In terms of textual space, the author found that the authors devoted less space to the Methodology move, indicating that the writers of the abstracts placed less significance on the Methodology. Based on this finding, the author concluded that authors in Science emphasise findings more than Methodology.

Similar to the studies reviewed above are those that compare abstracts published in highranking journals to those published in less prestigious journals. A notable illustration of this kind of study is that of El-Dakhs (2018). El-Dakhs (2018) contrasted peer-reviewed publications from linguistics journals with high Web of Science and Scopus index numbers against lesser-known ones in his study. He realized that Linguistics abstracts were usually consistent with Hyland's fivestep structure. The dominant move structure was "Purpose-Method-Findings-Conclusion", representing nearly a quarter of the move structures of abstracts in increasingly prestigious journals. Regarding discourse markers and interpersonal relationships, significant discrepancies between the two sets of abstracts were also found in the investigation.

Some research evaluated abstracts from multiple institutions within the same discipline. For instance, Derakhshan and Nadi (2016) looked at the discursive structure of abstracts in the TEFL area. Students from the Islamic Azad University in Gorgan and the University of Tehran wrote the abstracts. The data comprised 100 abstracts, 50 from each university. The results revealed significant differences in the abstracts written by students of the two universities. This study and the present one differ in terms of disciplines. However, they are similar since they both focus on abstracts produced by undergraduates.

Although research with an intradisciplinary focus (as described above) is important to the present study, interdisciplinary research is more relevant to this study because the study also focuses on interdisciplinarity. I shall thus go into greater depth about these investigations. Work that contrasts abstracts from two or more fields falls into category A. In contrast, scholarship

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involving cross-disciplinary and other forms of heterogeneity falls into category B. Previous interdisciplinary studies on RA abstracts can be split into these two categories.

Genre theory has been dominantly used in exploring abstracts across disciplines. Such studies normally focus on the move structure, communicative purpose and linguistic features that differentiate abstracts from different disciplines. An example of studies of this kind is the one by Cavalieri (2014), which compared RA abstracts in the disciplines of Applied Linguistics and Medicine. In this study, the author focused on communicative practices and linguistic features that characterise abstracts in the two aforementioned disciplines. It was found that in the field of Medicine, more emphasis is laid on the empirical aspects of research. At the same time, theoretical and methodological research perspectives are given greater importance in Applied Linguistics. The study also revealed greater author visibility (evident in the use of personal pronouns and verbs of saying) in Applied Linguistics relative to Medicine. The importance of Cavalieri's (2014) study to the present one lies in the fact that his study considered one of the disciplines the present study focuses on Medicine. This notwithstanding, his study focused on expert writing, while the present study focuses on abstracts written by undergraduates.

Darabad (2016) conducted a comparable study to examine abstracts' linguistic manifestation and layout structure. He used 63 abstracts, with 21 issued abstracts from each of the three domains of applied linguistics, applied mathematics, and applied chemistry. The study found that the abstracts' linguistic characteristics and rhetorical arrangement varied. Particularly, there were differences in how different fields used linguistic elements like self-mentions, voice, and verb tenses. Pho (2008) examined the rhetorical organisation of abstracts in applied linguistics and educational technology and the language integration of moves and author posture in various abstract activities, employing 30 abstracts from three publications. The findings indicated that the introduction, an explanation of the research techniques, and a summary of the findings were the three mandatory steps in the abstracts of these two fields. The findings also demonstrated that distinguishing abstract activities might be aided by a mix of certain linguistic elements, including grammatical topics, verb tenses, and phonetics.

Another interdisciplinary study by Kosasih (2018) compared abstracts in four disciplines: Public Administration, Management, Fisheries Management, and Mathematics Education. In his study, he focused on thesis abstracts written by students at a university. The analysis was grounded

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in Bathia's four-move structure and Swales and Feak's five-move structure. The study used ten abstracts from each discipline for the analysis. The study revealed the Aim-Method-Result pattern as the most frequently occurring move pattern in the disciplines studied.

Applied Linguistics and English as a Second Language (Al-Shujairi, Ya'u, & Buba, 2016), Law and Business (Hatzitheodorou, 2014), five sub-disciplines of Engineering (Maswana, Kanamaru, & Tajino, 2015), Nanoscience and Nanotechnology (Hwang, Nguyen, & Su, 2017), Linguistics and Literature (Doró, 2013), Applied Linguistics, Applied Economics and Mechanical Engineering (Saboori & Hashemi, 2013), and Linguistics and Applied Linguistics (Suntara & Usaha, 2013) have also featured in some previous studies of this kind. These studies are important because they reveal the main similarities and differences between the target disciplines concerning abstract writing.

Some studies analysed abstracts intending to reveal disciplinary as well as cross-linguistic variations in a study that investigated variation in the rhetorical structure of RA abstracts in the Linguistics and Translation studies disciplines. Pezzini (n.d.) investigated cross-linguistic variation. Specifically, the study examined comparative abstracts written in English and Spanish. It was found that the simple present tense, unlike the past tense, more frequently occurred in the abstracts. The study also revealed a significantly high occurrence of the active voice in all the moves of the abstracts. The study also revealed less author visibility by using the passive voice and avoiding personal pronouns.

Finally, some interdisciplinary studies compared RA abstracts with other genres. Samraj (2005), for instance, compared the rhetorical structure of RA introductions and abstracts from two related fields: Conservation Biology and Wildlife Behaviour. It was found that RA introductions and abstracts in Conservation Biology are largely similar in terms of function and rhetorical organisation, which was not the case with Wildlife Behaviour. This research shows that disciplinary differences in academic writing are also evident in the relationships between genres.

Talebinezhad et al. (2012) investigated variations in structure in Persian to English abstract translations. They contrasted them with English-language abstracts originally prepared and published in international journals in the field of Medical Science. The study's data comprised 64 abstracts, 32 for each corpus. It was discovered that there were notable disparities in the Method move between the two sets of abstracts concerning organisational units. The study also showed

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significant differences between the two corpora in terms of terminologies, syntactic elements, and the Introduction move. Another intriguing conclusion of the study was that, in contrast to the original abstracts, which typically disregard this norm, the translated abstracts adhered to the accepted guidelines for scientific writing.

Some studies have compared articles written by two types of authors: local and international. For example, a Thai researcher, Vathanalaoha (2017), compared the structural organisation of Thai dental article abstracts with that of international journals. Each data set consisted of 120 randomly sampled abstracts. The study showed that Thai authors ignored the Purpose move, which appears in articles published in international journals.

Similar to this are studies focusing on nativeness as a source of variation. The purpose of Hai-lin and Huan's (2010) study, for example, was to explore the general structural differences between native English speakers and non-native native speakers in RA abstracts. Theoretically, the IMRD l (Introduction-Method-Results-Discussion) model was used for analysis. The study shows that, compared with non-native speakers, native speakers made the Results move an obligatory move. On the other hand, as revealed by the study, non-native speakers made the Introduction move an obligatory move in their abstracts.

Alhuqbani (2013) also investigated the Arabic-language abstracts' logical organisation in a separate study. Research compared abstracts from four fields: Law, Linguistics, Medicine, and Police. The data for the study consisted of 40 abstracts in total, ten from each field. The analysis of the data using Bhatia's (1993) four-move structure and Hyland's (2000) five-move structure revealed intriguing differences in the rhetorical organisation of the four fields. The author noted that abstracts in Medicine conformed to either of the models used for the analysis, while abstracts in the other disciplines did not follow any predictable format. The author explained the findings in that Arabic journals do not give writers any format to follow in writing their abstracts. While this study focused on abstracts written in Arabic, the present study focuses on Abstracts written in English. That notwithstanding, to the extent that Alhuqbani's (2013) study included Medicine, one of the disciplines the present study is interested in, the two studies are related.

Lee (2017) aimed to investigate the structural organisation and linguistic features of research article abstracts in the field of Library and Information Science. The author compared the schematic structures across articles published in Korean and English. The study found structural

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variation in the realization of moves across the two languages. The variation was especially evident in the occurrence and distribution of moves across the two languages. Additionally, the study revealed the Introduction-Purpose-Method pattern as the most dominant move pattern in the English corpus. At the same time, the Korean articles had the Introduction-Purpose-MethodResults as the dominant move pattern. Finally, the study revealed that the Method move carried the largest textual space in the English corpus while the Results move occupied the largest textual space in the Korean corpus.

Amnuai et al. (2020), concentrating on Applied Linguistics, carried out a genre inquiry into abstracts produced by Thai academics. The sample for the study consisted of 30 abstracts that were published in six journals with TCI indexes. The investigation concentrated on the tenses of verbs, voices, and social techniques as lexicogrammatical properties. The study revealed the Product move as the most dominant one in the abstracts analysed. Also, the author found variations in verb tenses and voice across the moves in the abstracts. Specifically, it was found that the Method move was replete with both the active and passive voices. Similar to this, Santos's (1996) study in the field of Applied Linguistics focuses on the generic structure of RA abstracts. Her data comprised 94 abstracts, all published in reputable journals for the study. The investigation identified a fivemove pattern: establishing the research; moving on to Move 2: offering the study; moving on to Move 3: summarising what the study discovered.

From a contrasting rhetorical viewpoint, Jeon and Eun (2007) examined the abstracts of PhD theses authored by Korean and American authors. They picked five doctoral study abstracts by American writers and five doctorate thesis abstracts by Korean authors. They attempted to examine the macrostructure using passive voice usage and a few referral terms (such as "the," "this," and "etc.") based on the Introduction-Method-Results-Discussion (IMRD) structure established by Swales (1990). The results showed that the key abstracts' macrostructures were not substantially different from the others. The study found that Korean writers' abstracts were considerably longer than American writers. The study also revealed that although Korean writers used the passive voice to achieve impartiality, American writers used it to promote cohesiveness. It was discovered that both writers used "this, these" in place of "that, that" in referential terms, indicating that they believed the dissertations were emotionally connected.

Language studies RA abstracts in French and English were compared by Bonn and Swales

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(2007). The investigation found a number of variations. First, it was found that several features (such as voice selection) were linked to the two languages' overall differences. Additionally, it was discovered that variations in how the study report was "situated" were most likely caused by variations in discourse community size.

A comparison of RA abstracts in the disciplines of agriculture, nursing, engineering, and languages was undertaken by Friginal and Mustafa (2017). In order to conduct the study, the author analysed abstracts issued in Iraq and the United States (U.S.) between 1995 and 2016 for every field. Biber's (1995) multifaceted method of text evaluation served as the research's foundation. The findings revealed that American and Iraqi authors built abstracts in similar and intriguing ways, particularly in terms of (1) how they organise and distribute data, (2) how operational discourse is expressed in abstract writing, and (3) how writers convey bluntness and claim.

Abdollahpour and Gholami (2018) intended to explore the generic structure of abstracts in the field of Medical Science. The study specifically aimed at revealing the frequency of moves in the abstracts. For this purpose, the authors built a corpus of 1,500 empirical RAs published in highranking journals. The study revealed a five-move pattern. Setting up the study, showcasing the investigation, and discussing the research were considered among the five moves, whereas explaining the method used and synthesising the findings were required. Although the authors of this research and the current one are different, they are comparable since both emphasise the subject of medicine.

This sub-section has concerned itself with previous studies focusing on the move structure of abstracts. It is evident that though many studies exist on this subject, little is known about abstracts written by students in Ghana. It is this gap that the present study seeks to fill.

3.1.2 Linguistic Features of Abstracts

The linguistic components frequently studied in disciplinary variance studies are the subject of this subsection. Usually, the register and corpus linguistic perspectives are used to analyse these language resources.

The first category of such studies consists of those that are discipline-specific. A case in point is Farjami's (2013) research. He focused on Applied Linguistics. In Applied Linguistics journal papers, Farjami (2013) revealed the findings of a corpus-based study that examined the

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frequency of words in abstracts. He concentrated on abstracts that appeared in prestigious Applied Linguistics journals between 2005 and November 2011. The study's key finding was that language was the most common content word in the articles. In research with an intra-disciplinary focus, engineering (Abarghooeinezhad & Simin, 2015), English as a Foreign Language (EFL) (Nurhayati, 2017), and linguistics (Bašić & Veselica-Majhut, 2016) have all made significant appearances. The usage of verb tenses and voice in abstracts produced by non-native Iranian English speakers as opposed to English native speakers was the topic of Abarghooeinezhad and Simin's (2015) study. The study found no discernible variation in verb selection between these two groups of authors.

While the research papers discussed in the preceding paragraph concentrated on a single field, other investigations combined intra-disciplinary and other types of variation; these studies include those that incorporate cross-linguistic and intradisciplinary research. For instance, Hu and Cao (2011) examined how hedges and boosters were used in Chinese and English-language journals in the area of Applied Linguistics. In comparison to studies published in Chinese-language journals, their data show that English-language articles have a definite hedge effect and that empirical RA abstracts utilise more boosters than non-empirical academic abstracts. Although this type of cross-language research is not specifically relevant to this study, it does demonstrate how linguistic and cultural factors can lead to variations in RA abstracts within the same topic.

The variations in abstracts through time have also been studied in some intradisciplinary studies. These investigations include those carried out by Haas (1994) in the field of biology and those carried out by Gillaerts (2013) and Mousavi (2015) in the field of applied linguistics. From a diachronic standpoint, Gillaerts' study looked at the rhetorical elements in the abstracts of a known worldwide academic publication with a long history in the discipline of Applied Linguistics. This study found a rise in stimulants and attitude markers, suggesting that abstracts are becoming more explicit about their persuasive aims.

Research projects with a cross-disciplinary focus fall under the second category to be considered. Applied Linguistics, Civil Engineering, and Dentistry are among the fields that have been compared (Moattarian & Alibabaee, 2015), along with Humanities, Social Sciences, and Natural Sciences (Stotesbury, 2003a, 2003b), Physics, Sociology, and literature (Babaii & Ansary, 2005), and Linguistics, Psychology, and Educational research (Muoz, 2013). One of the first studies of this type was published by Graetz (1982), who examined over 87 abstracts from diverse fields, including Health Sciences. She tried to grasp their language characteristics and found that

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abstracts “give the reader an exact and concise knowledge of the total content of the very much lengthier original, a factual summary which is both an elaboration of the title and a condensation of the report” (Graetz, 1982:23). Ventola (1997:345), however, faults Graetz of using “merely a list of some of the realizations found in the scientific abstracts studied”.

In light of the usage of citations and the active (first-person pronouns) and passive voices in the abstracts from three disciplines, Stotesbury (2003b) was particularly interested in identifying whose voice was heard in them. His research revealed that the humanities abstracts differed greatly from those in the Social Sciences and Natural Sciences because they received four times as many citations. The survey also discovered that whereas abstractions in the arts and social sciences tended to use the passive voice and impersonal metaphors, abstracts in the natural sciences were likelier to use the author's voice. It is relevant to the current study because it focuses on the sciences.

The present and past tenses were discovered to be the most prevalent tenses in a study by Kwary, Kirana and Artha (2017) that examined the similarities and contrasts in verb tenses and voice usage across four diverse sports (Health Sciences, Life Sciences, Physical Sciences, and Social Sciences). The analysis also showed that the abstract's most prevalent modal was “can.” Similar to this, Sala (2015) investigated how differently and in accordance with what linguistic parameters such texts codify ideational material, represent disciplinary beliefs and values, and negotiate meanings with the community of reference using RA abstracts in four different disciplines — Applied linguistics, Economics, Law, and Medicine. It was found that knowledge construction was conceptualized in three ways: (a) knowledge making resulting from experimental activities, (b) knowledge construction from cognitive processes, and (c) knowledge construction from discoursal or reporting activities. Though with varying degrees, these conceptualisations of knowledge construction were found in all the disciplines studied.

Ebrahimi (2016), Çakır (2016), Ebrahimi and Motlagh (2015), Rashidi and Alihosseini (2012), and Dahl (2004) also conducted similar studies. For instance, Ebrahimi’s study examined the themes and patterns found in 120 abstracts of research articles from the fields of applied linguistics, economics, agriculture, and applied physics. On the other hand, Çakır examined how stance adverbs were used in RA abstracts. Sarfo-Adu’s (2015) research on nominalization in RA abstracts is another study. Using a corpus of 50 abstracts taken from different domains, Sarfo-Adu compared the use of nominalisations in the abstracts of RAs in the Humanities and the Sciences.

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The study's conclusions showed that the abstracts had a nominal writing style. It was shown that nominal structures were more common in the sciences than in the humanities. Additional analysis within the discipline revealed a diverse use of suffixation in manifesting nominalisations.

Alonso- Almeida's (2014) study was both cross-disciplinary and cross-linguistic in focus, in contrast to the previous cross-disciplinary studies examined. In English and Spanish RA abstracts from the fields of Medicine, Computing, and Legal Science, Alonso-Almeida investigated evidentiality and epistemic tools. One significant conclusion of the study was that generally speaking, the employment of evidentiary and epistemic techniques was more prevalent in the English sub-corpus than the Spanish one across all fields examined. This study's relevance to the current one stems from the fact that both featured Medicine as one of the fields of focus.

The fact that Bondi's (2014) study focused on both a diachronic and crossdisciplinary topic sets it apart from those already discussed. In order to track changes over a time period that has seen massive growth in the prestige of abstracts in the field, as well as their increasing availability in electronic journal databases, Bondi investigated self-mention and authorial voice in three different disciplinary fields (History, Economics, and Linguistics). The study revealed a frequent use of the pronoun, We, especially in the discipline of Economics and History. The study also revealed that the word, study, which was found to be a keyword in the data analysed, projected authorial voice. Its use also increased in Economics and Linguistics and reduced in History from 1990 to 2010.

3.2 Studies on Disciplinary Variation

I now focus on the extensive empirical literature on disciplinary variance, beginning with the sciences, in the following subsections.

3.2.1 Sciences

In the succeeding sections, I discussed the makeup of the scientific field. These studies are evaluated in accordance with three criteria: (1) those that concentrate on the sciences as a whole, (2) those that concentrate on a particular science discipline or disciplines, and (3) diachronic studies.

A substantial amount of literature on the Sciences comes from the studies of Martin (Martin, 2007; Martin & Veel, 2005). One of the interesting issues that have been studied is how science is represented as a technical register. It has been found that knowledge in science is often

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represented in technical terms, which sets it apart from "commonsense knowledge". This technical representation is achieved through the use of nominalisations or grammatical metaphors, which allow scientific writers to create taxonomies, evaluate entities, and achieve cohesion (Martin & Veel, 2005). This discovery supports Lemke's (1990) finding that specialized lexis is commonly used in the sciences. It has also been found that science is not completely objective as it also conveys interpersonal information. For instance, Martin (2007) has demonstrated that authors use modal elements to express causality in science that serve interpersonal functions. This argument has also been supported by Hood (2010), who found that evaluation is used in two ways in the Sciences. The first way is through object evaluation, which is achieved by employing explicit evaluative lexis, such as adjectives. The second way is through the evaluation of contributions to knowledge, which is done implicitly.

While the studies examined in the previous paragraph considered sciences as a unified discipline, some studies considered science as an aggregate of individual disciplines and focused on the language of distinct sub-disciplines of science. Among all sub-disciplines of science, Biology, Mathematics, and Physics have garnered much research attention (Cardinali, 2015; Doran, 2018; Humphrey, Martin, Dreyfus & Mahboob, 2010; Humphrey & Hao, 2013; Martinez, 2005; O'Halloran, 2005, 2007, 2009, 2011). In Biology, studies have revealed that differences exist across genres. It has been reported that writers of Biology research articles tend to adopt an impersonal style to distance themselves from the findings reported. This differs from what happens in Biology textbooks, which seem to be more personal. Textbooks are directed to novices, and the personal style allows writers to guide them through critical issues and enhance their understanding (Conrad, 1996).

A study by Humphrey et al. (2010), which focused on Biology texts written by undergraduates, found that linguistic resources are used in classifying entities. In particular, adjectives are used together with nouns to specify the referents of such nouns, thus putting them into specific classes or categories. Similarly, Cardinali (2015) examined academic writing in Biology. His findings suggest that lexical bundles are substantially used to connect ideas in texts. As highlighted by Humphrey's (2016) study on knowledge production in Biology classrooms, given that students are considered novices in their respective disciplines, it is important to expose them to disciplinary writing practices.

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As noted earlier, some studies have also examined the discourse of Mathematics. In a study by O'Halloran (2005), the focus was on how signs and visuals represent the world in Mathematics. She notes that these elements make Mathematics unique from Humanities disciplines and similar to other science disciplines like Physics. Martin (2007) made an interesting observation in the discipline of Geology. He found that technical registers emerge from activity sequences, which serve as participants' referent terms. Moreover, he added that knowledge is represented as ideational meanings in texts.

Some studies have examined the discourse of science from a diachronic standpoint. SalagerMeyer (1999a) has examined how contentiousness historically developed in science texts. In Salager-Meyer (1999b), attention was given to developing referential terms in academic writing in science disciplines. The following year, Salager-Meyer (2000) reported how academic conflict evolved in the discipline of Medical Sciences from 1810 to 1995. Halliday and Martin (1993) have also considered how the language of science developed over time, from the period of Chaucer to the 20th century. Halliday (2002:173) also concluded that the interplay of nominalization and causality empowers "the clause to function effectively in constructing knowledge and value" in scientific texts. In a more recent study, Budgell, Kwong and Millar (2013) found that in the historical literature, words which referred to anatomical, pathological, and biochemical concepts were over-represented, while concepts such as professionalism and clinical interaction were overrepresented in the modern literature. Cantos and Vasques (2011) have also reported that more discipline-specific words emerged between 1710 and 1920 in the field of Astronomy.

This section aimed to examine the literature on the discipline of science. The studies examined are relevant to the present study, given that it focuses on Science disciplines. Moreover, these studies provide an empirical ground for data analysis for the present study.

3.2.2 Humanities

The previous sub-section focuses on the literature on Science disciplines. In this subsection, I focus on the Humanities. The studies focused on three themes. The first concerns studies on individual Humanities disciplines, the second adopted a diachronic perspective, while the third and last were cross-linguistic.

Of all Humanities disciplines, History has been the one with the most research attention. In the discourse of History, considerable research energy has been directed to the linguistic

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representation of time and causality and how entities are evaluated (Coffin, 2000, 2006; Martin, 2002; Martin & Wodak, 2003). For instance, Coffin's (2000) research has demonstrated that word classes such as verbs, nouns and conjunctions serve evaluative functions in History. Martin (2007:46) added that History discourse focuses "on explaining what happened over time, using cause in the clause to do so". Martin (2007) has discovered that abstraction is a significant property of the language of History. He noted that abstraction functions to represent time and causality. Using abstraction, writers of history texts give prominence to the historical periods and the unfolding events. Martin, however, concedes that there is some level of technicality in History, evident in terminologies such as "nationalism", "socialism", "communism" and "capitalism". Abstraction has also been reported to be significant in other Humanities disciplines such as Film Studies (Coffin & Donohue, 2014), Cultural Studies (Hood, 2016), and Literary Studies (Webster, 2015).

In addition, some studies on the Humanities have examined how some linguistic elements have evolved over a period of time. Thus, these studies are diachronic in focus. The discourse of Humanities is considered interactive. In a study by Kuhi and Mousavi (2015), the authors examined the evolution of interactional elements in Applied Linguistics research article Discussion sections. It was found that hedges as elements of academic interaction have evolved and increased since the 1980s. Focusing on English course books, Dahmardeh, Parsazadeh, and Parsazadeh (2017) demonstrated how the genre has developed in Iran since 1939.

Other studies have examined the discourse of Humanities disciplines alongside other disciplines. Such studies have attempted to explain how Humanities disciplines differ from other disciplines, especially the Sciences. The focus has been on all language levels, including lexis, grammar, and discourse. Martin (2007) considers History a Humanities discipline and compares it with the Sciences. His focus was on how technicality was constructed in these disciplines. He found that History engages a lower level of technicality than the Sciences. He added that in History, this technicality is achieved by grammatical metaphors as well as prepositional phrases of time, which enable entities to be realised as abstract concepts.

As noted earlier, some studies have analysed linguistic phenomena in Humanities across multiple languages. Muñoz (2013) conducted a study on the use of pronouns in English and Spanish research articles, revealing that pronouns served various discourse functions in both languages. Bašić and Veselica-Majhut (2016) also examined linguistic elements used to construct

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authorial identity in English and Croatian, finding that first-person pronouns played a significant role in constructing identities, with differences in frequency of use between the two languages.

The review of studies in Humanities indicates that history, Cultural Studies, and Literary Studies are frequently examined disciplines. Moreover, the use of language in constructing disciplinary knowledge in the Humanities is subject to time and cross-linguistic dynamics. Unlike the scientific discourse dominated by technical terms, discourses in Humanities are mostly abstract. In the next sub-section, we will delve into Social Science discourse.

3.2.3 Social Sciences

In this sub-section, I present findings of previous studies on the language of Social Sciences. Generally, the studies presented here reveal the nature of knowledge in social science disciplines.

A substantial body of literature on Social Science has been attributed to Wignell (1997, 2007). In his research, Wignell adopted two perspectives. The first is the diachronic approach. From this standpoint, he studied how social science discourse has developed over time, from the 17th century to the 20th century. He used text samples from the sub-disciplines of Sociology, Economics and Political Science in his study. He found that social science discourse emerged as a synthesis of Humanities and Science discourses. As a result, I share some similarities with each of them. The Social Sciences adopted the element of technicality from the Sciences and abstraction from the Humanities. Thus, when we look at the Social Sciences from a synchronic perspective, we will realise that it is both technical and abstract because of its associations with the Sciences and Humanities.

Apart from Wignell (1997, 2007), several researchers have shown interest in the discourse of Social Science disciplines. Notable among them is Vičič (2013), whose focus was on the subdiscipline of Tourism. He studied the demonstrative pronoun “this” in research articles and concluded that such pronouns serve persuasive purposes. He also found that this pronoun increased in the studied articles between 1980 and 2009. With a focus on the discipline of Economics, Henderson (2000) considered metaphors as crucial tools used to construct the economic worldview. Ngula’s (2015) work on three social science disciplines (Sociology, Economics, and Law) is particularly interesting to the present study. In his study, he focused on how disciplinary and cross-cultural underpinnings influenced the use epistemic modality in research articles. He

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showed that disciplinary factors combined with cultural dynamics influence the choice of modal elements among Ghanaian and Anglo-American social science scholars.

In this section, the focus has been on studies that looked at the discourse of social science. The review reports that Wignell (2007) has been influential in this line of research. It was also noted that disciplinary and cultural factors can combine to influence language use in social science disciplines.

3.3 Chapter Summary

The purpose of this chapter has been to provide a critical review of the empirical literature related to the present study. To this end, I first reviewed the literature on the rhetorical organisation of abstracts. A literature review of the linguistic features of abstracts followed this. Finally, given that the study is interdisciplinary, a literature review on disciplinary variation was carried out. The empirical literature reviewed in this section provides a basis for analysing and discussing the data in the present study. In the next chapter, I provide the linguistic and institutional context of the present study.

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CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.0 Introduction

This chapter discusses the philosophical and methodological underpinnings of the study. The chapter begins by introducing the institutional context of the study, which includes some historical information on the establishment of UHAS. From there, I will gradually narrow down to the three specific departments that will be the principal focus of the study. Following this, I will discuss the research philosophy that guided the study. Other issues considered in this study include study design, sampling method, data collection procedure, data analysis procedure, ways of ensuring validity, and ethical issues.

4.1 Institutional Context

The study was conducted at the University of Health and Allied Sciences (UHAS), which is located in Ho, the capital city of the Volta Region of Ghana. UHAS was founded by an Act of Parliament (Act 828) in December 2011 and had its first admissions in September 2012 (UHAS, 2016). Initially, the University had only 154 students, but now it has a student population of 3,752, which is managed by a staff of 611, resulting in a studentstaff ratio of 17:1 (UHAS, 2021a). UHAS has two main campuses (Ho and Hohoe), with the Ho campus housing its main administration (UHAS, 2016). The University's primary objective is to provide education in the health sciences and share knowledge and research findings that meet the needs and aspirations of Ghanaians. Additionally, the university strives to enhance Ghanaians' overall quality of life by providing clinical and other health services and encouraging partnerships with people and organisations outside Ghana (UHAS, 2018).

The University, which adopts a trimester system, offers a wide range of undergraduate and postgraduate programs spread across six schools and one institute: (a) School of Allied Health Sciences, (b) School of Basic and Biomedical Sciences, (c) School of Medicine, (d) School of Nursing and Midwifery, (e) School of Pharmacy, (f) School of Public Health, and (g) Institute of Health Research (UHAS, 2021b). This study focuses on the Schools of Allied Health Sciences,

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Nursing and Midwifery, and Medicine. In the final year, students are required to write a dissertation or thesis to demonstrate their research abilities (UHAS, 2021c). Like other research genres, the dissertations include abstracts, which is the present study's focus.

4.2 Research Paradigm

The research paradigm underpinning this study is pragmatism. One of the key assumptions of this paradigm is that actions are closely related to the situations in which they occur. It is also believed that there is no universal truth, but rather, beliefs emerge from repeated involvement in similar situations. Another assumption of pragmatism is that actions and their consequences are interrelated, such that when actions change, their consequences change as well. Finally, pragmatism recognises that worldviews are beliefs that are socially shared, and actions depend on them (Morgan, 2014).

In terms of the mode of enquiry, pragmatism sees research methods as a cline rather than consisting of just two aspects: objectivity or subjectivity (Goles & Hirschheim, 2000). This highlights the main difference between pragmatism and other research paradigms, such as positivism and constructivism. For instance, unlike pragmatism, positivism holds that knowledge can be acquired through quantitative methods backed by deductive reasoning, while constructionists believe in qualitative modes of inquiry. Thus, unlike positivism and constructivism, pragmatism believes in the likelihood of blending quantitative and qualitative methods. This allows the researchers to select the appropriate methods to answer a given research question. Thus, the answers to the research questions for this study were sought through a mix or blend of both quantitative and qualitative approaches. In other words, pragmatism bears aspects of both positivist (quantitative) and interpretivist (qualitative) positions (Alharahsheh & Pius, 2020).

Pragmatism is relevant for this study because it ensures methodological congruence in the investigation of research questions using pluralistic approaches and methods (both quantitative and qualitative) in acquiring knowledge in a single study. This means that instead of a fixed reality assumption of positivism or a strictly subjectively constructed assumption of interpretivism, pragmatism adopts inter-subjectivity where a single reality can be assumed bearing in mind that this reality manifests differently in different contexts. Thus, integrating quantitative and qualitative

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approaches in research is often done as a means of enriching the results of a study (Alharahsheh & Pius, 2020).

4.3 Research Design

In terms of research design, the study relies on the qualitative study. Qualitative research investigates "how people make sense of their lives, experiences, and their structures of the world" (Creswell, 1994:145) to understand the process and nature of social life. It also aims to reveal how different kinds of meaning are embedded in documents and how documents are organised (Altheide, 1996). In the present study, this approach allowed me to examine the organisational or schematic properties of the undergraduate dissertation abstracts in the three selected disciplines. In addition, this approach helped to examine the meanings embedded in the transitivity choices made across the various moves of the abstracts.

Qualitative research unravels meaning (Creswell, 1994), especially experiential, circumstantial, and situational meaning. With this focus, qualitative research is particularly interested in analysing texts, images, and other objects rather than numerical data that may contain such meanings. Qualitative research is, thus, considered a subjective approach to data analysis (Hsieh & Shannon, 2005). Qualitative research differs considerably from quantitative research, which analyses large statistical data to make generalisations (Hesse-Biber & An, 2017). Given that the proposed study is exploratory in nature, I consider the qualitative study design appropriate since this design is flexible and allows for the analysis of phenomena which are inconspicuous (Creswell, 1994).

Specifically, the proposed study employs content analysis as a qualitative research approach to data analysis. Content analysis examines human communication in recorded forms (Babbie, 2013). Thus, content analysis is appropriate for examining different kinds of texts, whether written, verbal or pictorial (Elo & Kyngäs, 2008). Given that the undergraduate dissertation abstracts are written documents, qualitative content analysis can be used to analyse the data for the proposed study.

Researchers using qualitative content analysis employ either of these approaches: conventional, directed, or summative (Hsieh & Shannon, 2005). The conventional approach is suitable when there is limited theoretical and empirical literature on the phenomenon under investigation. This approach, therefore, allows researchers to explore data to bring out new

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insights, including categories and their names, without having to use preconceived categories. On the contrary, directed content analysis is appropriate when there is extant theoretical and empirical literature on an issue. Therefore, this approach is used to extend or validate the existing literature on an issue or phenomenon. The summative approach to content analysis differs from the first two in that it quantifies particular words or contents and uses emerging patterns as the basis for interpretations (Holsti, 1969).

In the present research, I utilised a varied approach involving direct and summative goals. There is a significant amount of information available on abstracts, which helped me to determine the direction of my analysis. This, therefore, justifies why I used directed content analysis as part of the analytical methods. Furthermore, my study highlights the differences and similarities across the three disciplines of departments that were considered. To account for these differences and similarities, I deemed it necessary to use some frequency distributions. I complemented the directed content analysis with the summative approach to comprehensively analyse the data and answer the research questions.

4.4 Sampling

Sampling involves selecting a desired number of items from a larger population. This is crucial because of the study of the larger population. This is crucial because the study of large populations can be challenging and resource-intensive. In quantitative research, the objective of sampling is to obtain a sample that is representative of the larger population so that the findings can be generalised to the population as a whole. On the other hand, in quantitative research, sampling serves a specific purpose that is not necessarily related to generalisibility. Rather, the aim is to gain a deep understanding of the issues under study. In the present study, sampling was conducted with this specific purpose.

In the present study, sampling was done at two levels. The first level involved selecting three schools from the University. Since UHAS is a relatively new university, not all of its schools have been able to produce a large number of dissertations. It was, therefore, appropriate to select the schools with enough dissertations to analyse. It was revealed that the Schools of Nursing and Midwifery, Allied Health, and Medicine had many dissertations. I, therefore, settled on dissertations produced in these three schools. At another level, I sampled an equal number of abstracts across the three departments. I used 50 abstracts from each department to ensure rigorous

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analysis and comparability. At this stage, the abstracts were selected randomly to give each abstract a chance of being selected.

4.5 Data Collection Procedure

The data collection involved several steps. The first involved the acquisition of ethical clearance from the Faculty Research and Innovation Committee (FRIC) of the Central University of Technology. After ethical clearance was granted to me, I requested an introductory letter from the Communication Sciences Department. After receiving the introductory letter, I visited the Heads of the Departments involved in this study to introduce myself and the purpose of my study. I was then permitted to collect the data. I went to the library, and with the consent of the librarian, I scanned the abstracts of the dissertations into PDF files to facilitate the analysis.

4.6 Data Analysis Procedure

Following the extant literature on genre analysis (e.g., Bhatia, 1993; Hüttner, 2010; Swales, 1981, 1990), the present study considered four main issues in data analysis.

The first issue was the kinds of moves and steps found in the selected abstracts. Three main criteria are used in determining the kinds of moves in a genre. The first criterion focuses on the semantic content of a stretch of text found in a genre. Thus, when the analysts find that a particular meaning runs through a stretch of text, such a text is considered an individual move. This is called the semantic-cognitive approach (Afful, 2016; Swales, 1981). The second one is the functional criterion, which identifies a stretch of text with a distinct intent as a single move. Thus, this criterion relies on a stretch of texts' communicative aim(s) to classify it as a move (Eggins, 2004). The third formal criterion involves considering a stretch of text with a peculiar shape as a move. Thus, this criterion pays attention to how various sections of a text are outlined. Each section with a distinct appearance is likely to be a move. The present study utilised all three criteria and relied heavily on Hyland's (2004) classification of the moves in an abstract, as presented in Table 1.

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Table 1: A Classification of Rhetorical Moves in an Abstract

Move	Function
Introduction	This provides background information and shows the need for the research.
Purpose	This functions to provide the aims or intentions behind the study.
Method	The method move is to summarise the methodological considerations of the study.
Product	The product move presents the results, findings and accomplishments of the study.
Conclusion	This move summarises the findings, infers from them, and makes recommendations.

Source: Hyland (2004: 67)

Table 1 shows Hyland's (2004) model for the rhetorical structure of abstracts. I chose this model for the analysis because it distinguishes the Purpose move from the Introduction move, given that these two moves perform distinct communicative functions. Moreover, most of the abstracts presented these moves as separate sections. In this regard, this model differs considerably from other models (see Hyland's (2004) which fused these two moves into one, in an attempt to analyse the abstract based on the organisational structure of a research article. Hyland's (2004) model has also been widely applied in examining abstracts from the field of science (e.g., Kwary, Kirana & Artha, 2017). In conducting this study, I realised that some of the moves contained steps, which I also examined to offer a deeper and more detailed analysis of the data.

The second issue considered was the frequency and status of the moves identified. At this point, I followed Hüttner (2010), who designated moves as obligatory, core, ambiguous, or optional, depending on the frequency of occurrence of the moves, as shown in Table 2:

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Table 2: Guidelines for Determining the Status of Moves

Frequency	Status	Comment of occurrence
90%-100%	Obligatory	An obligatory move is what defines a genre. Thus, an exemplar of a genre may be considered flawed when it appears without obligatory moves.
50%-89%	Core	A move with this frequency of occurrence is considered typical of the genre. This means it should be part of a genre exemplar to be considered appropriate and acceptable.
30%-49%	Ambiguous	A move is considered ambiguous if it does not fit the three designations (e.g., obligatory, core, or optional). This means that the status of this move can only be determined through consultations with experts that engage with it.
1%-29%	Optional	An optional move is not a defining characteristic of a particular genre. As such, it can be ignored when constructing an exemplar of the genre.

Source: Hüttner's (2010:205)

According to Hüttner (2010), obligatory and core moves are the most essential and need to be part of a "model" abstract genre structure, while the acceptability of ambiguous and optional moves depends on experts' judgements. In the present study, this model was applied to both the moves and steps identified in the abstracts.

Apart from the kinds and frequency of the moves, the study also considered the sequence of the moves and steps identified in the data. This involves the order by which the moves and steps were arranged in a genre. Thus, an exemplar of a genre can be realised by five moves occurring linearly. Here, abstracts were classified as one-move pattern, two-move pattern, three-move

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pattern, four-move pattern, etc., and frequencies were provided for the degree of occurrence of each pattern. The same was done for the steps found in each move. An illustration is given in Extract 1 below:

Extract 1

> Fever is one of the most common medical signs caused by numerous medical conditions ranging from non-serious to life threatening. Records over the years show that, about seventy-five percent of viral, bacterial, fungal, and parasitic infections present with fever. This makes it necessary for practitioners to become abreast with recent facts on fever for sound clinical reasoning and high index of suspicion to diagnose fever related conditions [Introduction Move]. The main aim of the study was to determine the prevalence and causes of febrile illness, how diagnosis is made, and the available treatments among children under 5 years at the Volta Regional Hospital [Purpose Move]. This was a retrospective cross sectional study. Medical records and laboratory investigations of inpatients who were managed for febrile illness in the paediatric wards within a period of one year (November 1, 2017, to November 1, 2018) were retrieved, and data was collected with the aid of data-entry forms designed for this purpose [Method Move]. Medical records of 120 patients with febrile illness were reviewed. The majority of the patients were diagnosed with an acute respiratory illness (35%), followed by gastroenteritis (16.7%), and neonatal sepsis (15%). A significant association was found between febrile illnesses and low level of education of primary care givers, low socio-economic status and poor hygiene [Product Move]. Febrile illnesses are preventable with the right knowledge and awareness of healthy living behaviours, and environmental sanitation. It is therefore recommended that, primary care givers are educated, and often reminded on these preventive measures. And also, practitioners should strictly adhere to standard guidelines in diagnosing and managing these conditions, once the disease states have been established in children [Conclusion Move] [Medicine 1].

Extract 1 above contains all the five moves in the sequence Move 1, 2, 3, 4 and five. Thus, it will be considered as a five-move sequence. The significance of analyzing the sequence of moves is that a pattern that occurs at a high frequency usually makes it a logical sequence that authors are required to follow. The sequence, thus, determines a move that needs to follow a particular move

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(Dudley-Evans, 1997). In the abstracts, for instance, it is expected for the conclusion move to follow the product move since conclusions are usually drawn from findings.

Finally, the study considered the linguistic items found in the moves of the abstracts. This was done using the transitivity approach to identify and examine the process types used across the moves of the abstracts. Frequency counts were used to compare the process types across moves and disciplines. Process types represent various ways of communicating information about human experience. According to Halliday and Matthiessen (2014), human experiences can be represented in six main ways. The first involves representing an external action involving an Actor who acts upon a Goal. For example, when someone says, "Harry Kane kicked the ball", Harry Kane can be labelled as the actor who performed the physical action affecting the ball, and the ball can be designated as the Goal. This kind of "doings" is what is referred to as a material process. The second type of process involves a conscious being, the sensor, with a phenomenon impinging on his/her consciousness. This type is called the mental process, and it involves verbs such as "believe", "think", "consider", "know", and "understand". Thus, in the sentence "I know that you are a student", "I" is the Sensor, "know" is a material process and "that you are a student" is the phenomenon. The third process type is relational, which establishes the attributes or identities of people or things. The verb forms found in relational clauses include "to be" and "to have" and other copular verbs. If we have a clause like "Kofi is a student", "Kofi" is designated as the Identified, "is" is the relational process, and "student" is the Identifier. On the other hand, with a sentence like "Kofi is good", "Kofi" is the Carrier, with "is" and "good" being the relational process verb and the attribute, respectively. These examples show that relational processes can be attributive or identifying.

The fourth process type is the verbal process. This process type involves communicating information verbally. In this process type, the one who communicates the information is labelled the sayer; what is being communicated is known as the Verbiage, and the recipient of the information is the receiver. For example, in "He told Mary that he loved her", "He" is the sayer, "Mary" is the receiver and "that he loved her" is the Verbiage. The fifth process type is known as the Existential process. It indicates that something exists. Clauses containing this process type are usually introduced by "there", followed by a verb and the existent. For example, in "There is a car", "is" is the existential process verb and "a car" is the existent. The final process type is behavioural. According to Halliday and Matthiessen (2014:301), this process type expresses the

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outward manifestation of internal physiological actions such as "breathing, coughing, smiling, dreaming and staring". The subject of this process type is called the behaviour. For instance, in "Miguel coughed", "Miguel" is the behaviour, while coughed is the behavioural process verb.

4.7 Validity

Validity involves ensuring that the results of a study are meaningful in the sense that they have significance beyond the sample that participates in it (Dörnyei, 2007; Mackey & Gass, 2012). In the case of the present study, ensuring its validity started with and revolved around the data coding process. When applied to coding, validity refers to "the degree to which the coding categories and procedures allow for accurate and meaningful interpretations to be made about the construct in question" (Mackey & Gass, 2012:204). Because qualitative research is subjective, validity concerns how researchers manage their subjectivities, for example, by taking necessary steps to ensure their interpretations are trustworthy (Phakiti et al., 2018). Related to the concept of validity is reliability. This concerns random or inconsistent errors of measurement, which, in the context of coding, involves the extent to which data are categorised consistently (Mackey & Gass, 2012).

The present study employed conventional methods of qualitative coding to ensure the validity and reliability of the results (Dörnyei, 2007; Mackey & Gass, 2012). Firstly, such methods included pre-coding. This involves "reading and re-reading the transcripts, reflecting on them, and noting down our thoughts" (Dörnyei, 2007: 250). At the pre-coding stage, the researcher carefully read the abstracts to be analysed and reflected on them. After pre-coding comes the actual coding. Coding involves highlighting portions of the texts and labelling them in a way that allows easy identification, retrieval, and grouping (Dörnyei, 2007). In the study, this was done by applying multi-coloured highlighters on the hard copies of the abstracts, using a coding scheme derived from the literature (Al-Khasawneh, 2017; Menezes, 2013). The coding scheme was first piloted on samples of the abstracts. The piloting allowed me to modify the coding scheme if it appeared inadequate for the analysis. The actual coding was done by me and two other coders who were trained on how to apply the coding scheme consistently and accurately on the data. These coders were Teaching Assistants (TAs) with degrees in English.

In addition to piloting the coding scheme and training the coders, I ensured intra- and intercoder reliability and, ultimately, the trustworthiness of the findings. Intra-coder reliability concerns the extent to which one coder assigns the same coding category to the data on different occasions. In contrast, inter-coder reliability refers to "the degree to which two or more coders

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categorise the same data in the same way when they code independently" (Mackey & Gass, 2012:216). Regarding intra-coder reliability, all the coders coded and recoded the abstracts several times in a different random order until I was satisfied with the coding. Also, samples of the coded abstracts were subjected to inter-coder reliability checks to ensure inter-coder reliability. This involved a statistical calculation of the inter-coder agreement rate. This was done by dividing the number of agreements by the total number of decisions made (Mackey & Gass, 2012). In cases of disagreements on the coding, a consensus was reached through discussion amongst coders.

4.8 Trustworthiness

Ensuring the quality of qualitative research hinges largely on the trustworthiness of a study. O'Kane, Smith and Lerman (2019) described trustworthiness as the effort made by qualitative researchers to ensure that a study is valid and reliable. To ensure the trustworthiness of this study, efforts were made by the researcher to strengthen credibility, confirmability, transferability, and dependability. In other words, these elements were taken into consideration to enhance rigour and trustworthiness in this study.

Credibility in research refers to the measures taken by a researcher during data generation and analysis to ensure that the results reflect the exact practices of the participant — that is, that the data generated describes the actual situation in the natural setting that was being explored (Daniel, 2019). Ensuring credibility in a discourse analysis of abstracts involves several key steps or strategies and steps such as the use of evidentials, awareness of stance, clarity and purpose, methodological rigor, peer review, and comparative analysis (Fatimah, 2019). The researcher (I) ensured credibility by using evidentials during the discourse analysis. Here, I utilised citations and references appropriately to support claims and provide evidence for the analysis. The citing and referencing of appropriate sources were meant to avoid directly plagiarizing, demonstrate intellectual honesty, and ensure quality assurance, as observed by Fatimah (2019). Regarding awareness of stance, I (the researcher) was mindful of the language I used to express certainty or tentativeness regarding the findings of the study. I used stance adverbials and boosters, downtoners, and emphasizers to indicate the degree of certainty while interpreting the findings of the study. For clarity and the purpose of the study, I ensured that the sampled abstracts and excerpts were scrutinised to convey its essence and purpose. This was done to help readers determine the relevance and significance of the work. For methodological rigour, I maintained a rigorous

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methodological approach and was transparent about the processes used for analysis. Also, a peer examination was initiated by the researcher to establish the credibility of this study. I sought feedback from a student colleague (Doctor of Philosophy (Ph.D.) who is an expert in Language and Applied Linguistics to scrutinize, challenge, and comment on the interpretations of findings, and validate the analysis. The comments from this reviewer helped the researcher ensure that the findings were a true reflection of the contents of the abstracts and excerpts. Finally, the researcher (I) ensured the credibility of the analysis by comparing the findings with those in the existing literature and empirical studies. This comparative analysis ensured that the interpretations and conclusions of the study are grounded in the existing research in the fields of Language and Applied Linguistics.

Transferability in qualitative (interpretive) research refers to the extent to which the findings of a study could apply to other situations, populations, and settings with similar features (Creswell, 2018; Daniel, 2019). In other words, transferability is established by providing readers with evidence that a research study's findings could apply to other contexts, situations, times, and populations. Transferability in the discourse analysis of abstracts refers to the ability of the concepts, findings, or methods of the analysis to be applicable or relevant in other contexts or studies (Fatimah, 2019). I ensured transferability in this study by providing thorough descriptions of the analysis, using systematic approaches, reflecting on biases and limitations of the study, comparing the literature, results, and findings across disciplines, and highlighting implications and applications of the findings of the study. To strengthen the transferability of this study, I first provided a detailed or thick descriptions of the context, methodology, research design and its implementation, study settings, sample and sampling techniques as well as procedures, operational detail of data gathering, coding frames, analytical frameworks such as BAMRC, IMRC, and IMRD proposed by some researchers (El-Dakhs, 2018; Farzannia & Farnia, 2017; Hyland, 2000; Santos, 1996; Setyorini, 2017; Swales & Feak, 2009) and coding frames, and a reflective appraisal of the study by providing sufficient details to other readers for assessment. This was done to allow other researchers to understand the original scope of the study, determine how the findings may fit and apply to their work, and show that the findings could be applied to other disciplines, contexts, and settings, depending on the degree of similarity. I used systematic approaches by applying a structured and transparent approach to analyzing the text, which included clearly defining steps and categories that can be replicated or adapted in other studies. I also ensured transferability by

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comparing the literature and findings across disciplines. Here, I discussed how the findings of the current study compare and contrast with other studies or between different disciplines, which might uncover broader applications of the results. The current study applies to disciplines in the fields of humanities (literature, languages, academic writing, linguistics, and applied linguistics), social sciences (educational administration, financial economics), sciences, technology, and engineering (medicine, dentistry, nursing, midwifery, allied health sciences, biology, biochemistry, protozoology, civil engineering, computer science). Also, I ensured transferability of the current study by highlighting its implications and applications. In other words, I suggested or proposed how the results of the current study could be used in practice, which can guide other scholars in applying the findings to different areas or in further research. Lastly, I ensured transferability by reflecting on the biases and limitations of the current study. I acknowledge the researcher's own biases and the limitations of the study, and this can help others gauge the extent to which the results could be transferable. By articulating these aspects clearly within the discourse analysis of the abstracts, I facilitated a greater understanding of how the analysis was constructed and how it might inform work beyond the immediate study, thus ensuring transferability.

Dependability involves ensuring that the processes involved in conducting a study (data generation, data analysis, and research procedures) are transparent, reliable, and repeatable. Dependability in a discourse analysis of abstracts refers to the consistency and replicability of the analysis and findings (Fatimah, 2019; Korstjens & Moser, 2018). This establishes the research study's findings as consistent and repeatable. Also, this allows future researchers to repeat the study, if not essentially to gain the same outcome (FitzPatrick, 2019). To strengthen the dependability of this study, I (the researcher) employed strategies such as clearly defining the analytical framework, using systematic methods or approaches, describing research procedures or research audit, providing examples or illustrations to support the results and findings, peer review, and reflecting on the limitations of the study. Concerning clearly defining the analytical framework, I (the researcher) identified and specified elements such as the rhetorical moves and steps, lexico-grammatical features, structure, language, and rhetorical strategies of the discourse analysis. For the use of systematic methods, I (the researcher) applied coding frames, and the analytical frameworks proposed by Hyland (2000) and other researchers uniformly across multiple abstracts to maintain consistency. In the current study, I (the researcher) ensured dependability through a research audit or detailed description of research processes and procedures. I documented

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the entire research process, steps, and rules followed from the background to the conclusion sections. The documentation also included all the data generated and the method of data analysis. During the research audit, I (the researcher) paid attention to the research background or introduction, methodology, results, and conclusions because they form and serve important components or ingredients of research or article abstracts. An audit of the research process is about transparency in the description of the research processes from the beginning of a study to the development and reporting of the results (Fatimah, 2019; Korstjens & Moser, 2018). By providing a clear and precise description of how the research was done, and the rationale for the specific research procedures chosen, I ensured replicability or replication of the study. To further ensure dependability of the study, the researcher employed peer review as a strategy. Here, I had those who reviewed the coding frames, and analysis to check for reliability and offer feedback. I also ensured dependability by providing or citing examples or excerpts from the abstracts to illustrate and buttress analysis, findings, and interpretations. Finally, I ensured dependability by reflecting on the limitations of the current study. I acknowledged any potential biases or limitations in the analysis and findings of the current study.

Researchers achieve confirmability, which is akin to objectivity in quantitative research, when they show that the results are so clearly linked to the data and conclusion that they can be replicated (Moon et al., 2016; Yin, 2018). Ensuring confirmability in a discourse analysis of abstracts involves demonstrating that the results are derived from the data and not the researcher's subjective biases (Fatimah, 2019). Addressing confirmability in the analysis of abstracts helps to strengthen the credibility of the research findings and provides a trustworthy representation of the studied phenomenon (Fatimah, 2019). Confirmability can be achieved through techniques such as triangulation, audit trails, member checks, and peer debriefing. In the current study, I ensured member checking by involving some participants in the checking of the data and the analytic conclusions. To this end, some of the students whose research abstracts were extracted were contacted to check the excerpts to ascertain the accuracy of the information. I (the researcher) shared the analysis of the abstracts with some of the original authors (students of the abstracts), or participants for verification. In the context of analyzing abstracts, member checking involves asking the authors of the abstracts if the discourse elements identified and interpreted by the researcher accurately reflect the authors' intentions and the messages they are to convey in their writing. This was done to ensure that the analysis aligned with the participants' intended meanings

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and to provide additional insights or corrections. Also, this was meant to ensure the credibility or validity of the research findings in discourse analysis. Member checking is a technique used in qualitative research to enhance the accuracy of the data collected (Candela, 2019). It involves taking data interpretations back to the participants in the study to confirm the credibility of the information and interpretations (Candela, 2019). Member checking is when researchers involve the participants in a study by allowing them to go through the analyzed data to ensure that it reflects and aligns with the information they share (Candela, 2019). I also ensured confirmability through triangulation, that is using multiple methods or data sources to validate findings. Triangulation in discourse analysis refers to the use of multiple methods or data sources to analyze the text of abstracts (or any other discourse) to enhance the credibility and validity of the results. When applied to the analysis of thesis abstracts, for example, I used multiple analytical frameworks or methods to examine text structure, linguistic features, and rhetorical strategies. For instance, I combined a rhetorical move analysis, which identifies the structure and sequence of information in abstracts (Pratiwi, Hermawan & Muniroh, 2021), with a metadiscourse feature, which examines how authors interact with readers and structure their argumentation (Cao & Hu, 2014). Furthermore, I ensured triangulation by looking at the frequency of moves and steps, process types, linguistics features, and types of stances relevant to the academic discipline of the abstract (Lu, Yoon & Kisselev, 2018). In this regard, Hyland's model or framework and other typologies were examined and applied to the corpus to further examine moves and steps distribution and sequencing. Additionally, the corpus analysis results were triangulated with inputs from academics in the targeted disciplines by comprehensively defining the conventional moves and steps of abstracts and delving into the patterns shaped by the disciplines. Last but not least, peer debriefing was done to ensure confirmability. I discussed the findings with peers to mitigate bias and confirm the analysis. Peer debriefing was done to ensure validity, reflexivity, provide critical insight, and verification of analysis and findings. By sharing interpretations and findings with peers, I ensured the validity or credibility of the analyses and findings. By receiving feedback and comments on the results and findings from peers, personal biases were minimized to maintain objectivity and rigour. By engaging in conversations with peers I received critical and new insights related to the data and findings. Through the data analysis process, findings and interpretations were verified by me (the researcher) for plausibility and consistency, ensuring the reliability of the research. Peer debriefing in discourse analysis, particularly when examining abstracts, is a process where researchers discuss and reflect on the analytical process with peers or colleagues who are not

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directly involved in the study (Candela, 2019; Fatimah, 2019; Lu et al., 2018; Pratiwi et al., 2021; Yin, 2018). Employing peer debriefing is considered a good practice in qualitative research as it strengthens the trustworthiness and quality of a study (Candela, 2019; Fatimah, 2019; Lu et al., 2018; Pratiwi et al., 2021; Yin, 2018). Finally, I ensured confirmability via audit trails by keeping detailed records of how data were collected, analyzed, and interpreted.

4.9 Ethical Issues

The present study involved several ethical issues which deserve a discussion. The first one was the application for ethical clearance. Before the present study was undertaken, ethical clearance was provided by the Faculty Research and Innovation Committee (FRIC) of the Central University of Technology. The aforementioned university also offered me an introductory letter formally introducing my research to the selected schools at UHAS. This allowed the university selected for the research to grant me access to the data. Also, the researcher ensured confidentiality and anonymity in the research. In terms of confidentiality, all information obtained from the various schools was treated with confidentiality, which involved the "management of private information by the researcher in order to protect the subject's identity" (Fouka & Mantzorou, 2011:6). In relation to anonymity, names of the authors of the abstracts were not revealed in the study. This ensured that their identities were concealed (Nieswiadomy, 2007). Finally, the research involved an original analysis of data, and all sources consulted have been appropriately cited.

4.10 Chapter Summary

This chapter has provided information on the philosophical and methodological underpinnings of the study. The chapter began by introducing the institutional context of the study. This involved historical information on the establishment of UHAS. This was followed by a discussion on the research philosophy or paradigm that guided the study. It was indicated that this study is located within the pragmatist paradigm. Other issues considered include study design, sampling method, data collection procedure, data analysis procedure, ways of ensuring validity, and ethical issues. In the next chapter, I present the analysis and discussion of the data.

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CHAPTER FIVE

ANALYSIS AND DISCUSSION

5.0 Introduction

The previous chapter presented the methods used in conducting the study. In this chapter, I focus on the presentation of the findings and the discussion. More specifically, I present the findings on the kinds of moves, frequency of the moves, and sequencing of the moves in the abstracts of each of the three disciplines. The chapter additionally considers the process types used in the various moves of the abstracts. The intention is to identify the similarities and differences in the abstracts produced in these disciplines.

5.1 Differences and Similarities in the Kinds of Moves/Steps in the Nursing, Allied Health and Medicine Dissertation Abstracts

This section presents the findings and discussion on the kinds of moves and steps in the Nursing dissertation abstracts.

5.1.1 The Kinds of Moves and Steps in the Nursing Abstracts

The analysis revealed that the Nursing dissertation abstracts were composed of five moves: Introduction, Purpose, Method, Product, and Conclusion, with Introduction, Method and Conclusion realised by steps. As indicated in Chapter Two, steps are subdivisions of moves. These are discussed in the following sections.

Move 1: Introduction

The first move is the Introduction. It establishes the research context and reveals the gaps that must be addressed (Hyland, 2004; Swales, 1990). This move normally presents some background information about the topic of a study. Sometimes, writers incorporate some information on the problem investigated, the study's purpose, and its significance. Extracts 2 to 4 illustrate the realisation of this move in the Nursing dissertation abstracts:

Extract 2

> Adolescents constitute an important segment of every society but currently, review of many researches depicts that they do not have adequate information and knowledge on adolescent sexual and reproductive health both at school and at home, and therefore, follow their

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sexual pleasure and explore without considering the right measures, leading them to acquire several sexual and reproductive health problems [Nursing].

Extract 3

Tramadol hydrochloride is a synthetic (man-made) pain reliever (analgesic) used for the management of moderate to severe pain. There are increasing concerns worldwide regarding the addiction potential of Tramadol. The proliferation of tramadol has become popular among the youth in the Zabzugu District [Nursing].

Extract 4

Stress is a term that can be linked to so many life situations that people are confronted with due to rapidly changing values, life styles, career patterns and family role expectations. University students often experience stress from a variety of sources, including poor selfcare habits, educational demands, daily hassles, and perceived control over stressful situations. Stress can affect students' academic performance and overall well-being. Although people from all walks of life experience stress on daily basis, students are more likely to experience stressful situations because of their academic requirements [Nursing].

Extracts 2 to 4 are examples of the Introduction move, which orients readers towards the subject of discussion in the main project (Bonsu & Afful, 2022). In Extract 2, the writer begins by offering general background information on adolescents. This is followed by a problem indicating adolescents' insufficient knowledge on reproductive health matters, making them vulnerable to many problems. In Extract 3, the writer begins by describing tramadol hydrochloride and continues with the concerns raised about its addiction, especially among the youth of the study area. In Extract 4, the writer explains stress and shows how it is related to students' lives. Clearly, in the Nursing dissertation abstracts, the Introduction move was composed of three steps: the Background, Problem and Focus.

Move 1 Step 1: Background

Step 1 of Move 1 is Background. It establishes the general context of the topic of a study and briefly presents relevant information to understand it. Extracts 5 and

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6 below show the realisation of Background in the Nursing dissertation abstracts:

Extract 5

Exclusive breastfeeding (EBF) is very important to both baby and mother. Exclusive breastfeeding greatly reduces mortality and morbidity in babies. In Ghana it is reported that the national prevalence of over 70% was recorded for the practice of exclusive breastfeeding. Even though this prevalence is quite good, it may not be the same in some specific places in Ghana [Nursing].

Extract 6

Medications are the principal tools employed to avoid and efficiently control persistent diseases; nevertheless, appropriate medication use has been a major challenge for health patients and caregivers regardless of their significance in disease management. Provision of education to patients about their medication increases medication adherence [Nursing].

As can be seen in Extract 5 above, the writer presents general contextual information on exclusive breastfeeding. In so doing, he gives a background to the topic. Similarly, in Extract 6, the writer presents background information on the effectiveness of medication in disease control and the need to educate patients on it.

Move 1 Step 2: The Problem

In the Nursing dissertation abstracts analysed, Move 1 Step 2 is the Problem. The problem in Move 1 is the particular issue that was investigated. It could be a gap, a phenomenon or a specific issue that requires investigation or a solution. Mostly, it is what the entire research is pivoted on. The realisation of the Problem step is shown in Extracts 7 and 8 below:

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Extract 7

The prevalence of exclusive breastfeeding EBF) for the first six months of life has remained low in most developing countries and in Ghana, despite strong evidence in support of its practice [Nursing].

Extract 8

The inaccessibility of licensed medical attention and the unrestricted availability of drugs on the market have prevented people from attending hospitals, leading Ghanaian citizens to purchase Western and indigenous medicine that are available and capable of curing their ailments [Nursing].

A cursory look at Extract 7 reveals that the writer presents the problem as the low prevalence of exclusive breastfeeding in Ghana despite its significance. Similarly, the inaccessibility of licensed medical attention is presented as a problem in Ghana in Extract 8. Thus, these two abstracts do not present the problem as a lack of research on the subject. Rather, it is presented as a health issue that deserves attention.

Move 1 Step 3: The Research Focus

Move 1 Step 3 is identified as the research Focus. Here, a research study announces its specific focus or topic. Sometimes, the Focus is stated in relation to the specific time of a research study or its importance liaised with the problem. Extracts 9 and 10 illustrate the realisation of this step in the Nursing abstracts.

Extract 9

It is therefore based on this premise that the researcher seeks to determine the prevalence and factors responsible for tramadol abuse among the youth of the Kassena Nankana Municipality in Upper East Region of Ghana [Nursing].

Extract 10

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It is imperative to periodically assess exclusive breastfeeding practices among lactating mothers [Nursing].

As can be seen, in Extract 9, the study focuses on determining the prevalence and correlates of tramadol abuse in the study area. In Extract 10, the focus is to examine the practice of breastfeeding among mothers in the selected study area.

Move 2: Purpose

Move 2 is the Purpose of a research study. It outlines the intention or specific aim of the study. It discusses the objectives the research hopes to achieve after completing the study. Extracts 11 to 13 are instances of the occurrence of this move in the data.

Extract 11

The aim of this study is to determine the awareness of nurses in the Korle-Bu Teaching Hospital on infection prevention [Nursing].

Extract 12

The purpose of the study is to assess the views and experiences of patients with hypertension in Greater Accra Region [Nursing].

Extract 13

The main objective is to investigate the knowledge, attitudes and perceptions of contraception use among adolescents in Teshie Tsuibleoo [Nursing].

In Extract 11, the writer states that the purpose is to show nurses' awareness of infection prevention. Similarly, Extract 12 intends to examine the opinions and understandings of hypertensive patients in the Greater Accra Region of Ghana. Extract 13 aims to investigate adolescents' perceptions about contraception.

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Move 3: Methods

Move 3 of the analysed abstracts was Methods. The Methods move elaborates on the design, sampling, sampling procedures, instruments, data collection, analysis, and site for the research. It reports on the procedures adopted in conducting a research study (Agbaglo & Fiadzomor, 2021). Illustrations are provided in Extracts 14 to 16:

Extract 14

Employing a cross-sectional approach, a structured questionnaire was administered to twohundred and forty (240) working mothers attending the health facilities in Tema. Descriptive statistics such as frequency, mean and standard deviation will be used to analyse variables. Chi-square and fisher's exact tests would be used to determine the association between EBF practices and other variables such socio-demographic characteristics [Nursing].

Extract 15

A descriptive cross-sectional survey was conducted among lactating mothers living in the Tema Metropolis. The study included only lactating mothers who are 18 years and above. The total number of people recruited in this study was 351. Stratified sampling method was used to select the study participants with the use of public and private health facilities as strata. A structured questionnaire was used to obtain data from participants. Analysis of this study data was performed with the Statistical package for social Sciences, version 25 [Nursing].

Extract 16

A quantitative study was employed using a cross-sectional design. Respondents were conveniently sampled for this study. A standardized questionnaire and a Modified Hassles Assessment Scale that involves a 5-likert scale were used as the assessment instrument. Descriptive statistics such as frequency tables and mean were used to analyse variables.

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Some variables were ranked to ascertain the ones that are mostly utilsed by participants in the study. Data were finally presented in tables and bar graphs [Nursing].

From Extracts 14 to 16, the procedures adopted in the methodology were discussed in the abstracts. Extract 14 begins by stating the study design (descriptive cross-sectional survey), followed by data collection, which were questionnaires. Other issues discussed in this extract include descriptive statistics that were used to present the findings, as well as chi-square tests that were used to analyse the data. Similarly, Extract 15 discusses the methodology by presenting the study design, population and sample, sampling technique, data collection approach, as well as data analysis technique. When we examined Extract 16, we found that the writer presents a quantitative study as the research design and convenient sampling as the sampling method. In addition, methods of data analysis are also presented. Given the centrality of this move, it is realised by nine steps, which are discussed below:

Move 3 Step 1: Research Design

Step 1 of Move 3 is identified as the Design of a research study. The design concerns the approaches that were adopted in analysing the data. Such designs include quantitative and mixedmethod designs. Research approaches such as descriptive and cross-sectional approaches were also identified in this step. Instances are provided in Extracts 17 and 18 below:

Extract 17

A longitudinal retrospective research design was adopted for this study [Nursing].

Extract 18

A quantitative design using cross-sectional survey was employed in this study [Nursing].

In Extract 17, the writer reports that he or she adopted a longitudinal retrospective research design. On the other hand, the writer in Extract 18 adopted a quantitative design using crosssectional survey. These two extracts exemplify two study designs adopted in the Nursing abstracts analysed.

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Move 3 Step 2: Sampling Technique

Step 2 is the Sampling Technique used to select the participants for a research study. This step identifies a specific strategy that is helpful to select participants from a population. In this step, I noticed convenient sampling, purposive sampling and random sampling as some of the techniques mentioned in the abstracts. Extracts 19 and 20 below are examples of this step:

Extract 19

Stratified sampling method was used to select the study participants with the use of public and private health facilities as strata [Nursing].

Extract 20

A systematic random sampling method was used [Nursing].

As evident in Extract 19, the writer employed the stratified sampling method. Also, in Extract 20, systematic random sampling was used. This shows that the writers of the abstracts used a variety of sampling methods.

Move 3 Step 3: Sample Size

The sampling technique is Sample Size, step 3 of Move 3. The sample size represents the accessible number of participants selected from a population through a sampling technique. The sample size is the basis for determining the representativeness of the respondents in a study. Illustrations are provided in Extracts 21 and 22.

Extract 21

The study used a sample size of 169 nurses in the study [Nursing].

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Extract 22

The sample size of 200 career nursing mothers aged 18 years and above were used [Nursing].

As found in Extract 21, the study involved a sample size of 169 nurses. In Extract 22, we find that 200 nursing mothers were used. It is important to use a specific sampling size since it is often difficult to use an entire population. Sample size also has implications for the generalisability of the findings.

Move 3 Step 4: Research Site

The researcher identified and labelled step 4 of move 3 as a Research Site. A research site is a particular location where a research study is conducted. In the analysed abstracts, the common sites documented are communities, hospitals and clinics.

Extracts 23 and 24 are examples of this step.

Extract 23

The health facilities in Tema… [Nursing].

Extract 24

From Ho Teaching Hospital in the Volta Region of Ghana… [Nursing].

Studies are usually conducted in a particular setting. This constitutes the research site. In Extract 23, hospitals or health facilities in Tema were used, while in Extract 24, the Ho Teaching Hospital served as the study site.

Move 3 Step 5: Data Collection Procedure

Move 3 Step 5 is Data Collection. Data collection provides information about the processes undertaken to collect data from the sampled participants, which is useful for answering a research

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question. In the Nursing dissertation abstracts, this step indicates how the data was gathered and measured. Illustrations are provided in Extracts 25 and 26.

Extract 25

A pretested questionnaire on knowledge, attitudes, and practice on infertility was administered to consented participants [Nursing].

Extract 26

A close-ended questionnaire including the Morisky Medication Adherence Rating Scale questionnaire was used to collect data [Nursing].

As can be seen in Extract 25, the data collection involved the administration of questionnaires to the participants. Similarly, the data collection reported in Extract 26 also involved questionnaires. Questionnaires are normally used in collecting quantitative data.

Move 3 Step 6: Data Analysis Procedure

Data Analysis, as Step 6 of Move 3, directly follows Data Collection. The analysis discusses how the data was examined using various statistical analytical tools and procedures, such as the Statistical Package for Social Sciences (SPSS) and ANOVA, which helped process the data into interpretable results. Systematicity in the analysis procedure is also relevant here. Instances are given in Extracts 27 and 28.

Extract 27

SPSS version 22 was used to code, enter, and analyses the data [Nursing].

Extract 28

The data was processed using Microsoft Excel 2013 and Statistical Package for the Social Sciences (SPSS) software [Nursing].

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Data analysis forms an important part of research methods. Without data analysis, there can be no findings. As mentioned earlier, data analysis involves the application of statistical tools, which is evident in the mention of SPSS (Extract 27) and Microsoft Excel (Extract 28).

Move 3 Step 7: Population

The researcher also identified and labelled Population as Step 7 of Move 3. The population of a research study represents the total number of people in the chosen site from which a sample is selected. The population of a research study could be nursing mothers, health practitioners or general community members. Extracts 29 and 30 are illustrations of this step.

Extract 29

> The target population consisted of secondary data on all in patients at Ho Teaching Hospital starting from 2013-2018 [Nursing].

Extract 30

> The study population included both male and female patients attending the clinic who are 18 years [Nursing].

In Extract 29, it is indicated that the population was composed of secondary data on all inpatients at Ho Teaching Hospital starting from 2013-2018. Also, in Extract 30, both male and female patients attending the clinic who were 18 years old are said to have constituted the population.

Move 3 Step 8: Presentation of Results

Move 3 Step 8 is the Presentation of Results. This step provides a succinct presentation of the results after the data is analysed, whether in graphs, figures or tables. This step is exemplified in Extracts 31 and 32.

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Extract 31

The results are presented in tables and graphs [Nursing].

Extract 32

Descriptive data would be presented in tables [Nursing].

As shown in Extract 31, the writer indicated that the results were presented in tables and graphs. On the other hand, tables were used in presenting the results in Extract 32.

Move 3 Step 9: Research Ethics

Step 9 is Research Ethics. Here, it was presented in the abstracts issues of ethical consideration since human participants were involved in the studies. Additionally, principles concerning participation, anonymity, confidentiality and consent by the participants are involved in ethics. Instances are evident in Extracts 33 and 34.

Extract 33

The study will seek ethical clearance from the ethical review committee of the University of Health and Allied Sciences [Nursing].

Extract 32

An ethical clearance was sought and granted (UHAS-REC No: A.8 [44] l8-19) [Nursing].

Ethical issues constitute a significant aspect of research. In Extracts 33 and 34, it is communicated that the researchers sought ethical clearance from the relevant institution before conducting their respective studies.

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Move 4: Product

Hyland (2000) identifies Move 4 of abstracts as the Product. Swales and Feak (1994) conventionalise this move as the 'Results'. In the results, researchers present the discussion of their data analysis and attempt to point out what they hoped to achieve. Empirical research is incomplete without the results (Bonsu & Afful, 2022). Unlike Move 1 and Move 3, the results did not have any further steps from the analysed abstracts.

Extracts 37 to 37 are instances that are provided to support the analysis.

Extract 35

The study finally pointed that, the practices of exclusive breast-feeding suggested differences in terms of the desire to practice based on socioeconomic predators. The study finally identified some challenges to exclusive breast feeding including the stress involved in exclusive breast feeding and the possibility of breast becoming flabby etc [Nursing].

Extract 36

This study reported majority of the respondents as female than males with majority of them being nurse assistants (41.3%). The overall leve1 of knowledge on essential new born care was 59.2%. With about 50.3% and 46.3% of the healthcare providers having adequate knowledge on airway patency and breastfeeding respectively. The attitude of the health care providers was good among 77.6% of them. About 54.2% and 45.3% also had good attitude on good care and resuscitation respectively [Nursing].

Extract 37

Out of a total of 280 women, only 729, representing 46%, are aware of cervical cancer. None of the women in the study has been immunized against the HPV virus nor attend regular screening for early detection of cervical cancer. Barriers to cervical cancer screening services included lack of awareness about the services, inappropriate perception such as the fear of getting cancer, cost of the service, and negative attitude of healthcare workers [Nursing].

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As can be seen from Extracts 35 to 37, the results of the studies conducted were informed by the purpose of the study. Nonetheless, primarily, they report what was achieved, as stated by Hyland (2000). In line with Imsa-ard (2021), Fryer (2012) and Bonsu and Afful's (2022) studies, the present study found the Product move in the abstracts analysed.

Move 5: Conclusion

Move 5 of the abstracts was identified and labelled as Conclusion. This move generally summarises the findings and also makes recommendations. Extracts 38 to 40 are instances of the Conclusion move.

Extract 38

> The study results shows that factors influence tramadol among the youth Kassena Nankana Municipality in Upper East Region of Ghana. Study found out that anxiety, headache, sleepy confused and vomiting were serious effects of tramadol abuse that was observed from field and expressed by the respondents [Nursing].

Extract 39

> Too many people in Ho municipality are practicing over the counter drug selfmedication is fueled mainly by lack of adequate health facility in strategic vantage points and an indepth knowledge about the exact ramifications of using over the counter drugs without prescription [Nursing].

Extract 40

> When a relative is sick or they are sick, they immediately attributed it to someone and then go to a fetish priest or faith healer to know the cause of the illness, take a locally prepared herbs/medicine, sit in the sun, pray and if the illness still persist, they will visit a faith healer or a herbalist/traditional healer to cure them with the health facility being the last option because they believe the faith healers and herbalist/traditional healers can cure them. The study recommends that educational campaigns on biomedical perspectives of causes of

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disease should be intensified, there should be a collaboration between the herbalists, faith/traditional healers and the various health facilities so that they refer cases that they cannot cure to the health facilities as early as possible [Nursing].

As shown in Extracts 38-40, the Conclusion move summarises the study's findings. As pointed out earlier, this move sometimes contains practice recommendations. For instance, in Extract 40, the writer recommended that education campaigns on the causes of diseases should be intensified. Thus, it comprises two steps (Summary of Findings and Recommendations), which are discussed below.

Move 5 Step 1: Summary of Findings

Step 1 of Move 5 is the Summary of the Findings. In a sentence or two, this step provides an overview of what was done and achieved in a research study. Generally, the summary is linked to the purpose or introduction moves. Also, inferences are made from the findings in this step, as shown in Extracts 41 and 42 [Nursing].

Extract 41

Findings of the study revealed that majority of women in their reproductive age had adequate knowledge about PCC. However, there is less effort by healthcare practitioners to educate the general public about PCC components and its relevance [Nursing].

Extract 42

The poor attitude towards prevention is due to the poor knowledge the respondents had on the signs and symptoms, medium and route of transmission. This connotes that large number of students are at risk of contracting infections as they are not vaccinated against HBV [Nursing].

In Extract 41, the researcher provides a summary of the findings. This constitutes inferences drawn from the main findings presented in the Product move. Similarly, in

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summarising the results, the writer in Extract 42 draws meanings from the findings presented in the Product Move.

Move 5 Step 2: Recommendations

Step 2 of Move 5 is the Recommendations from the data collected and analysed. Generally, the recommendations are made for practice in the specific discipline or for further research.

Extract 43

Healthcare professionals in the Dzodze Ketu North Municipality should organise awareness campaign for the women of the Dzodze community to educate them on the cause and risk factors of cervical cancer. Furthermore, women of the Dzodze community should be educated on the availability of cervical cancer screening services [Nursing].

Extract 44

Management at the Ada East District Hospital should ensure patients are educated on the importance of routine check-up and the importance of completing prescribed medications. Measures must be put in place to reduce waiting time at the Ada East District Hospital [Nursing].

As illustrated in Extracts 43 and 44, the Recommendation step involves making suggestions for practice in the health field. For example, in Extract 43, the researcher makes recommendations to health professionals in the study area. In contrast, in Extract 44, recommendations are made to manage the selected hospital in the study area.

As the present study reveals, the Nursing dissertation abstracts comprised five moves: Introduction, Purpose, Method, Product and Conclusion. This finding is comparable to the findings of some previous studies. Generally, Hyland (2000, 2004), Santos (1996), Agbaglo and Fiadzomor (2021), and Ahmed (2015) have reported a fivemove structure in abstracts. In particular, Agbaglo and Fiadzomor (2021), whose study focused on the research article abstracts from an Applied Linguistics journal, TESOL Quarterly, found a five-move structure. In addition, Bonsu and Afful

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(2022), Fryer (2012) and Salager-Meyer (1992) have also analysed abstracts in the medical field, identifying the five-move structure.

In the field of Protozoology, a study by Cross and Oppenheim (2006) on the moves of research article abstracts found a five-move structure, comprising Relation to other research, Purpose, Methodology, Summarising the results, and Discussion moves. Whereas the study of Cross and Oppenheim identified a five-move structure, it must be noted that the moves in their data differed considerably from those identified in the present study. For instance, while in the present study, the abstracts ended with a Conclusion, in the study by Cross and Oppenheim, the abstracts ended with a discussion of results. Kanoksilapatham (n.d.), in a study which concentrated on the move structure of 60 Civil Engineering abstracts systematically selected from top journals, also found a five-move structure comprising Background, Purpose, Methodology, Results, and Discussion.

In the field of Educational Administration, Fangsa (2010) studied the rhetorical organisation of 100 doctoral dissertation abstracts. The study revealed five moves: Move 1 (Situating the research), Move 2 (Presenting the research), Move 3 (Describing the methodology), Move 4 (Summarising the results), and Move 5 (Discussing the research). Similarly, Setyorini (2017) investigated the rhetorical structure of 10 abstracts in the field of Academic Writing. The study revealed a five-move pattern (Situating the research, Purpose, Method, Result, and Conclusion). Also, Farzannia and Farnia's (2017) study, which was based on the five rhetorical move model of Hyland (2000), found 5 types of moves in Persian research article abstracts (Introduction, Purpose, Method, Product, and Conclusion) in the field of Mining Engineering.

Focusing on the status of journals, Oneplee (2008) analysed the rhetorical structure of abstracts written in these two prestigious journals in the field of Science: Nature and Science. The author limited his study to the abstracts published between 2006 and 2008 in those journals. His study revealed a five-move structure as characterising the abstracts analysed: Background, Purpose, Methodology, Findings, and Conclusion. In his research, El-Dakhs (2018) compared peer-reviewed articles from Linguistics journals indexed in the Web of Science and Scopus to less prestigious ones.

He realised that Linguistics abstracts were usually consistent with Hyland's five-step structure.

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Significantly, the move structure identified in the present study is similar to what was found by Alhuqbani (2013), who examined the move structure of abstracts across the disciplines of Law, Linguistics, Medicine and Police. A total of 40 abstracts, ten from each discipline, constituted the data for the study. Having analysed the data based on Bhatia's (1993) four-move structure and Hyland's (2000) five-move structure, the study revealed interesting variations in terms of rhetorical structure across the four disciplines. In particular, the author found that the abstracts in Medicine conformed to either of the models used for the analysis. In contrast, the abstracts in the other disciplines did not follow any predictable format.

A study by Santos (1996) focused on the generic structure of RA abstracts in Applied Linguistics. In the study, a total of 94 abstracts published in top journals constituted her data. The study revealed a five-move pattern: Situating the research, presenting the research, Describing the methodology, Summarising the results, and Discussing the research. Abdollahpour and Gholami (2018) intended to explore the generic structure of abstracts in the field of Medical Science. The study specifically aimed at revealing the frequency of moves in the abstracts. For this purpose, the authors built a corpus of 1,500 empirical RAs published in high-ranking journals. The study revealed a five-move pattern.

Contrary to the present study's findings, some studies reported a four-move pattern in abstracts. For instance, a study by Lorés (2004), which analysed 36 RA abstracts from the prestigious Journal of Linguistics, found a four-move pattern comprising Introduction, Method, Results, and Discussion. Similarly, Noorizadeh-Honami and Chalak (2018) investigated the RA abstracts written by English and Persian authors to explore their possible structural differences and similarities. The study by Noorizadeh-Honami and Chalak revealed that abstracts in the two data sets followed Swales's (1990) four-move model.

Also, Vathanalaoha and Tangkiengsirisin (2018) studied the move structure of Thai, and international research article abstracts in Dentistry. The authors built two separate datasets of 120 abstracts from dental journals certified by the Thai-Journal Citation Index (TCI) and Impact Factor (IF), respectively. The data revealed a four-move pattern comprising Background, Methods, Results, and Conclusion. Similarly, a study by Byun (2015) compared abstracts written by graduate students studying English as a Second Language to those written by expert researchers. His study

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revealed that the abstracts written by novice writers followed John Swales' model for analysing abstracts.

In addition, Zhen-ye's (2008) study, which focused on the discipline of Financial Economics, revealed that the majority of the abstracts deviated from Bhatia's (1993) model, resulting in three move patterns: a rearrangement of moves, the absence of some moves, and the insertion of unconventional moves. Similarly, Al-Khasawneh's (2017) study, which focused on the field of Applied Linguistics, revealed a three-move pattern (Introduction, Method, and Conclusion). On the converse, Tankó (2017) analysed research article abstracts in the discipline of Literature. The study revealed an eight-move structure: Announcing the topic, Stating current Knowledge, Announcing Purpose, Method, Outcome, Conclusion, and Recommendation.

From a comparative perspective, Rawdhan, Ebadi, and Loan (2020) aimed to investigate the rhetorical structure of the abstracts and introduction sections of MA theses produced by Iraqi and international students in the field of Applied Linguistics (AL). To achieve this goal, two groups of MA theses (30 theses each) were randomly selected. The findings showed that Iraqi university students included the steps of (a) Research hypotheses and (b) Outlining thesis structures in their abstracts, while these rhetorical features were absent in the abstracts written by their international counterparts.

The preceding section has presented the findings and discussion on the kinds of moves and steps in the Nursing dissertation abstracts. In the next section, I present the findings and discussion on the kinds of moves and steps in the Allied Health dissertation abstracts.

5.1.2 The Kinds of Moves and Steps in the Allied Health Abstracts

Like the Nursing dissertation abstracts, the Allied Health one also had five moves: Introduction, Purpose, Method, Product and Conclusion. These moves and their steps are discussed in this section.

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Move 1: Introduction

As mentioned earlier, the Introduction move generally provides background information to situate a research study in its context. The background information may cover the research problem or gap that triggered the study and the need for the study. Extracts 45-47 exemplify the realisation of this move in the data:

Extract 45

Spices are essential ingredients used in almost every day in most of our meals. Many spices have been shown to have harmless effect with considerable antioxidants effect. These antioxidant effects may greatly contribute to the prevention of pathological effects caused by free radicals and their associated oxidative stress. They are used either in their natural or highly processed form [Allied Health].

Extract 46

The demand to use plant-based produces as a functional ingredient has increased in recent years due to possible deleterious effects of synthetic functional ingredients to consumers. Pectin has good gelling capacity which can be used as thickener in food products. Okra has pectin which can be commercially extracted for the purposes of food fortification because okra extracts have great nutritional value [Allied Health].

Extract 47

Even though the food chain industry is considered an important part of the economies of many developing countries by generating revenues and providing affordable and easily accessible foods, there have been major concerns of food safety because of the resultant increase in the number of foodborne illnesses.

Foodborne associated illnesses negatively affect the health and economic wellbeing of many developing nations [Allied Health].

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In Extract 45, the researcher tries to place the study in context by giving information on the role of spices in people's diets. This also involves highlighting the health implications of the intake of spices. Similarly, in Extract 46, the author provides information on plant-based products, focusing on their increasing demand. The writer then narrows down to pectin and its importance, further focusing on okra as a source of pectin. In Extract 47, the writer focuses on the food chain industry and its importance in developing countries. In addition, he or she acknowledges foodborne diseases as a major challenge to this industry. All these extracts exemplify how context is typically created in the dissertation abstracts in the Allied Health data.

The Introduction move of the Allied Health abstracts appeared to be realised in three steps: Background, Problem, and Focus, which are discussed below.

Move 1 Step 1: Background

Background usually occurs as the first step in the Introduction move. In this study, the Background step identified in the Introduction move of Allied Health dissertation abstracts performs a function similar to that found in the Nursing dissertation abstracts. Specifically, the function of this step is to provide general information on a research topic. Normally, the information is provided in general terms and then narrowed down to a specific topic of interest. Extracts 48 and 49 illustrate this:

Extract 48

> Fufu is a dough-like West African food made by boiling and pounding starchy root tubers such as yam, plantain and/or cassava. Traditionally, pieces of boiled cassava or other tubers are pounded together in a mortar using pestle. The mixture is turned by hand with water until it becomes soft and sticky. The quality of fufu has been known to vary from one location to another. The processing technique may be responsible for this variation in quality. Fufu prepared in this form is time consuming and labour intensive, this leads to the manufacturing of the fufu pounding machine [Allied Health].

Extract 49

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> Milk is a nutrient-rich, liquid food produced by the mammary glands of mammals. It is the primary source of nutrition for infant mammals before they are able to digest other foods. Powdered milk, also known as dried milk is produced by evaporating liquid milk to dryness. Powdered milk available in Ghana includes, dry whole milk, dry skimmed milk and dry semi-skimmed milk. They are frequently used in the manufacture of infant formula and confectionaries such as candies and also in baked goods [Allied Health].

In Extract 48, the writer gives background to the topic by locating fufu in the West African context. This is followed by information on the ingredients used in making it and its quality and texture. In addition, the writer links this information to manufacturing fufu machines. Similarly, Extract 49 provides information on milk. The background information covers the production of milk, forms of powdered milk in Ghana and products made from milk.

Move 1 Step 2: Problem

The second step of Move 2 is the Problem. In this step, the writer highlights a problem, which may be a gap in knowledge in a field or a health problem. Extracts 50 and 51 show the realisation of this step in the Allied Health abstracts:

Extract 50

> Foodborne associated illnesses negatively affect the health and economic wellbeing of many developing nations [Allied Health].

Extract 51

> The risk of contamination from trolleys to shoppers and vice versa has been overlooked, making it a great public health concern worldwide and has remained a gap for research particularly in Ghana [Allied Health].

As shown in Extract 50, the writer identified foodborne diseases as problems affecting people's well-being in developing countries. In Extract 51, the writer conceptualizes the problem

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as a research gap that deserves scholarly attention. In particular, he or she considers the fact that the risk of contamination from trolleys to shoppers and vice versa has been overlooked as a research problem.

Move 1 Step 3: Focus

The third and final step of Move 1 in the Allied Health abstracts is the Focus. This step emerges directly from the Background or Problem, showing where the interest of a study lies. Extracts 52 and 53 below show how this step was realised in the data.

Extract 52

This study will therefore review the hygienic status of the aforementioned shopping tools so that findings will serve as a platform for public health awareness to help curb the spread and infections that may originate from shopping trolleys and baskets [Allied Health].

Extract 53

This review presents a general overview of microbial quality of pepper sauce served by food vendors [Allied Health].

Extract 52 shows that the focus of the study was on the hygienic status of shopping tools. Also, we find that in Extract 3, the study focused on a general overview of microbial quality of pepper sauce served by food vendors.

Move 2: Purpose

Every research study has a Purpose, aim or objective, which is communicated in the abstracts. In the Allied Health abstracts, this function is performed by the Purpose move, as exemplified in extracts 53-55 below:

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Extract 54

The purpose of this study is to review literature on the occurrence and levels of microplastics in soil sediments and fish samples from marine waterbody [Allied Health].

Extract 55

The aim of this study was to analyze the various sources of drinking water in the Ho municipality of the Volta Region of Ghana, and establish their quality [Allied Health].

Extract 56

The main aim of this study was to determine maternal socio-demographic and biological factors of preterm delivery in the Kadjebi district [Allied Health].

In Extract 54, the purpose is to review the literature on the occurrence and levels of microplastics in soil sediments and fish samples from marine water bodies. In Extract 55, the study's purpose is to analyse the various sources of drinking water in the Ho municipality of the Volta region of Ghana and establish their quality, while in Extract 56, the purpose is to determine maternal socio-demographic and biological factors of preterm delivery in the Kadjebi district.

Move 3: Method

Move 3 of the Allied Health dissertation abstracts analysed was Method. The Method move elaborates the design, sampling, sampling procedures, instruments, data collection, analysis, and site for a research study. It reports the procedures adopted in the study (Agbaglo & Fiadzomor, 2021). Illustrations are provided in Extracts 57 to 59.

Extract 57

Review was performed empirically. Articles and journals were retrieved from websites such as Google Scholar, PubMed and ScienceDirect. Current and noncurrent literature was

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selected based on their level of importance to the research work. These articles and journals were then analyzed, and deductions and conclusions were made in synchrony with recommendations and future solutions as well as other aspects of the topic [Allied Health].

Extract 58

Electronic databases (PubMed, Google Scholar and Science direct) were searched from January, 2000 to March, 2020 for literature on quality characteristics of reused vegetable oil for frying. The literature found was reviewed until a final number was attained [Allied Health].

Extract 59

Systematic searches for studies using electronic databases such as Google Scholar, PubMed library from 2000 to 2020 was done. These electronic databases were searched using both individual words and a combination of the words: weaning foods, weaning food formulations, brown rice, palm dates, soybean, and sensory evaluation of weaning foods. Experimental cross-sectional studies authored in English between 2000 and 2020 were considered eligible for the study [Allied Health].

In Extract 57, the writer indicated the nature of the study, followed by how data (articles and journals) were collected. The analysis procedure follows this, and conclusions and recommendations were presented after the analysis. In Extract 58, we find that the writer indicated how data were collected from electronic databases as well as how the data were analysed basically through reviews. The author in Extract 59 used a similar approach, which involves searching for research papers in databases such as Google Scholar and PubMed.

In the Allied Health dataset, the Method move contained 8 steps: Research design, Sampling technique, Sample size, Research site, Data collection technique, Data analysis technique, Population, and Presentation of findings. Thus, the Ethical issues step, found in the

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Nursing dissertation abstracts, was absent in the Allied Health abstracts. The steps in the Method move of the Allied Health dissertation abstracts analysed are discussed below.

Move 3 Step 1: Study Design

An essential component of research methods is Study Design. The Study Design constituted the first step of the Methods move in the Allied Health abstracts analysed. This step specifies the research approach or framework employed in the study. Some of the designs mentioned include retrospective case-control and cross-sectional study design. Extracts 60 and 61 are examples of the realisation of this step in the Allied Health dataset.

Extract 60

The study was a retrospective case control with CKD patients… [Allied Health].

Extract 61

This research was a cross sectional study… [Allied Health].

As seen from Extracts 60 and 61 above, the researchers used a retrospective case-control and cross-sectional study design, respectively. These designs are quantitative approaches which rely on the positivist paradigm.

Move 3 Step 2: Sampling Technique

The Sampling Technique is the second step of the Method move of the Allied Health abstracts. Essentially, writers used this step to explain the approaches in selecting research subjects. The techniques include random probability sampling and purposive sampling. Extracts 62 and 63 show the realisation of this step in the Allied Health dataset:

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Extract 62

5 different brands each of sachet water, bottled water and tap water samples from each of 5 different locations within the municipality were selected through random sampling [Allied Health].

Extract 63

Respondents were sampled using convenience sampling method [Allied Health].

Extracts 62 and 63 represent the sampling methods used. In Extract 62, it is indicated that the writer used a random sampling method. On the other hand, the writer in Extract 63 employed the convenience sampling method.

Move 3 Step 3: Sample Size

The third step of Move 3 of the Allied Health abstracts is Sample Size. This step provides the number of participants, objects or subjects used for the study. This is illustrated in extracts 64 and 65 below:

Extract 64

A sample size of 1989 with a ratio of 1 case to 2 controls was used for the analysis [Allied Health].

Extract 65

A sample size of 45 was used for the study consisting of 15 cases and 3 controls [Allied Health].

As can be seen from Extracts 64 and 65 above, these two studies used sample sizes of 1,989 and 45, respectively.

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Move 3 Step 4: Research Site

An important aspect of research methods is the place, site, or setting where a study is conducted or where the participants are located. It may be a specified location or institution like a hospital or a general geographical area. This is what is described in the third step of the Method move. Examples of the realisation of this step in the Allied Health dataset are given below:

Extract 66

… Volta Regional Hospital in Ho [Allied Health].

Extract 67

… from local farms and around households in the Volta region [Allied Health].

Extracts 66 and 67 show the realisation of the Research Site step in the Allied Health abstracts. Extract 66 presents the study site as the Volta Regional Hospital in Ho. At the same time, local farms and households in the Volta region are indicated as the study location in Extract 67.

Move 3 Step 5: Data Collection Technique

This step explicates the approach used in gathering the data for a study. In the Allied Health abstracts, since most of the students conducted a review, the Data Collection Approach was explained as how papers were retrieved from the internet through various search engines. In some instances, how the data was collected by administering questionnaires was mentioned. Extracts 68 and 69 show the realisation of this step in the Allied Health abstracts:

Extract 68

Search engines (PubMed, Google Scholar and FreeFullPDF) were used to obtain articles that focused on the nutritional composition of beetroot [Allied Health].

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Extract 69

A questionnaire was used for measuring the satisfaction of the patients with food and foodservice [Allied Health].

As shown in Extract 68, the writer obtained data through search engines such as PubMed, Google Scholar and FreeFullPDF. This illustrates the case of authors who conducted systematic reviews. In Extract 69, the author gathered data in the field by using questionnaires.

Move 3 Step 6: Data Analysis Technique

The sixth step identified in the third move of the Allied Health abstracts is Data Analysis Technique. Like all other steps, this is essential since research cannot be complete without data analysis. In this step, the various statistical methods involved in the analysis of the data are explained, as seen in Extracts 70 and 71 below:

Extract 70

Statistical analysis involved descriptive and inferential statistics at 95% level of confidence and $p \leq 0.05$ was considered significant [Allied Health].

Extract 71

A Bioimpedance Analyzer was used to assess body composition, a stadiometer to measure height, a food diary to assess energy intake and an activity diary to assess energy expenditure [Allied Health].

In Extract 70, the analysis methods involved descriptive and inferential statistics. Similarly, in Extract 71, A Bioimpedance Analyzer was used to analyse the data.

Move 3 Step 7: Population

The seventh step of the third move of the Allied Health abstracts is Population. This step identifies the general population from which a sample was drawn for the study.

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Extracts 72 and 73 illustrate this:

Extract 72

… adolescents aged 10-19 years, from 3 selected communities in the Adaklu district in the Volta Region of Ghana [Allied Health].

Extract 73

…young adults aged between 18-30 years from the University of Health and Allied Sciences [Allied Health].

As can be seen from Extract 72, the population comprised adolescents aged 1019 years, while in Extract 73, young adults aged between 18-30 years from the University of Health and Allied Sciences formed the population.

Move 3 Step 8: Presentation of Findings

The final step of the third move of the Allied Health abstracts is the Presentation of Findings. This move shows how the findings of a study are presented. These include pie charts and frequency distribution tables, for example. Extracts 74 and 75 show the realisation of this step in the Allied Health abstracts:

Extract 74

Tables and other convenient methods were used to present results [Allied Health].

Extract 75

…and the results were presented in the form of tables and figures [Allied Health].

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In Extract 74, the findings were presented in “tables and other convenient methods”. Similarly, in Extract 75, tables and figures were used to present the findings.

Move 4: Product

As its name suggests, the Product move is a presentation or summary of the actual findings of a study. Quantitative research typically presents such results as odds ratios or percentages. This is shown in Extracts 76 and 77 below:

Extract 76

> There was a significant difference in the intake of energy, protein, total fat, carbohydrate, phosphorous and zinc between cases and controls. (P=0.000 for energy, p=0.01 for total fat, p=0.09 for carbohydrates, p=0.00 for phosphorous and p=0.04 for zinc respectively). Grains and cereals (OR-18.308, CI-95%: 2.125- 157.711) as well as poultry, meat and fish (OR=1.833, CI-95%: 0.4720.126) were associated with chronic kidney disease with a significant difference of (p-value; 0.001 and 0.004 respectively). Majority of the controls (63.3%) took at least 1 slice of fruits such as watermelon, pawpaw and pineapple at least 2-4 times in a week while most of the cases (40%) took such fruits at most once in a week [Allied Health].

Extract 77

> Results show that 77.6% of patients were satisfied with the overall food service in the Volta Regional Hospital. Logistic regression revealed that ages between 2045 years, low monthly income, taste, variety of food, appearance of food, overall room satisfaction, absence of disturbance in/outside room and room cleanliness were statistically significant independent variables related to patient satisfaction with hospital food and food service ($p < 0.05$). according to the results of the study, physical environment (96.5%) was ranked highest followed by food quality (79.14%), meal service quality (62.06%), and food safety (40.95%) respectively. Confidence in hospital food is built only when proper foodservice is provided (100%) [Allied Health].

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As can be seen from the extracts above, a summary of the actual results is presented with the use of odds ratios and percentages as well as an indication of the degree of their statistical significance.

Move 5: Conclusion

This is the final move in the Allied Health dissertation abstracts. It concludes the abstract by summarising the findings and offering recommendations. The extracts below illustrate the realisation of this move in the abstracts:

Extract 78

> Maize is an important crop which is very integral in the nutrition in sub-Saharan Africa since it is a major staple in most African countries. Maize is often contaminated with fungi and its metabolites, which is detrimental to consumers. Most maize are contaminated during storage and the farmers and sellers are unable to detect this contamination. Hence the need to create awareness of fungi and mycotoxin contamination of maize [Allied Health].

Extract 79

> Results indicated that unhygienic practices and poor handling of beef by the butchers in the abattoirs are the major causes of contamination of the beef. Beef could be contaminated by food borne microbes such as Escherichia Coli, Shigella, Salmonella, Staphylococcus aureus. Hence, it is very important for food safety regulations to be observed to reduce the potential risk of food borne pathogens in beef sold by butchers in abattoirs [Allied Health].

As can be seen in Extract 78, the move summarised the findings by highlighting the significance of maize in sub-Saharan Africa as well as the fact that it is often contaminated. This is followed by the need to create awareness of the contamination of maize. Similarly, extract 79 summarises the causes of beef contamination and recommends that food safety rules be observed

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to avoid beef contamination. Like the Nursing dissertation abstracts, the Conclusion move of the Allied Health dissertation abstracts contained two steps, which are discussed below:

Move 5 Step 1: Summary of Findings

This is the first step of the final move of the Allied Health dissertation abstracts. In this step, the findings of the study are summarised in a few sentences. Unlike the Product move, this step does not provide statistical information such as odds ratios or percentages. Realisations of this step are shown in Extracts 80-82 below:

Extract 80

Based on the study results, the programme in the municipality is ineffective hence … [Allied Health].

Extract 81

In conclusion, fathers who took part in this study, reported being engaged in child's feeding practices [Allied Health].

Extract 82

Generally, adolescents do not have adequate nutritional knowledge due to less easy access to health and nutrition information through schools, recreational activities and so this may have influenced the low level of nutrition knowledge. More so, the perception about targeted nutrition supplementation is very poor [Allied Health].

In Extract 80, the findings are summarised that the program in the municipality is ineffective. In Extract 81, the summary is that fathers engaged in child-feeding practices while in Extract 82, the summary focuses on adolescents' inadequate nutritional knowledge and its associated factors.

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Move 5 Step 2: Recommendations

In this step, the writer of the abstract presents some suggestions or proposals based on the findings of the study. Normally, the suggestions are made to correct the problem identified in the study, as exemplified in Extracts 83-85 below:

Extract 83

> Therefore, there is a need to develop pharmaceutical grade of potential antibacterial and antifungal agents from the spice combinations identified to curb persistent human infections and antimicrobial resistance [Allied Health].

Extract 84

> Health promotion strategies and policies should be used to encourage all students to eat breakfast regularly [Allied Health].

Extract 85

> Food needs to be available and accessible to students and the curriculum adjusted to enable them eat regularly [Allied Health].

As seen in Extract 83, the student highlighted the need to develop the pharmaceutical grade of potential antibacterial and antifungal agents from the spice combinations to curb persistent human infections and antimicrobial resistance. In Extract 84, it was recommended that students be encouraged to take breakfast through health promotion strategies. In Extract 85, the writer highlighted that food should be made available to students and that the curriculum should be modified to allow students to eat regularly.

The analysis of the Allied Health dissertation abstracts shows that the dataset contained 5 moves. The 5 moves identified in the Allied Health dissertation abstracts are the same as those identified in the Nursing abstracts. This shows that the Allied Health and Nursing abstracts are similar regarding the kinds of moves. The five moves identified were found in several previous

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studies in different disciplinary and sociocultural contexts (e.g., Agbaglo & Fiadzomor, 2021; Ahmed, 2015; Bonsu & Afful, 2022; Fryer, 2012; Hyland, 2000, 2004; Santos, 1996).

For instance, in the field of Protozoology, Cross and Oppenheim (2006) found a five-move structure composed of Relation to other research, Purpose, Methodology, Summarising the results, and Discussing the research. While this study by Cross and Oppenheim found 5 moves in the abstracts, it shares some differences with the present study's findings. One notable difference concerns the first move, which Cross and Oppenheim labelled Relation to other research. This suggests that the move generally shows how the study differs from previous research. In the present study, on the other hand, the first move provides general information on the topic under study in addition to the research problem and focus. Another notable difference is that in the present study, the final move identified summarises the findings and makes recommendations rather than discussing the findings, as in the case of Cross and Oppenheim.

The first four moves identified in the present study were also found in a study in the field of Civil Engineering. However, in the Civil Engineering research article abstracts, the fifth and final move discusses the findings rather than offering a summary and recommendations (Kanoksilapatham, n.d.). Fangsa's (2010) research in the domain of Educational Administration also revealed five moves: Move 1 (Situating the research), Move 2 (Presenting the research), Move 3 (Describing the methodology), Move 4 (Summarising the results), and Move 5 (Discussing the research). In the abstracts in the field of Academic Writing, the moves identified by Setyorini (2017) were Situating the research, Purpose, Method, Result, and Conclusion, which are comparable to the ones identified in the present study in the field of Allied Health. In the sociocultural context of Persia, Farzannia and Farnia (2017) found five rhetorical moves (Introduction, Purpose, Method, Product, and Conclusion) identical to those identified in the present study in the field of Allied Health.

In the area of Applied Linguistics, Santos's (1996) analysis of 94 research article abstracts published in reputable journals also revealed a five-move pattern. The moves included Situating the research, Presenting the research, Describing the methodology, Summarising the results, and Discussing the research. While the labels of these moves differ from those found in the Allied Health abstracts in the present study, they perform similar communicative functions. Similar

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findings were reported in a study by El-Dakhs (2018) in the field of Linguistics. Specifically, ElDakhs focused on Scopus-based journals and found that the abstracts followed the five-move structure proposed by Hyland (2000). This finding is comparable to the present study, which also reports that Allied Health dissertation abstracts comprise the five moves identified by Hyland.

Closely related to the present study is the work of Abdollahpour and Gholami (2018), who examined the rhetorical moves in research article abstracts in the field of Medical Science, revealing five moves. Similar to the findings of Santos, Abdollahpour and Gholami (2018) found these five moves: Situating the research, Presenting the research, Describing the methodology, Summarising the results, and Discussing the research. Alhuqbani (2013) studied the move structure of Law, Linguistics, Medicine and Police abstracts. He focused on a corpus of 40 abstracts, ten from each discipline. He based the analysis on Bhatia's (1993) four-move structure and Hyland's (2000) five-move structure. Notably, the study reported that abstracts in Medicine conformed to either of the models used for the analysis, while abstracts in the other disciplines did not follow any predictable format. Oneplee (2008), who focused on two reputable science journals (Nature and Science), also found a five-move structure comprising Background, Purpose, Methodology, Findings, and Conclusion.

Thus far, the discussion has focused on studies that have reported a five-move structure. However, some previous studies have reported different move patterns. A case in point is Lorés (2004), whose study in the field of Linguistics reported a four-move pattern comprising Introduction, Method, Results, and Discussion. In addition, focusing on cross-cultural differences, Noorizadeh-Honami and Chalak (2018) investigated the RA abstracts written by English and Persian authors. As the study revealed, abstracts in the 2 data sets followed Swales's (1990) fourmove model.

In Thailand, a study was conducted on the kinds of moves in research article abstracts in the field of Dentistry. In the study, the authors built two separate corpora of 120 abstracts from dental journals certified by the Thai-Journal Citation Index (TCI) and Impact Factors (IF), respectively. The study revealed a four-move pattern composed of Background, Methods, Results, and Conclusion (Vathanalaoha & Tangkiengsirisin (2018). Similarly, a study by Byun (2015) compared abstracts written by graduate students studying English as a Second Language to those

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written by expert researchers. His study revealed that the abstracts written by novice writers followed John Swales' model for analysing abstracts.

In the field of Financial Economics, Zhen-ye (2008) revealed that the majority of the abstracts deviated from Bhatia's (1993) model, resulting in three move patterns: rearrangement of moves, the absence of some moves, and insertion of unconventional moves. Similarly, in Applied Linguistics, Al-Khasawneh (2017) revealed a three-move pattern (Introduction, Method, and Conclusion). On the other hand, in the discipline of Literature, Tankó (2017) revealed an eightmove structure comprising Announcing the topic, Stating current Knowledge, Announcing Purpose, Method, Outcome, Conclusion, and Recommendation.

The present study's findings on Allied Health dissertation abstracts also differ from those of previous studies that compared the rhetorical structure of abstracts and other genres, such as the thesis introduction. For instance, Rawdhan, Ebadi, and Loan (2020) investigated the rhetorical structure of the abstracts and introduction sections of MA theses produced by Iraqi and international students in the field of Applied Linguistics. The findings showed that Iraqi university students included the steps of (a) Research hypotheses and (b) Outlining thesis structures in their abstracts, while these rhetorical features were absent in the abstracts written by their international counterparts. The Allied Health abstracts analysed in the present study do not contain an Outlining thesis structure. This difference in the findings can be attributed to disciplinary and cross-cultural differences.

Like the Nursing and Allied Health dissertation abstracts, the Medicine abstracts also have five moves: Introduction, Purpose, Method, Product and Conclusion. The findings and discussions relating to the Medicine dissertation abstracts are presented under the relevant sub-heading below.

5.1.3 The Kinds of Moves and Steps in the Medicine Dissertation Abstracts

With regard to the kinds of moves, the analysis revealed that the Medicine dissertation abstracts contain five moves. These include Introduction, Purpose, Method, Product, and Conclusion. All these moves are similar to those identified in the Nursing and Allied Health abstracts analysed earlier. However, unlike the Nursing and Allied Health abstracts, the Medicine ones have an additional step in the Methodology move. This section discusses these moves and steps in detail.

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Move 1: Introduction

As explained earlier (see Section 5.1.2), the Introduction move situates the study in its context. This is done by providing background information on a general field of study and narrowing it down to its specific focus. Then, a problem is introduced, with the need for the study emphasised. This is illustrated in Extracts 86 and 87 below:

Extract 86

> Fever is one of the most common medical signs caused by numerous medical conditions ranging from non-serious to life threatening. Records over the years show that, about seventy-five percent of viral, bacterial, fungal, and parasitic infections present with fever.
>
> This makes it necessary for practitioners to become abreast with recent facts on fever for sound clinical reasoning and high index of suspicion to diagnose fever related conditions [Medicine].

Extract 87

> Urethral catheterization is an invasive clinical procedure whereby a catheter is inserted into the bladder to help voiding in patients who have difficulty urinating. An estimation of 15% to 20% of patients use a catheter. Despite its benefits, there are several complications that can arise from the procedure. These complications usually result in poor prognosis and impacts negatively on the treatment outcome. Urinary catheters are used in almost all the departments of a hospital and it is therefore essential for the catheterization procedure to be safe to minimize its associated complications [Medicine].

As shown in Extract 86, the writer provided information on fever. He then moves on to show how many infections are related to fever. This is followed by the need to conduct the study. In Extract 87, the writer commences by providing general information on urethral catheterisation, followed by an associated problem. He ends by highlighting the need for the procedure to be safe. Since the research in these two abstracts focused on fever and urethral catheterisation, the

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information presented in the background gives the reader an idea of the context of the study. This move is realised in three steps, which are discussed below.

Move 1 Step 1: Background

Background was found to be the first step of the Introduction move of the Medicine dissertation abstracts analysed. As such, it usually occurs in the text-initial position. As explained earlier in this chapter, this step introduces readers to the general field of the study. It also provides specific information on the topic under study. Extracts 88-89 illustrate the realisation of this step in the Medicine dissertation abstracts.

Extract 88

> Stroke is a frequent cause of hospital admissions, and one of the commonest cause of death and disability worldwide [Medicine].

Extract 89

> In the developing countries, most patients present with advanced glaucoma blindness. This has been attributed to lack of awareness and poor knowledge as major contributing factors. The outcome of glaucoma management, however, depends largely on the understanding and attitude of the illness by the patients [Medicine].

As seen from the extracts above, the Background step provides contextual information on the topic. In Extract 88, the writer provides information on stroke as one of the causes of death globally. Similarly, in Extract 89, the writer introduces us to issues concerning glaucoma blindness. The writer attributes the resurgence of glaucoma to a lack of awareness of the disease. By doing that, the writer succeeds in providing background information on the topic of study.

Move 1 Step 2: Problem

The second move of the Medicine dissertation abstracts is the Problem. As indicated early on, generally, the problem is formulated in two ways. On the one hand, it may be presented as a general

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health problem that needs redress. On the other hand, it may be presented as a lacuna or inadequate research on a specific topic, which makes it necessary for the study to be conducted in order to advance knowledge in the subject area or fill the lacuna. Extracts 90-92 illustrate the realisation of this step in the Medicine dissertation dataset.

Extract 90

> However, high quality stroke research is limited, especially in developing countries where stroke accounts for up to 10% of all deaths. In Ghana, research into the nature of stroke and its relationship with post-disease health sequelae, forms of rehabilitation services as well as the pharmacological choices of survivors has been poorly explored [Medicine].

Extract 91

> Poor quality of medical records on hypertension remains a problem of much concern in most developing countries which needs to be addressed [Medicine].

Extract 92

> Insomnia is one of the major problems confronting diabetics' patients globally. Nevertheless, much attention has not been given to it [Medicine].

Extracts 90-92 show the realisation of the Problem step in the Introduction move of the Medicine abstracts analysed. Extract 90 presents the problem as limited research on stroke in developing countries, especially Ghana. In Extract 91, it is clear that the writer presents the problem as poor quality medical records in developing countries. The writer of Extract 92 conceptualises the problem as the lack of attention given to insomnia although it is a serious issue.

Move 1 Step 2: Focus

Focus is the last step of the Introduction move of the Medicine abstracts. As in the Allied Health dissertation abstracts examined earlier, this step specifies the issue the study is interested in. It is, therefore, a way of occupying the niche created in the research problem step. Extracts 93-95 show how this step was realised in the Medicine dissertation abstracts:

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Extract 93

This study is therefore aimed at determining the causes and inculpating measures to help reduce insomnia among diabetics [Medicine].

Extract 94

This study is designed to assess the knowledge of pregnant women on labour analgesia and their willingness to patronize such services [Medicine].

Extract 95

This study was being carried out to ascertain the knowledge of sickle cell disease among university students and how it informs their decisions for the future. It was to find out how much knowledge students of the University of Health and Allied Sciences have about sickle cell disease, their health beliefs about sickle cell disease and their attitude towards the sickle cell disease as well as persons affected with the disease [Medicine].

In the extracts above, the writers of the abstracts specify the focus of their studies. In Extract 93, it is clear that the study focused on the causes of insomnia and measures that can be adopted to reduce insomnia among diabetic people. In Extract 94, we find that the writer was interested in the knowledge of pregnant women about labour analgesia. Also, we find that the writer of Extract 95 was interested in exploring university students' knowledge about sickle cell disease.

Move 2: Purpose

The Purpose of a study is the second move in the Medicine abstracts. This move mentions the aim or objective of the study. Unlike the other moves, this one has no step below it. While this move looks similar to the Focus step, in the abstracts, it is separated from the Introduction move and given titles such as "Aim of the study" and "Objectives of the study". Extracts 96-98 illustrate the realisation of this move in the data:

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Extract 96

The main aim of the study was to determine the prevalence and causes of febrile illness, how diagnosis is made, and the available treatments among children under 5 years at the Volta Regional Hospital [Medicine].

Extract 97

This study aimed to evaluate the knowledge of health professionals who perform urethral catheterization and to assess immediate complications that patients experience during the catheterization process in various health facilities across the Ho Municipality [Medicine].

Extract 98

The aim of this study was to evaluate the indications for urethral catheterization and the complications that arise from urethral catheterization in the Ho Teaching Hospital [Medicine].

As shown in these extracts, the Purpose move shows the aim of the study. In Extract 96, the aim was to "determine the prevalence and causes of febrile illness, how diagnosis is made, and the available treatments among children under 5 years at the Volta Regional Hospital". In Extract 97, the study aimed to "evaluate the knowledge of health professionals who perform urethral catheterization and to assess immediate complications that patients experience during the catheterization process in various health facilities across the Ho Municipality". A similar observation is made in Extract 98, where the study was intended "to evaluate the indications for urethral catheterization and the complications that arise from urethral catheterization in the Ho Teaching Hospital".

Move 3: Method

Scientific inquiry involves a systematic process of knowledge production. This involves issues such as research design, sampling, data collection and analysis. These issues are explained in the Method move of the Medicine abstracts. Extracts 99 and 100 illustrate the realisation of this move in these abstracts.

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Extract 99

This was a cross-sectional study involving a convenient sampling of patients who have a urethral catheter or had been catheterized urethrally in the Ho Teaching Hospital (HTH) during the period of study. A structured questionnaire was administered and responses were collected, entered and analyzed with SPSS version 22.0 for windows software [Medicine].

Extract 100

The study was a cross-sectional study, and 400 students participated in the study. The study population comprised of students of the University of Health and Allied Sciences. Percutaneous lengths of the humerus and the femur were measured after students' informed consent were sought [Medicine].

In these extracts, the study design is cross-sectional. In Extract 99, we learn about issues such as sampling procedure (convenient sampling), research site (Ho Teaching Hospital), data collection and analysis procedure. Similarly, in Extract 100, the writer highlighted the study sample, population, study site, data collection and ethical issues. In the Medicine abstracts, this move was realised in 10 steps, which are discussed below.

Move 3 Step 1: Research Design

Step 1 of Move 3 is identified as the Research Design in the Medicine dissertation abstracts. The design concerns the approaches or ways of conducting the study. Such approaches include the quantitative and mixed-method designs or specific ones such as retrospective and cross-sectional designs. Instances are provided in Extracts 101 and 102 below:

Extract 101

This was a retrospective study… [Medicine].

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Extract 102

A quantitative method using a cross sectional descriptive survey design was used for this study [Medicine].

In Extract 101, the writer reports that he or she adopted the retrospective study design. A retrospective study allows a researcher to evaluate past exposures to potential risk or protective factors in relation to an outcome that was predetermined at the beginning of the trial. On the other hand, the writer in Extract 102 adopted the quantitative design using a cross-sectional descriptive survey. In a cross-sectional study, the researcher simultaneously assesses the participants' exposures and outcomes. These extracts exemplify two study designs adopted in the Medicine dissertation abstracts analysed.

Move 3 Step 2: Sampling Technique

In the Medicine dissertation abstracts analysed, the second step of the Method move was the Sampling Technique used to select the participants for a research study. As explained earlier, it is important to sample in research, given the difficulty involved in conducting research on the entire population. This step identifies a specific strategy that is helpful to select participants from a population. Some sampling techniques used include convenient, purposive, and random sampling. In convenience sampling, participants who are available, ready and willing to participate in a study are used. Purposive sampling selects participants to suit a certain purpose of a study, while random sampling gives all participants an equal chance of participation. Extracts 103 and 104 below are examples of this step:

Extract 103

A sample size of 113 patients diagnosed to have glaucoma that attended the eye clinic was selected using purposive sampling technique [Medicine].

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Extract 104

A prospective descriptive cross-sectional study was used, a random sampling technique [Medicine].

As evident in Extract 103, the writer employed the purposive sampling method. Also, in Extract 104, a random sampling technique was used. This shows that writers used various sampling methods in the thesis abstracts written in the field of medicine.

Move 3 Step 3: Sample Size

Following the sampling technique is the Sample Size, step 3 of Move 3 in the Medicine dissertation abstracts dataset. The sample size represents the number of participants sampled from a population through a sampling technique. The sample size is the basis for the representativeness of the respondents in a study. Illustrations are provided in Extracts 105 and 106.

Extract 105

A descriptive and cross -sectional study was employed to determine the effect of proper sugar control on sleep disturbance and insomnia in diabetic patients in the diabetic unit at the Ho Teaching Hospital using a sample size of 8 [Medicine].

Extract 106

The study was conducted at the Ho Teaching Hospital, Obstetrics and Gynecology Department, Volta Region, Ho with a sample size of about 100 [Medicine].

As found in Extract 105, the study involved a sample size of 18 diabetic patients. In Extract 106, we find that a sample size of 100 was used. It is important to use a specific sampling size since it is often difficult to use an entire population. Sample size also has implications for the generalisability of findings.

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Move 3 Step 4: Research Site

I identified and labelled Step 4 of Move 3 as the Research Site. The step indicates the particular location where a research study was conducted. In the analysed abstracts, the common sites that were noticed are communities, hospitals and clinics. Extracts 107 and 108 are examples for this step:

Extract 107

This was a retrospective study, and involved the retrieval and review of medical records of all patients diagnosed with stroke from January, 2007 to December, 2017 in Ho Teaching Hospital [Medicine].

Extract 108

The study was a prospective cross sectional hospital based study which was conducted at the antenatal clinic and the obstetrics unit as a whole of the Ho Teaching Hospital [Medicine].

Studies are usually conducted in a particular setting. This constitutes the research site. In Extract 107, the Ho Teaching Hospital was the research site. On the other hand, in Extract 108, the antenatal clinic and obstetrics unit of the Ho Teaching Hospital served as the study site. It is important to specify the site used for a study to prevent someone from repeating the study at that same site. It is also important to prevent people from unnecessarily generalizing the findings to other sites which may have unique characteristics.

Move 3 Step 5: Data Collection Procedure

In the Medicine dissertation abstracts analysed, Move 3 Step 5 was Data Collection Procedure. The data collection step provides information about the processes that were undertaken to gather research information from the sampled participants. In the Medicine dissertation abstracts, this step fleshed out how the data was gathered and measured. Illustrations are provided in Extracts 109 and 110 below.

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Extract 109

A structured questionnaires containing both close ended and open ended question was used to collect data from both pregnant women and health care providers [Medicine].

Extract 110

A well-structured questionnaire was administered to sample a total of 200 correspondents consisting of 100 hypertensive patients and 100 non-hypertensive general population volunteers in Ho Municipality [Medicine].

As seen in Extract 109, the data collection involved the administration of structured questionnaires to the participants. Similarly, the data collection reported in Extract 110 involved well-structured questionnaires. Questionnaires are normally used in collecting quantitative data. Move 3 Step 6: Data Analysis Procedure

The Data Analysis Procedure was the sixth step in the Method move of the Medicine dissertation abstracts analysed. Data Analysis, as Step 6 of Move 3, directly follows data collection. As mentioned earlier, this step describes how the data were examined using various statistical analytical tools and procedures such as the Statistical Package for Social Sciences (SPSS) and ANOVA, which helped process the data into interpretable results. Extracts 111 and 112 show the realisation of this step in the Medicine dataset:

Extract 111

Statistical analysis was done to estimate sampled data using the Statistical Package for Social Sciences (SPSS version 22.0) and Microsoft excel 2016 [Medicine].

Extract 112

Data collected was entered and analyzed with Statistical Package of Social Sciences (SPSS) version 20.0 for windows software [Medicine].

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Data analysis forms an important part of research methods. Without data analysis, there can be no findings since the findings emerge from the analysis and interpretation of the data. Data analysis involves the application of statistical tools such as SPSS (Extracts 111 and 112) and Microsoft Excel (Extract 111).

Move 3 Step 7: Population

I identified and labelled Population as Step 7 of Move 3 of the Medicine dissertation abstracts in this study. The population of a research study represents the total number of people in the chosen site from which a sample is drawn. The population of a research study could be nursing mothers, health practitioners or general community members.

Extracts 113 and 114 are illustrations of this step.

> Extract 113
>
> The study population comprises of all pregnant women with hypertensive disorders, who visited the Volta Regional Hospital during the study period [Medicine].

> Extract 114
>
> A hospital based cross sectional study was employed in this study involving a population of adults living with type 2 diabetes who were attending the diabetic's clinic of the Ho Teaching Hospital [Medicine].

Extract 113's population comprised all pregnant women with hypertensive disorders who used the Volta Regional Hospital. Also, in Extract 114, adult diabetic patients constituted the population.

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Move 3 Step 8: Presentation of Results

Move 3 Step 8 of the Medicine abstracts is the Presentation of Results. The presentation step provides a succinct analysis of the results, whether in graphs, figures or tables. This step is exemplified in Extracts 115 and 116.

Extract 115

Results was presented in Bar graphs, percentages, and frequency tables [Medicine].

Extract 116

…results was presented in tables and charts to depict the number of cases seen during the review period as well as display the parameters of research interests [Medicine].

As shown in Extract 115, the writer indicated that the results were presented in bar graphs, percentages, and frequency tables. On the other hand, tables and charts were used in presenting the results in Extract 116.

Move 3 Step 9: Research Ethics

Step 9 of Move 3 of the Medicine dissertation abstracts is the Research Ethics. In research, ethical issues are crucial since researchers are obliged to hold in high esteem the participants' rights, needs, values, and desires. Here, issues of ethical consideration were presented in the abstracts since human participants were involved in the studies conducted. Specifically, principles concerning participation, anonymity, confidentiality and consent by the participants are involved in the ethics. Instances are evident in Extracts 117 and 118.

Extract 117

Ethical clearance was sort from UHAS Research Ethics Committee. Permission letter from the School of Medicine was submitted to the Ho Teaching Hospital for permission to conduct the study. Informed consent was obtained from the respondents before commencement of data collection [Medicine].

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Extract 118

> Ethical approval was obtained from the University of Health and Allied Sciences Research Ethics Committee [Medicine].

Ethical issues constitute a significant aspect of research. In Extracts 117 and 118, it is communicated that the researchers sought ethical clearance from the relevant institution before conducting their respective studies. Also, in Extract 117, it is clear that the writer sought informed consent from the participants before involving them in the study.

Move 3 Step 10: Variables

The last step of the Method move of the Medicine abstracts was Variables. A research subject's trait that can be assessed or recorded and varies across the population being investigated is referred to as a variable (Creswell & Creswell, 2018). Here, the writers mentioned the key variables involved in the study. Extracts 119 and 120 show the realisation of this step in the Medicine dataset:

Extract 119

> Variables collected include demographics, awareness and knowledge of breast cancer, hormonal, behavioural, reproductive, and genetic risk factors and intention of Breast SelfExamination [Medicine].

Extract 120

> Key variables gathered included demographic characteristics, number and types of deliveries, involuntary loss of urine or faecal matter or flatus after weeks of delivery, and types of measures adopted to address the problem [Medicine].

In Extract 119, the study variables included demographics, awareness and knowledge of breast cancer, hormonal, behavioural, reproductive, and genetic risk factors and intention of breast self-examination. Similarly, in Extract 120, demographic characteristics, number and types of deliveries, involuntary loss of urine or faecal matter or flatus after weeks of delivery, and types of measures adopted to address the problem were the study variables.

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Move 4: Product

The Product move comprises the actual findings of the study. Extracts 121 and 122 show the realisation of this move in the data:

Extract 121

The mean (standard deviation {SD}) age of participants was 22 ± 3.25 years with majority (82.9%) being 18-24 years old. Of the 385 students studied, 281 (73%) of them ever heard of breast cancer, with the commonest source of information being the media and school teachers. With regards to knowledge of breast cancer, 365 (95%) of respondents knew at one risk factor, 236 (83.9%) know that family history to be a risk factor while, 176 (62.6%) know of individual lifestyle as a predictor of breast cancer. Even though more than half of the participants were aware of the various screening methods, 164 (42.6%) of them has ever performed Breast Self-Examination (BSE), 39 (10.1%) had ever gone for Clinical Breast Examination (CBE), 9(2.3%) had ever gone for Mammography while 173 (44.9%) of them had never been screened for breast cancer before. More than half (52.8%) of those who had ever gotten pregnant had ever induced abortion. About one quarter of the respondents had ever used hormonal contraceptives and 14.3% of them had a positive family history of breast cancer. Majority (28.5%) of those who had not screened for BSE said they had no reason for not performing it while 28.1% of them said they did not know how to do it. Intention to perform BSE was higher (85.3%) among students without family history of breast cancer compared with those with family history (76.5%). In addition, students who perceived themselves to be at risk of breast cancer were more likely (93.3%) to do BSE in the future compared with their colleagues who did not perceive themselves at risk (87.1 %) [Medicine].

Extract 122

Out of the 123 respondents, 34 (27.6%) scored more than 10 on EPDS which is suggestive of postpartum depression. Out of the total number of respondents, 3(50%) of the 6 Mothers who gave birth to babies with congenital malformation scored more than 10 on the EPDS

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and were more likely to suffer from PPD. Other obstetrics risk factors which yielded recognisable but insignificant association with PPD were planned/unplanned pregnancy, complications with mother/baby during delivery and whether pregnancy was wanted or not [Medicine].

As can be seen from Extracts 121 and 122 above, the move comprises the actual findings of a study. In Extract 121, the findings are presented in quantitative terms, involving figures and percentages. The same can be seen in Extract 122.

Move 5: Conclusion

In the Medicine dissertation abstracts analysed, the Conclusion move finalised the study by presenting a summary of the findings and recommendations for policy and practice.

This is shown in the extracts below:

Extract 123

It was concluded that pain was still experienced by post-surgical clients and hence the need for improvement and effective postoperative pain management [Medicine].

Extract 124

There was relatively high prevalence of viral diseases in the Ho Teaching Hospital. Virology laboratories should be put in place to help in definite diagnosing of viral diseases to enhance effective management of viral diseases and reduce the misuse of antibiotics [Medicine].

In Extract 123, the writer concludes by indicating that post-surgical clients experienced pain. He or she additionally highlights the need for improvement and effective postoperative pain management. In Extract 124, the writer concludes by indicating the high prevalence of viral diseases in the Ho Teaching Hospital. After this, he or she makes recommendations. It must be

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noted that as we found in the Nursing and Allied Health abstracts, the Conclusion move of the Medicine dissertation abstracts also contained two steps: the Summary and Recommendations. These are discussed below:

Move 5 Step 1: Summary

The Summary is the first step of the final move of the Medicine dissertation abstracts analysed. This step summarises the study's findings in a few sentences. Unlike the Product move, this step does not provide statistical information such as odds ratios or percentages. Extracts 125 and 126 exemplify the realisation of this step in the data:

Extract 125

> The findings from the study suggest that anal and urinary incontinence exist, although no morbidity data on both conditions was found in the Ho Teaching Hospital records [Medicine].

Extract 126

> This study clearly showed the outline of roles of diet, medication and exercise played in glycemic and blood pressure control among diabetics [Medicine].

In Extract 125, the writer inferred from the findings that anal and urinary incontinence exist, although no morbidity data on both conditions was found in the Ho Teaching Hospital records. Furthermore, it is obvious from Extract 126 that the author summarized the results by outlining the contributions of exercise, medicine, and nutrition to managing blood pressure and glycemic control in diabetics.

Move 5 Step 2: Recommendations

Recommendations were the second and final step identified in the Conclusion move of the Medicine dissertation abstracts. In this step, the writer of an abstract presents some

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recommendations based on the findings of a study. Normally, the recommendations are made to correct the problem identified in the study, as exemplified in Extracts 127 and 128 below:

Extract 127

> Health professionals should educate women on anal and urinary incontinence and make the availability of its treatment known to them to improve their health seeking behavior [Medicine].

Extract 128

> The prevalence of NCDs would significantly reduce if more public education about NCDs and their prevention were intensified, to make the public aware of them. In addition, more screening programs should be organised by the government, hospitals and NGOs for early detection and management of NCDs. Existing facilities for NCDs detection and management at local levels must also be improved [Medicine].

In Extract 127, the writer stressed the need for health professionals to educate women on their health conditions. In Extract 128, we find that the writer similarly recommends public education to reduce the disease's prevalence. The writer also recommended the need for screening programmes and the improvement of health facilities to help detect and manage the health condition.

The moves identified in the Medicine abstracts are comparable to those identified in the Nursing and Allied Health. Similar to the Nursing and Allied Health abstracts, the Medicine abstracts contained five moves: Introduction, Purpose, Method, Product, and Conclusion. This finding accords with the findings of some studies that also focused on Medicine. Crucially, the kinds of moves found in the present study are comparable to those found by Alhuqbani (2013) in Medicine. Alhuqbani, whose study was based on Bhatia's (1993) four-move structure and Hyland's (2000) five-move structure, found that abstracts in Medicine conformed to either of the models used for the analysis, while abstracts in the other disciplines did not follow any predictable format. A similar study by Abdollahpour and Gholami (2018) intended to explore the generic

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structure of abstracts in the field of Medical Science. The study specifically aimed at revealing the frequency of moves in the abstracts. For this purpose, the authors built a corpus of 1,500 empirical RAs published in high-ranking journals. The study revealed a five-move pattern. Salager-Meyer (1992) also analysed abstracts in the medical field, identifying the five-move structure.

Some previous studies have also identified the five-move structure in other science-based disciplines. For instance, in the field of Protozoology, Cross and Oppenheim (2006) identified five moves as constituting research article abstracts:

Relation to other research, Purpose, Methodology, Summarising the results, and Discussing the research. However, it is notable that Cross and Oppenheim labelled the first move as Relation to other research. This label indicates that the move generally shows how the study differs from previous research. This differs from the present study, where the first move was generally found to provide information on the topic under study in addition to the research problem and focus.

The first four moves identified in the present study were also found in a study in the field of Civil Engineering. However, in the Civil Engineering research article abstracts, the fifth and final moves discuss the findings rather than offer a summary and recommendations (Kanoksilapatham, n.d.). Oneplee's (2008) study focused on the rhetorical structure of the abstracts published in these two prestigious journals in the field of Science: Nature and Science. The author limited his study to the abstracts published between 2006 and 2008 in those journals. His study revealed a five-move structure: Background, Purpose, Methodology, Findings, and Conclusion.

Apart from Medicine and other science-related disciplines, abstracts in nonscience disciplines have been found to contain five moves. For example, in the discipline of Applied Linguistics, several studies have reported that abstracts contain five moves. A case in point is Santos (1996), who focused on the generic structure of RA abstracts. In the study, he built a corpus of 94 abstracts published in top journals in the field of Applied Linguistics. The study revealed that the abstracts contained Situating the research, Presenting the research, Describing the methodology, Summarising the results, and Discussing the research. Similarly, El-Dakhs (2018) compared peer-reviewed articles from Linguistics journals indexed in the Web of Science and

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Scopus to less prestigious ones. He realized that Linguistics abstracts were usually consistent with Hyland's five-move structure.

Also, in the field of Educational Administration, Fangsa's (2010) research on the rhetorical organisation of doctoral dissertation abstracts revealed five moves, namely, Situating the research, Presenting the research, Describing the methodology, Summarising the results, and Discussing the research. A similar finding was reported by Setyorini (2017), who focused on the rhetorical structure of abstracts in Academic Writing. Specifically, Setyorini's study revealed a five-move structure: Situating the research, Purpose, Method, Result, and Conclusion.

Contrary to the present study's findings, some studies reported a four-move pattern in abstracts. Among these studies, Vathanalaoha and Tangkiengsirisin's (2018) research, which focused on the move structure of Thai and international research article abstracts in the field of Dentistry, is most relevant to the present study, given that it focused on a discipline related to Medicine. The authors built two separate datasets of 120 abstracts from dental journals certified by the Thai-Journal Citation Index (TCI) and Impact Factor (IF), respectively. The study revealed a four-move pattern comprising Background, Methods, Results, and Conclusion. However, the differences in these findings may be attributable to disciplinary differences. Specifically, while Dentistry is somehow related to Medicine, the two are separate disciplines with different epistemological assumptions that may affect the construction of abstracts.

Also, a study by Lorés (2004), which analysed 36 RA abstracts in the field of Linguistics, found a four-move pattern comprising Introduction, Method, Results, and Discussion. In another study, Noorizadeh-Honami and Chalak (2018) investigated the RA abstracts written by English and Persian authors. As the study revealed, abstracts in the two data sets followed Swales's (1990) four-move model. Similarly, Byun (2015) compared abstracts written by graduate students studying English as a Second Language to those written by expert researchers. It was revealed that the abstracts written by novice writers followed John Swales' model for the analysis of abstracts.

Zhen-ye's (2008) study on the discipline of Financial Economics revealed that the majority of the abstracts did not follow Bhatia's (1993) model and that this resulted in three move patterns: rearrangement of moves, the absence of some moves, and insertion of unconventional moves.

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Similarly, Al-Khasawneh's (2017) study, which focused on the field of Applied Linguistics, revealed a three-move pattern: Introduction, Method, and Conclusion. Tankó (2017) analysed RA abstracts in the discipline of Literature. The study revealed an eight-move structure: Announcing the topic, Stating current Knowledge, Announcing Purpose, Method, Outcome, Conclusion, and Recommendation.

Rawdhan, Ebadi, and Loan (2020) aimed to investigate the rhetorical structure of the abstracts and Introduction sections of MA theses produced by Iraqi and international students in the field of Applied Linguistics. To achieve this goal, two groups of MA theses (30 theses each) were randomly selected. The findings showed that Iraqi university students included the moves of (a) Research hypotheses and (b) Outlining thesis structures in their abstracts, while these rhetorical features were absent in the abstracts written by their international counterparts.

5.2 The Differences and Similarities in the Frequency of Moves of the Nursing, Allied Health and Medicine Dissertation Abstracts

This section presents the frequency of the moves and steps identified across the three datasets. This is to enable a comparison across the three disciplines.

5.2.1 The Frequency of Moves/Steps in Nursing Dissertation Abstracts

This section examines the frequency of moves and steps in the Nursing abstracts analysed. With a total of 50 abstracts analysed, the results of the frequency of occurrence of the moves are presented in Table 3 below.

Table 3: Frequency of Moves in Nursing Abstracts

Moves	Label	Frequency (Percentage)	Status of Moves
Move 1	Introduction	50 (100%)	Obligatory
Move 2	Purpose	50 (100%)	Obligatory
Move 3	Methods	50 (100%)	Obligatory

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Move 4	Product	47 (94%)	Obligatory
Move 5	Conclusion	31 (62%)	Core

Table 3 reveals that the most frequent moves in the Nursing dissertation abstracts are the Introduction, Purpose, and Methods, each of which had a 100% occurrence, making them obligatory moves. In addition, the Product move also had a 94% frequency of occurrence, which establishes it as an obligatory move. In this regard, we can emphasise that the Introduction, Purpose, Methods and Product are typical in the abstracts. Specifically, these moves define the Nursing dissertation abstracts. With a percentage of 62, the Conclusion move achieved a status as a core move in the Nursing dissertation abstracts analysed.

This finding on the frequency of moves in the Nursing dissertation abstracts agrees with the extant literature. In the discipline of Literature, Tankó (2017), for instance, found that background, purpose, methodology and outcomes functioned as obligatory moves of a study. Setyorini (2017) also found in his research on abstracts in the field of Academic Writing that the Purpose and Method moves were obligatory. In addition, Hai-lin and Huan's (2010) study, for example, aimed to explore the general structural differences between native English speakers and non-native speakers in RA abstracts. The study shows that native speakers made the Results move an obligatory move. On the other hand, as revealed by the study, non-native speakers made the Introduction move an obligatory move in their abstracts. Purpose as an obligatory move in this study corroborates the findings of Fryer (2012), Agbaglo and Fiadzomor (2021), and Van Bonn and Swales (2007).

Pho (2008), using 30 abstracts from three journals, explored the rhetorical organisation of abstracts in Applied Linguistics and Educational Technology. The results showed three obligatory moves in the abstracts of these two disciplines: Introduction of research, description of methods, and summary of results. Moreover, Marefat and Mohammadzadeh's (2013) study, which investigated the generic structure of Literature RA abstracts, did so across RA abstracts written in English and Persian. One key finding of their study was that in Literature RA abstracts, more

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attention is given to the Introduction and Results sections than the other sections of the RA abstracts.

Contrary to the present study's findings, Vathanalaoha (2017) showed that Thai writers ignored the Purpose move. Similarly, Juan and Tao (2013) also studied RA abstracts in the field of Medicine across English-medium and Chinese-medium journals. They found a less frequent use of Move 1. Similarly, a study by Ghasempour and Farnia (2017) also examined the rhetorical organisation of abstracts in the field of Law. The study comparatively examined the abstracts across English and Persian, based on Hyland's (2000) five-move structure model. It was found that all the moves in Hyland's model were obligatory in the abstracts written in English, while the Introduction and Purpose moves were obligatory in the Persian abstracts. However, the frequency of the Introduction move in the analysis contrasts that in Skelton (1994), who identified the Introduction move as the least occurring in his abstract analysis of Medicine.

Dong and Xue's (2010) study analysed 20 abstracts written by two categories of writers (English speakers and non-native English speakers), focusing on the rhetorical organisation of the moves. One interesting finding was the revelation that the Introduction and Results moves were obligatory, with the Methods and Discussion moves being optional in the abstracts written by native speakers of English. Focusing on the field of Applied Linguistics, Amnuai et al. (2020) conducted a genre analysis of abstracts written by Thai authors. Thirty abstracts published in six TCI-indexed journals constituted the sample for the study. The study revealed the Product move as the most dominant one in the abstracts analysed. Abdollahpour and Gholami (2018) intended to explore the generic structure of abstracts in the field of Medical Science. Situating the research, Presenting the research, and Discussing the research were considered optional, while Describing the methodology and Summarising the results moves were essentially obligatory. While the Conclusion move is not obligatory in this study, Fryer (2012), Skelton (1996), and Bonsu and Afful (2022) found it to be obligatory in their studies. Researchers must provide conclusions to their abstracts, which could be suggestions or implications for practice and research.

The present study examined the frequency of the steps in the Introduction, Methods, and Conclusion moves. Table 4 presents the frequency of steps in the Introduction move of the Nursing dissertation abstracts:

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Table 4: Frequency of Steps in the Introduction Move of Nursing Abstracts

Step	Label	Frequency	Percentage
Move 1 Step 1	Background	50(100%)	Obligatory
Move 1 Step 2	Problem	20(40%)	Optional
Move 1 Step 3	Focus	3(6%)	Optional

As revealed in Table 4, the Background Step occurred in all the Nursing dissertation abstracts. This makes it an obligatory step. On the contrary, the Problem and Focus steps recorded 40% and 6% frequency of occurrences, respectively. This shows that these writers paid particular attention to providing background information to the study. The Problem and Focus steps are not obligatory. Therefore, the background serves to introduce readers to the topic, which is important (Swales, 1990). The relatively low occurrences of the Problem and Focus steps are not surprising. In particular, since writers would want to state their focus as the Purpose Move, they may be reluctant to state the study's focus in the background, as that may result in repetition.

Given the centrality of the Methods move, it is realised by nine steps with varying frequencies of occurrence. Table 5 presents the frequency distribution of the steps in the Methods move.

Table 5: Frequency of Steps in the Methods Move of Nursing Abstracts

Step		Frequency (%)	
Label			**Status**
Move 3 Step 1	Study design	45(90%)	Obligatory
Move 3 Step 2	Sampling technique	31(62%)	Core
Move 3 Step 3	Sample size	24(48%)	Ambiguous
Move 3 Step 4	Research site	18(36%)	Ambiguous
Move 3 Step 5	Data collection technique	44 (88%)	Core

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Move 3 Step 6	Data analysis technique	43 (86%)	Core
Move 3 Step 7	Population	7(14%)	Optional
Move 3 Step 8	Presentation of findings	6(12%)	Optional
Move 3 Step 9	Ethical issues	6(12%)	Optional

As shown in Table 5, the Methods move has only one obligatory step—the Study design, which recorded a 90% occurrence in the Nursing dissertation abstracts. In addition, three core steps were found in the Methods move. These are the Sampling, Data collection, and Data analysis techniques. Sample size and Research site were ambiguous, recording a 48% and 36% frequency of occurrence, respectively, while Population, Presentation of findings, and Ethical Issues, which recorded 14%, 12% and 12% of occurrence, were optional. The implication of this is that in the Nursing abstracts, the Study design step is the one that defines the Methods move. Thus, a Method move without a study design may be regarded as incomplete. Also, since Sampling, Data collection, and Data analysis techniques are core steps, they are typical of the Method move, indicating that a Method move without these steps may be considered unacceptable in the Nursing abstracts. The acceptability of steps with ambiguous occurrences is contingent on expert advice, while the optional steps are not typical of this move (Hüttner, 2010).

The two steps identified in the Conclusion move also recorded varying frequencies of occurrence. These are presented in Table 6.

Table 6: Frequency of Steps in the Conclusion Move of Nursing Abstracts

Step	Label	Frequency	Percentage
Move 5 Step 1	Summary of findings	30	60%
Move 5 Step 2	Recommendations	29	58%

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As shown in Table 6, Summary of findings (60%) occurred relatively more frequently than Recommendations (58%). However, they each are core steps. This means that both of these steps are important to the Conclusion move.

5.2.2 The Frequency of the Moves and Steps in the Allied Health Dissertation Abstracts

The present study considered the frequency of moves and steps in the Allied Health abstracts analysed. The findings on the frequency of the moves in these abstracts are presented in Table 7.

Table 7: Frequency of Moves in the Allied Health Abstracts

Moves	Label	Frequency (Percentage)	Status of Moves
Move 1	Introduction	50(100%)	Obligatory
Move 2	Purpose	50(100%)	Obligatory
Move 3	Method	50(100%)	Obligatory
Move 4	Product	50(100%)	Obligatory
Move 5	Conclusion	42(84%)	Core

As shown in Table 7, the study reveals that the most frequent moves in the analysed data were the Introduction, Purpose, Methods, and Product, each of which had a 100% occurrence in the abstracts, making them obligatory moves. This shows that these moves are typical in the Allied Health abstracts. With a frequency of 42(84%), the Conclusion move achieved the status of a core move in the Allied Health dataset. This finding agrees with the extant literature. In the discipline of Literature, Tankó (2017), for instance, reported that obligatory moves provided information on a study's background, purpose, methodology and outcomes. Similarly, Setyorini (2017) found in the field of Academic Writing that the Purpose and Method moves were obligatory. Moreover, Hai-lin and Huan (2010) explored the general structural differences between research article abstracts produced by native and non-native English speakers. The study showed that native speakers made the Results move an obligatory move. On the other hand, as revealed by the study, non-native speakers made the Introduction move an obligatory move in their abstracts. The present

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study is situated in a non-native English-speaking country and found the Product move obligatory in the Allied Health dissertation abstracts.

Further, Pho (2008) examined the rhetorical organisation of abstracts in Applied Linguistics and Educational Technology. He found three obligatory moves in these two disciplines: Introduction of research, Description of methods, and Summary of results. In another study, Marefat and Mohammadzadeh (2013) investigated the generic structure of Literature RA abstracts across English and Persian languages. One key finding of their study was that Literature RA abstracts paid more attention to the Introduction and Results moves than the other moves.

Unlike the present study, a study by Vathanalaoha (2017) showed that Thai writers ignored the Purpose move. In a similar vein, Juan and Tao (2013), who focused on the field of Medicine, found that the Introduction move was not frequently used. In another study by Ghasempour and Farnia (2017) on the rhetorical organisation of abstracts in the field of Law, they found that all five moves were obligatory in the abstracts written in English, while the Introduction and Purpose moves were obligatory in the Persian abstracts.

Dong and Xue (2010) revealed that the Introduction and Results moves were obligatory, with the Methods and Discussion moves being optional in the abstracts written by native speakers of English. In the field of Applied Linguistics, Amnuai et al. (2020) revealed the Product move as the most dominant one in the abstracts analysed. A study by Abdollahpour and Gholami (2018) on Medical Science abstracts found that Situating the research, Presenting the research, and Discussing the research were optional while Describing the methodology and Summarising the results moves were essentially obligatory.

Further, the study investigated the frequency of occurrence of the steps identified in the Introduction move of the Allied Health dissertation abstracts. The findings are presented in Table 8 below:

Table 8: Frequency of Steps in the Introduction Move of Allied Health Abstracts

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Step		Frequency	Percentage
Label			
Move 1 Step 1	Background	48	96%
Move 1 Step 2	Problem	32	64%
Move 1 Step 3	Focus	5	10%

As shown in Table 8, the Background step recorded the highest frequency (96%), followed by the Problem (64%) and Focus (10%). This is comparable to the frequency identified in the Nursing abstracts: Background (100%), Problem (40%), and Focus (6%). This highlights the significance of the Background step to the Allied Health dissertation abstracts. Essentially, the finding suggests that the Background step is needed to make every Allied Health abstract complete and acceptable (Hüttner, 2010). Table 9 shows the frequency of steps in the Method move of the Allied Health dissertation abstracts analysed.

Table 9: Frequency of Steps in the Methods Move of Allied Health Abstracts

Step		Frequency (%)	Status	Label
Move 3 Step 1	Study design	25(50%)	Core	
Move 3 Step 2	Sampling technique	10(20%)	Optional	
Move 3 Step 3	Sample size	31(62%)	Ambiguous	
Move 3 Step 4	Research site	16(32%)	Ambiguous	
Move 3 Step 5	Data collection technique	22(44%)	Ambiguous	
Move 3 Step 6	Data analysis technique	44(88%)	Core	
Move 3 Step 7	Population	16(32%)	Ambiguous	
Move 3 Step 8	Presentation of findings	3(6%)	Optional	

As shown in Table 9, the steps in the Method move of the Allied Health abstracts have varying frequencies of occurrence. Significantly, the Data Analysis Technique (88%) recorded the highest frequency of occurrence, followed by Research Design (50%). These two steps, thus, are classified as core steps. Apart from these core steps, the table reveals three steps that occurred ambiguously: [a move that does not fit any of the three designations (e.g., obligatory, core, or optional moves)]. Sample Size (62%), Data Collection Technique (44%), Research Site (32%), and Population (32%). Presentation of Findings and Sampling Techniques occurred as optional moves.

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The study also looked at the frequency of steps in the Conclusion move of the Allied Health dissertation abstracts. The findings are presented in Table 10.

Table 10: Frequency of Steps in the Conclusion Move of Allied Health Abstracts

Step	Label	Frequency	Status
Move 4 Step 1	Summary of findings	36(72%)	Core
Move 4 Step 2	Recommendations	23(46%)	Ambiguous

As revealed in Table 10, none of the steps was obligatory. However, Summary of Findings recorded a relatively higher frequency (72%) as compared to Recommendations (46%). The implication is that writers were more interested in emphasising the findings of a study, by summarising them, rather than recommending areas that deserve further policy and research attention.

5.2.3 The Frequency of the Moves and Steps in the Medicine Dissertation Abstracts

The Medicine abstracts contained five moves with several steps. These moves included Introduction, Purpose, Method, Product, and Conclusion. This section also discusses the frequency of moves in detail, paying attention to the steps. Table 11 presents the frequency of moves in the Medicine dissertation abstracts.

Table 11: Frequency of Moves in Medicine Abstracts

Moves	Label	Frequency (Percentage)	Status of Moves
Move 1	Introduction	50(100%)	Obligatory
Move 2	Purpose	48(96%)	Obligatory
Move 3	Method	50(100%)	Obligatory
Move 4	Product	37(74%)	Core

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Move 5	Conclusion	35(70%)	Core

As evident in Table 11, with respect to the frequency of occurrence of moves in the Medicine abstracts, the present study found that the Introduction, Purpose, and Methods moves were obligatory, with the Product and Conclusion moves being core. The finding agrees with Juan and Tao (2013), who reported that RA abstracts in the field of Medicine frequently used Move 1. Setyorini (2017) also found in his research on abstracts in the field of Academic Writing that the Purpose and Method moves were obligatory. Similarly, a study by Ghasempour and Farnia (2017) also examined the rhetorical organisation of abstracts in the field of Law. The study comparatively examined the abstracts across English and Persian, based on Hyland's (2000) fivemove structure model. It was found that all the moves in Hyland's model were obligatory in the abstracts written in English, while the Introduction and Purpose moves were obligatory in the Persian abstracts.

However, the finding contradicts that of Abdollahpour and Gholami (2018), who found that in the field of Medical Science, Situating the research, Presenting the research, and Discussing the research was optional, while Describing the methodology and Summarising the results moves were essentially obligatory. The fact that the Product move was core rather than obligatory contradicts the findings on the frequency of moves in the Nursing and Allied Health abstracts investigated in the present study.

The fact that the Product move was not obligatory in the Medicine abstracts is surprising, given that most previous studies found it obligatory. In the discipline of Literature, Tankó (2017), for instance, found that obligatory moves functioned as background, purpose, methodology and outcomes of a study. In addition, Hai-lin and Huan's (2010) study, for example, aimed to explore the general structural differences between research article abstracts produced by writers who use English as a native language and those who use it as a non-native language. The study shows that native speakers of English made the Results move an obligatory move. On the other hand, as revealed by the study, non-native speakers made the Introduction move an obligatory one in their abstracts.

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Pho (2008), using 30 abstracts from three journals, explored the rhetorical organisation of abstracts in Applied Linguistics and Educational Technology. The results showed three were 3 obligatory moves in the abstracts of these two disciplines: Introduction of research, description of methods, and summary of results. To the extent that Pho found the Results move to be obligatory, his study's findings partly contradict those of the present one. This contradiction can be attributed to disciplinary differences.

Marefat and Mohammadzadeh (2013) examined the generic structure of Literature RA abstracts. It was found that in these abstracts, more attention is given to the Introduction and Results moves compared to the other sections of the RA abstracts. Also, contrary to the present study's findings, Vathanalaoha (2017) showed that Thai writers ignored the Purpose move. Dong and Xue's (2010) study analysed twenty abstracts, focusing on the rhetorical organisation of the moves. One interesting finding was the revelation that the Introduction and Results moves were obligatory, with the Methods and Discussion moves being optional. Focusing on the field of Applied Linguistics, Amnuai et al. (2020) conducted a genre analysis of abstracts written by Thai authors. Thirty abstracts published in six TCI-indexed journals constituted the sample for the study. The study revealed the Product move as the most dominant one in the abstracts analysed.

The present study additionally examined the frequency of steps in the Introduction move of the Nursing dissertation abstracts. Table 12 presents the frequency of steps in the Introduction move of the Medicine dissertation abstracts.

Table 12: Frequency of Steps in the Introduction Move of Medicine Abstracts

Step	Label	Frequency	Percentage
Move 1 Step 1	Background	50(100%)	Obligatory
Move 1 Step 2	Problem	27(54%)	Core
Move 1 Step 3	Focus	8(16%)	Optional

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As shown in Table 12, the Background step recorded the highest frequency (100%). This makes it an obligatory step. The second most frequent step was Problem, which recorded a 54% frequency of occurrence in the Medicine dataset, with Focus being the least frequent (16%). This is comparable to the frequency identified in Nursing abstracts: Background (100%), Problem (40%), and Focus (6%). This highlights the significance of the Background step to the Medicine dissertation abstracts. The finding suggests that the Background step is needed to make every Medicine dissertation abstract complete and acceptable (Hüttner, 2010).

Table 13 shows the frequency of steps in the Method move of the Allied Health dissertation abstracts analysed.

Table 13: The Frequency of Steps in the Method Move of Medicine Abstracts

Step	Label	Frequency (%)	Status
Move 3 Step 1	Study design	45(90%)	Obligatory
Move 3 Step 2	Sampling technique	7(14%)	Optional
Move 3 Step 3	Sample size	7(14%)	Optional
Move 3 Step 4	Research site	30(60%)	Ambiguous
Move 3 Step 5	Data collection technique	42(84%)	Core
Move 3 Step 6	Data analysis technique	38(76%)	Core
Move 3 Step 7	Population	10(20%)	Optional
Move 3 Step 8	Presentation of findings	10(20%)	Optional
Move 3 Step 9	Ethical issues	5(10%)	Optional
Move 3 Step 10	Variables	7(14%)	Optional

Table 13 reveals Study design as the most frequently occurring step (90%). It is the only obligatory step in the Method move of the Medicine dissertation abstracts. This agrees with the findings on the frequency of the same step in the Method move of the Nursing abstracts. Table 18 further shows two core steps in the Method move of the Medicine dissertation abstracts. These are Data Collection Technique (84%), and Data Analysis Technique (76%). Like in the Nursing abstracts, Research site was found to occur ambiguously in the Method move of the Medicine abstracts. Sampling Technique, which occurred as a core step in the Nursing dataset, was found to be optional in the Medicine dataset. Other optional moves found in the Method move of the

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Medicine abstracts were Sample Size, Population, Presentation of Findings, Ethical Issues, and Variables.

The implication of this is that the Study design step defines the Methods move of the Medicine dissertation abstracts. Thus, a Method move without Study design may be regarded as incomplete. Also, since Data Collection Technique and Data Analysis Technique are core steps, they are typical of the Method move, indicating that a Method move without these steps may be considered unacceptable (Hüttner, 2010).

Table 14 shows the frequency of steps in the Conclusion move of the Medicine dissertation abstracts.

Table 14: Frequency of Steps in the Conclusion Move of Medicine Abstracts

Step	Label	Frequency	Status
Move 4 Step 1	Summary of findings	39(78%)	Core
Move 4 Step 2	Recommendations	28 (56%)	Core

As shown in Table 14, both steps were core. This means that both of these steps are important to the Conclusion move. However, Summary of Findings (78%) occurred more frequently than Recommendations (56%). This finding accords with the findings on the frequency of steps in the Conclusion move of the Nursing and Allied Health abstracts.

5.3 The Differences and Similarities in the Sequence of Moves and Steps of the Nursing, Allied Health and Medicine Dissertation Abstracts

5.3.1 Sequence of Moves and Steps in the Nursing Dissertation Abstracts

Move sequencing is an important rhetorical strategy in genre analysis. From the analysis of the Nursing abstracts, the study presents the identified sequencing types in Table 15.

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Table 15: Sequencing of Moves

Move Sequence	Frequency (Percentage)
M1>M2>M3>M4>M5	31 (62%)
M1>M2>M3>M4	16 (32%)
M1>M2>M3	3 (6%)
Total	**50 (100%)**

Three patterns were identified regarding the sequence of the moves in the Nursing dissertation abstracts analysed. From Table 15, the linear sequence of M1>M2>M3>M4>M5 was the most preferred pattern, with 31 occurrences (62%). More than half of the analysed abstracts had an Introduction, Purpose, Method, Results and conclusion. Taking insights from Bonsu and Afful (2022) and Malawi (2017), this pattern is completely linear.

The second most preferred sequence type was M1>M2>M3>M4, where the Conclusion move was absent in the abstracts. This occurred 16 times (32%) in the Nursing data set. With an occurrence of 3 (5%), M1>M2>M3 was the least preferred sequence. In this sequence, Results and Conclusion are absent. This is interpreted to mean that conclusions cannot be provided in a vacuum when there are no results to report. Additionally, M1>M2>M3>M4 and M1>M2>M3 are semilinear sequences. It is inferred that the writers of the abstracts prefer the M1>M2>M3>M4>M5 pattern because there is available space to highlight the authors' discursive practices in their discipline.

These findings correspond to those yielded by the study of Agbaglo and Fiadzomor (2021) and Bonsu and Afful (2022), who found M1>M2>M3>M4>M5 as the preferred sequencing in their analysis of Applied Linguistics and Biostatics research article abstracts, respectively. Also, in El-Dakhs's (2018) research, the dominant move structure was Purpose-Method-FindingsConclusion, which represents nearly a quarter of the move structures of abstracts in increasingly prestigious journals. Another interdisciplinary study by Kosasih (2018) compared abstracts in four disciplines: Public Administration, Management, Fisheries Management, and

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Mathematics Education. The study revealed the Aim-Method-Result pattern as the most frequently occurring move pattern in the disciplines studied.

Lee (2017) aimed to investigate the structural organisation of research article abstracts in the field of Library and Information Science. The author compared schematic structures across articles published in Korean and English. The study revealed the Introduction-Purpose-Method pattern as the most dominant move pattern in the English corpus. At the same time, the Korean articles had the IntroductionPurpose-Method-Results as the dominant move pattern. Similarly, Noorizadeh-Honami and Chalak (2018) investigated research article abstracts written by English and Persian authors to explore their possible structural differences and similarities. It was also found that most of the moves occurred in the Introduction-Method-Results-Discussion sequence in both groups.

Apart from the sequence of the moves, it is relevant to analyse how the steps in the identified moves were also patterned. The percentages of the step sequences are calculated against the frequency of occurrence of each move in the abstracts. The sequence of the steps in the Introduction move of the Nursing dissertation abstracts is provided in Table 16 below.

Table 16: Sequence of Steps in the Introduction Move of Nursing Abstracts

Step Sequence	**Realisation of Steps Patterning**	**Frequency**	**Percentage**
1 Step	1	27	54%
2 Steps	1>2>3	22	44%
3 Steps	1>2>3	1	2%
Total		**50**	**100**

From Table 16, it is evident that Move 1 is realised in three patterns. The most dominant is the pattern with just Step 1(Background). This pattern recorded 54% of occurrences. In 44% of the Nursing abstracts, the writers employed two steps in the Introduction move. It is usually a combination of Steps 1 and 2 or 1 and 3. In other words, some students presented the Background, followed by a Problem, while others provided a background and research focus. The linear threestep arrangement (1>2>3) recorded the least frequency (2%).

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Conclusively, we find that in Move 1, writers prefer to present only the background to a research study rather than all the elements that make up the Introduction of the abstract. The background resembles what Swales (1990) calls “establishing territory” in research article introductions where generalisations are made about the topic under investigation. The present study's findings echo those of Darabad (2016) in his cross-disciplinary study involving Applied Linguistics, Applied Mathematics and Applied Chemistry. In particular, Darabad found that the introduction move was predominantly realised by a one-move pattern that focused on generalising topics.

In addition, I studied the step sequences in the Method move in the Nursing dissertation abstracts. The results are presented in Table 17.

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Table 17: Sequence of Steps in the Method Move of Nursing Abstracts

Step Sequence	Realisation of Steps Patterning	Frequency	Percentage
1 Step	1	1	2%
2 Steps	1>4 3>2 1>4	3	6%
3 Steps	5>7>2 2>5>6 1>4>7 1>5>6 1>3>5 1>2>6	7	14%
4 Steps	1>2>5>6 1>3>4>6 1>4>5>6 1>3>5>6	8	16%
5 Steps	1>3>5>6>8 1>5>3>4>6 1>5>6>8>3 1>2>5>6>8 1>2>7>5>6 1>3>2>5>6 1>4>3>5>6	20	40%
6 Steps	1>3>2>5>6>9 1>5>3>2>6>8 1>7>4>3>2>5 1>4>3>2>5>6 1>2>5>7>4>6 1>2>3>4>5>6 1>3>4>2>5>6	8	16%
7 Steps	1>2>3>4>5>6>8 1>7>4>3>2>5>6 1>4>3>2>9>5>6	3	6%
Total		**50**	**100**

Table 17 shows that, in Move 3, the pattern with five steps is the most dominant (40%). Although this pattern combines a variety of steps, it is evident that Step 1 (Research design) begins all the realisations in this pattern. The next most frequent pattern recorded a 16% occurrence. These are the four-step and six-step patterns. This is followed by the three-step pattern (14%), a two-step

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pattern (6%), a seven-step pattern (6%), and a one-step pattern (2%). In Move 5, the analysed abstracts revealed a preference for a two-step sequence (51.6%) starting with a summary of the entire research.

For Move 3, the researchers preferred to begin with the design adopted in a study and further chose any appropriate element in the method section. Also, in Move 3, the five-step sequence fell well with the researchers, with the Research design being prominent. This agrees with the findings of Cavalieri (2014), who compared RA abstracts in the disciplines of Applied Linguistics and Medicine. In this study, the author focused on the communicative practices and linguistic features that characterize abstracts in the two aforementioned disciplines. It was found that in the field of Medicine, more emphasis is laid on the empirical aspects of research. At the same time, in Applied Linguistics, greater importance is given to research's theoretical and methodological perspectives.

Finally, I considered the step sequences in the Conclusion move of the Nursing dissertation abstracts. The results are presented in Table 18:

Table 18: Sequence of Steps in the Conclusion Move of Nursing Abstracts

Step Sequence	Realisation of Steps Patterning	Frequency	Percentage
1 Step	1	15	48.4%
2 Steps	1>2	16	51.6%
Total		**31**	**100**

As shown in Table 18, in Move 5, the analysed Nursing abstracts revealed a preference for a two-step sequence (51.6%) starting with a summary of the entire research. We can conclude that in Move 5 of Nursing dissertation abstracts, although the writers presented the summary or recommendation separately, they predominantly preferred to combine the steps for a more comprehensive report, beginning with the summary.

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5.3.2 The Sequence of the Moves and Steps in the Allied Health Abstracts

As part of this study, I give an account of the sequence of moves and steps in the Allied Health dissertation abstracts. This is done in this section by first providing the sequence of moves, followed by the sequence of steps in the Introduction, Method, and Conclusion moves of the Allied Health dissertation abstracts.

An analysis of the move sequences in the Allied Health abstracts revealed two main patterns: a five-move sequence and a four-move sequence. These are presented in Table 19, with their frequencies of occurrence.

Table 19: Sequence of Moves in Allied Health Abstracts

Move Sequence	**Frequency (Percentage)**
M1>M2>M3>M4>M5	41 (82%)
M1>M2>M3>M4	9 (18%)
Total	**50 (100%)**

From Table 19, it is evident that the linear sequence of M1>M2>M3>M4>M5 was the most preferred pattern. It recorded 82% of occurrences in the Allied Health dataset. The second pattern was realised as M1>M2>M3>M4. This means that those who used this pattern ignored the Conclusion move. It is inferred that the writers preferred the M1>M2>M3>M4>M5 pattern because there is available space to highlight the authors' discursive practices in their discipline. These findings agree with those of Agbaglo and Fiadzomor (2021) and Bonsu and Afful (2022), who found M1>M2>M3>M4>M5 as the preferred sequencing in their analysis of research article abstracts in the fields of Applied Linguistics and Biostatistics, respectively.

The findings, however, disagree with those of some studies. In a study by ElDakhs (2018), for example, he realised that writers preferred a pattern that did not contain the Introduction move. In another study by Kosasih (2018), it was found that the Aim-Method-Result pattern was the most frequently used moves pattern. The differences in these findings can be attributed to disciplinary differences. Specifically, while the findings reported here concern the discipline of Allied Health,

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Kosasih (2018) focused on Public Administration, Management, Fisheries Management, and Mathematics Education.

The finding of Kosasih (2018) is comparable to that of Lee (2017), whose findings also disagree with those of the present study. Specifically, Lee aimed to investigate the structural organisation of research article abstracts in the field of Library and Information Science. The author compared the schematic structures across articles published in Korean and English. The study revealed the Introduction-Purpose-Method pattern as the most dominant one in the English corpus. At the same time, the Korean articles had the Introduction-Purpose-Method-Results as the dominant move pattern. Similarly, Noorizadeh-Honami and Chalak (2018) investigated the RA abstracts written by English and Persian authors to explore their possible structural differences and similarities. It was also found that most of the moves occurred in the IntroductionMethod-ResultsDiscussion sequence in both groups.

The present study also considered the sequence of steps in the Introduction move of Allied Health abstracts. The results are presented in Table 20 below:

Table 20: Sequence of Steps in the Introduction Move of Allied Health Abstracts

Step Sequence	**Realisation of Steps Patterning**	**Frequency**	**Percentage**
1	Step 1	15	30%
2	3	6%	
2 Steps	1>2	27	54%
	2>3	2	4%
3 Steps	1>2>3	3	6%
Total		**50**	**100**

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From Table 20, it is evident that Move 1 of Allied Health dissertation abstracts is realised in three sequences. The pattern with two steps is the most dominant, which is further realised in two patterns. The first pattern (1>2) recorded a 54% occurrence, whereas the second pattern (2>3) recorded a 4% frequency of occurrence. This means that, overall, the two-step sequence recorded a 58% frequency of occurrence. The second most frequent pattern is the one-step sequence. Here, the one with Background (Move 1) occurred with 30% frequency, while the one with Problem (Move 2) occurred with 6% frequency. The linear three-step sequence (1>2>3) also recorded a 6% frequency of occurrence. These findings differ from what was found in the Nursing abstracts, where the pattern with just Step 1(Background) was the most dominant. Furthermore, the present study considered the sequence of steps in the Allied Health abstracts Method move. The results are presented in Table 21 below:

Table 21: Sequence of Steps in the Introduction Move of Allied Health Abstracts

Step Sequence	Realisation of Steps Patterning	Frequency	Percentage
1 Step	6	6	12%
2 Steps	1>6	1	18%
	3>6	3	
	5>6	2	
	6>3	2	
	6>5	1	
3 Steps	1>3>5	1	14%
	3>4>6	1	
	3>5>6	1	
	3>7>6	1	
	5>3>6	1	
	7>2>3	1	
	7>3>6	1	
4 Steps	1>2>3>6	1	28%
	1>2>4>6	3	
	1>3>4>5	1	
	1>3>4>6	1	
	1>3>5>6	1	
	1>4>3>6	1	
	1>7>3>6	1	
	1>7>4>6	1	
	2>3>6>8	1	

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	2>7>5>6	1	
	3>4>1>6	1	
	4>3>5>6	1	
5 Steps	1>2>3>5>6	1	28%
	1>3>2>5>6	1	
	1>3>2>7>6	1	
	1>2>5>6>8	1	
	1>2>7>5>6	1	
	1>3>2>5>6	1	
	1>3>4>5>6	1	
	1>3>4>7>5	1	
	1>3>4>7>6	1	
	1>4>3>5>6	2	
	1>7>4>3>6	2	
	2>3>4>5>6	1	
6 Steps	1>7>3>5>6>8	1	4%
	1>7>4>3>2>6	1	6^
7 Steps	1>3>4>7>5>6>8	1	
	1>7>4>3>2>5>6	1	
	1>4>3>2>9>5>6	1	
	Total	**50**	**100**

As revealed in Table 21, in Move 3, we find that the pattern with four and five steps each recorded 28%, making them the most dominant. This is followed by the twostep sequence (18%), three-step sequence (14%), one-step sequence (12%), sevenstep sequence (6%) and six-step sequence (4%). In Move 3, the analysed abstracts revealed a preference for a two-step linear sequence (60%). This agrees with the findings of Cavalieri (2014), who compared RA abstracts in the disciplines of Applied Linguistics and Medicine. It was found that in the field of Medicine, more emphasis is laid on the empirical aspects of research. At the same time, in Applied Linguistics, greater importance is given to theoretical and methodological research perspectives.

Finally, the study considered the sequence of steps in the Conclusion move of Allied Health abstracts. The results are presented in Table 22.

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Table 22: Sequence of Steps in the Conclusion Move of Allied Health Abstracts

Step Sequence	Realisation of Steps Patterning	Frequency	Percentage
1 Step	1	14	40%
	2	3	
2 Steps	1>2	25	60%
Total		**42**	**100**

Table 22 shows that in Move 5 of Allied Health dissertation abstracts. However, the researchers presented the summary or recommendation separately, they predominantly preferred to combine the steps for a more comprehensive report, beginning with the summary of a study.

5.3.3 Sequence of the Moves and Steps in t Medicine Dissertation Abstracts

The analysis also focused on the sequence of moves in the Medicine abstracts. The results are presented in Table 23.

Table 23: Sequencing of Moves in the Medicine Abstracts

Move Sequence	Frequency (Percentage)
M1>M2>M3>M4>M5	27 (54%)
M1>M3>M2>M4>M5	2 (4%)
M1>M2>M3>M4	7 (14%)
M1>M2>M3>M5	12 (24%)
M1>M3>M4>M5	2 (4%)
Total	**50 (100%)**

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Table 23 shows that the Medicine abstracts contained 5 different move sequences. It also shows that the linear sequence of M1>M2>M3>M4>M5 was the most frequently occurring pattern. It recorded a 54% frequency of occurrence. The second most frequent sequence was realised as M1>M2>M3>M5, which recorded a 24% frequency of occurrence. This means that those who used this pattern did not report the findings of the study. The findings agree with those of Agbaglo and Fiadzomor (2021) and Bonsu and Afful (2022) who found M1>M2>M3>M4>M5 as the preferred sequencing in their analysis of research article abstracts.

The finding, however, disagrees with those of some studies. In a study by El-Dakhs (2018), he realised that writers preferred a pattern that did not contain the Introduction move. In another study by Kosasih (2018), it was found that the AimMethod-Result pattern was the most frequently used move pattern. The differences in the findings can be attributed to disciplinary differences. Specifically, while the findings reported here concern the discipline of Medicine, Kosasih (2018) focused on Public Administration, Management, Fisheries Management, and Mathematics Education.

Lee (2017), whose study focused on the discipline of Library and Information Science, also reported findings different from those in the present study. Specifically, Lee compared schematic structures across articles published in Korean and English. As mentioned earlier, the study revealed the Introduction-Purpose-Method pattern as the most dominant move pattern in the English corpus. At the same time, the Korean articles had the Introduction-Purpose-MethodResults as the dominant move pattern. Also, Noorizadeh-Honami and Chalak's (2018) study of RA abstracts written by English and Persian authors found that, in both groups, most of the moves occurred in the Introduction-Method-Results-Discussion sequence.

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The present study also considered the sequence of steps in the Introduction move of the Medicine abstracts. The results are presented in Table 24 below:

Table 24: Sequence of Steps in the Introduction Move of Medicine Abstracts

Step Sequence	Realisation of Steps Patterning	Frequency	Percentage
1 Step	1	23	46%
2 Steps	1>2	19	38%
	>3	1	2%
3 Steps	1>2>3	7	14%
Total		**50**	**100**

From Table 24, it is evident that Move 1 of the Medicine abstracts was realised in three sequences. The most dominant is the sequence with a single step. Specifically, this sequence realised through Background recorded a 46% frequency of occurrence. The two-step sequence recorded the second most frequent degree of occurrence (40%). Of this sequence, the linear 1>2 recorded a 38% degree of occurrence while sequence 1>3 recorded a 2% frequency of occurrence. On the other hand, the linear three-step pattern 1>2>3 recorded a 14% frequency of occurrence. These findings are similar to those found in the Nursing abstracts where the one-step pattern (Step 1) dominated Move 5. The present study next considered the sequence of steps in the Method move of the Medicine abstracts. The results are presented in Table 25.

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Table 25: Sequence of Steps in the Method Move of Medicine Abstracts

Step Sequence	Realis	Frequency	Percentage
1 Step		1	2%
2 Steps	5>6	1	2%
3 Steps	1>3>4	1	24%
	1>4>3 1	1	
	1>4>5 3	3	
	1>5>6 4	4	
	3>1>6 1	1	
	3>5>6 1	1	
	7>5>6 1	1	
4 Steps	1>3>4>5	1	24%
	1>3>4>6	2	
	1>3>5>6	2	
	1>4>3>8	1	
	1>4>5>6	1	
	1>5>4>6	1	
	1>5>10>6	1	
	1>7>3>9	1	
	1>7>5>6	1	
	3>4>9>5	1	
5 Steps	1>3>4>5>6	3	28%
	1>3>4>6>8	1	
	1>3>2>5>6	1	
	1>7>4>5>6	2	
	1>4>5>6>8	1	
	1>3>7>5>9	1	
	1>3>2>6>8	1	
	1>4>3>5>6	1	
	1>5>10>4>6	1	
	1>3>4>10>5	1	
	1>5>3>10>6	1	
6 Steps	1>5>3>4>6>8	1	12%
	1>2>3>4>5>6	1	
	1>3>4>5>6>8	1	
	1>7>4>5>6>8	1	
	1>3>4>2>10>6	1	
	1>7>5>10>6>8	1	
7 Steps	1>3>2>5>6>8>9	1	**8%**

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	1>2>4>3>5>6>8	1	
	1>2>3>5>4>9>6	1	
	4>7>1>2>3>5>6	1	
Total		**50**	**100**

Table 25 shows that in Move 3 of the Medicine dissertation abstracts, the fivestep sequence recorded a 28% frequency of occurrence, making it the most frequently used sequence. The three- and four-step sequences each recorded a 24% frequency of occurrence. This was followed by the six-step sequence (12%) and seven-step sequence (8%), with the one- and two-step sequences each recording a 2% frequency of occurrence.

The study finally considered the sequence of steps in the Conclusion move of the Medicine dissertation abstracts. The results are shown in Table 26 below:

Table 26: Sequence of Steps in the Conclusion Move of Medicine Abstracts

Step Sequence	**Realisation of Steps Patterning**	**Frequency**	**Percentage**
1 Step	1	15	30%
	2	1	2%
2 Steps	1>2	19	39%
Total		**35**	**100**

As shown in Table 26, in Move 5 of the Medicine dissertation abstracts analysed, the linear two-step sequence was the most frequently used (39%), followed by the onestep pattern. The implication is that most writers preferred to have two moves in their dissertation abstracts, and they preferred to start with the Summary before the Recommendation step.

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5.4 The Differences and Similarities of the Linguistics Resources Used Across the Various Moves of the Nursing, Allied Health and Medicine Dissertation Abstracts

This section examines the linguistic properties of the thesis abstracts across the three selected disciplines. Here, we pay particular attention to process types used.

5.4.1 The Frequency Distribution of the Process Types Used Across the Various Moves of the Nursing, Allied Health and Medicine Dissertation Abstracts

In this section, I examine the process types that occurred in each move of the dissertation abstracts studied. I begin by offering a frequency count of the process types, followed by illustrations of how they were used in the abstracts. Table 27 shows the frequency of occurrence of the process types used in the Introduction move. As mentioned earlier, process types involve the different ways experience is represented through verbs.

Table 27: Process Types Used in the Introduction Move

Process Type	Nursing	Allied Health	Medicine
Material	167(50.6%)	164(58.4)	166(54.2%)
Mental	17(5.2%)	22(7.8%)	18(5.9%)
Relational	116(35.2%)	90(32.0%)	102(33.3%)
Verbal	1(0.3%)	2(0.7%)	2(0.7%)
Existential	9(2.7%)	3(1.1%)	18(5.9%)
Total	**330(100.0%)**	**281(100.0%)**	**306(100.0)**

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As evident in Table 27 above, across the three disciplines, material processes were the most used process types in the abstracts, followed by relational processes, mental processes, existential processes, and mental processes. With the material processes, in terms of percentages, Allied Health recorded the highest frequency (58.4), followed by Medicine (54.2%) and Nursing (50.6%). The same applies to mental processes. However, with the relational processes, the table reveals that Nursing recorded the highest frequency of occurrence (35.2%), followed by Medicine (33.3%) and Allied Health (32.0%). With the verbal processes, Allied Health and Medicine recorded a similar frequency of occurrence (0.7%), with Nursing recording the least (0.3%). Medicine recorded more existential process types (5.9%) than Nursing (2.7%) and Allied Health (1.1%).

Table 28 shows the frequency of occurrence of the process types used in the Purpose move:

Table 28: Process Types Used in the Purpose Move

Process Type	Nursing	Allied Health	Medicine
Material	28(34.1)	59(51.8%)	39(56.5%)
Mental	30(36.6)	35(30.7%)	17(24.6%)
Relational	24(29.3%)	20(17.5%)	13(18.8%)
Total	**82(100.0%)**	**114(100.0%)**	**69(100.0%)**

Table 28 shows that material and mental processes dominate the Purpose move across the three disciplines. The reason is that this move focuses on communicating actions and the determination to perform such actions (Vathanalaoha & Tangkiengsirisin, 2018).

Table 29 shows the frequency of occurrence of the process types used in the Method move:

Table 29: Process Types Used in the Method Move

Process Type	Nursing	Allied Health	Medicine
Material	195(90.7%)	274(91.3%)	258(94.5%)
Relational	10(4.7%)	18(6.0%)	11(4.0%)

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Mental	8(3.7%)	6(2.0%)	4(1.5%)
Verbal	2(0.9%)	2(0.7%)	0(0.0%)
Total	**215(100.0%)**	**300(100.0%)**	**273(100.0%)**

As seen in Table 29, material processes dominate in this move. This process type recorded 90.7%, 91.3%, and 94.5% in Nursing, Allied Health and Medicine dissertation abstracts, respectively. Across the three disciplines, relational processes recorded the second highest frequency of occurrence, with mental and verbal processes occurring with a relatively lower frequency. This finding is not surprising because researchers describe the procedures involved in a study in the Method move. The finding agrees with those of Vathanalaoha and Tangkiengsirisin (2018), who explored the transitivity (a term used to express how human experience is represented through various verbs and their accompanying participants (subjects, objects, etc.) and circumstances (e.g., reasons, conditions) patterns in dental research article abstracts. Zheng et al. (2014), who focused on the transitivity choices made in medical research articles, also reported similar findings.

Table 30 shows the frequency of occurrence of the process types used in the Product move:

Table 30: Process Types Used in the Product Move

Process Type	**Nursing**	**Allied Health**	**Medicine**
Material	203(47.7%)	190(48.2%)	205(42.1%)
Mental	54(12.7%)	18(4.57%)	85(17.5%)
Relational	130(30.5%)	178(45.2%)	175(35.9%)
Verbal	34(8.0%)	3(0.8%)	14(2.9%)
Existential	5(1.2%)	5(1.3%)	8(1.6%)

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Total	**426(100.0%)**	**394(100.0%)**	**487(100%)**

Table 30 shows that material processes had the highest frequency of occurrence across all three disciplines in the Product move. Specifically, this process type recorded 47.7% in Nursing, 48.2% in Allied Health and 42.1% in Medicine. Across all disciplines, the relational process type occurred as the second most frequent process type used in the Product move, followed by the mental process type. This finding disagrees with the findings of Vathanalaoha and Tangkiengsirisin (2018), who found relational processes to be the dominant process type in the Product move.

In Nursing and Medicine, verbal processes occur more frequently than existential processes. This contrasts with Allied Health, where existential processes occur more frequently than verbal processes. This suggests that in Nursing and Medicine, researchers report findings as what the research participants said while in Allied Health, findings are reported as what exists.

Table 31 shows the frequency of occurrence of the process types used in the Conclusion move:

Table 31: Process Types Used in the Conclusion Move

Process Type	**Nursing**	**Allied Health**	**Medicine**
Material	128(64%)	87(57.2%)	110(67.5%)
Mental	5(2.5%)	11(7.2%)	2(1.2%)
Relational	26(13.0%)	48(31.6%)	40(24.5%)
Verbal	35(17.5%)	2(1.3%)	5(3.1%)
Existential	6(3.0%)	4(2.6%)	6(3.7%)
Total	**00(100.0%)**	**152(100.0%)**	**163(100.0)**

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As shown in Table 31 above, material processes dominate the Conclusion move across the three disciplines. Specifically, this process type recorded 64% in Nursing, 57.2% in Allied Health and 67.5% in Medicine. Relational process types occurred as the second most frequent process type in the Conclusion move. In Nursing, verbal processes (17.5%) were the third most frequent process type, followed by existential (3.0%) and mental (2.5%) process types. In Allied Health, however, mental processes (7.2%) occurred as the third most frequent process type in the Conclusion move, followed by existential (2.6%) and verbal (1.3%) processes. In Medicine, existential processes (3.7%) were the third most dominant, followed by verbal (3.1%) and mental (1.2%) process types.

5.4.2 Illustration of the Process Types Used across the Moves of the Abstracts

Material Processes

Material processes represent the act of "doing" in the outer world. In material process clauses, the doer of the action is termed an Actor, while the one affected by the action is called the Goal. Halliday and Martin (1993) noted that material processes construct rigidity and objectivity in academic writing. These process types were used in the Background, Purpose, Methods, Product, and Recommendation in the datasets analysed.

In the Background move, some of the material process verbs used include "depict", "follow", "explore", "acquire", "use", "show", "contribute", "reveal". Some of these material processes reveal the research activities the writers undertake. For example, these verbs were used to report the findings of previous studies, as shown in the extracts below:

Extract 129

> Adolescents constitute an important segment of every society but currently, review of many researches depicts that they do not have adequate information and knowledge on adolescent sexual and reproductive health both at school and at home, … [Nursing].

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Extract 130

Many spices have been shown to have harmless effect with considerable antioxidants effect [Allied Health].

Extract 131

Studies have revealed that pregnant women have little or no awareness about the use of pain relief practice in labour with the practice of pain relief method among health workers also being low in most African countries [Medicine].

As seen in Extracts 129-131, material process verbs were used in the introduction to report research activities. These verbs are essentially research act verbs used to explain some research procedure or report the findings of some previous studies (Hyland, 2002). In Extract 129, for instance, the verb "depicts" was used to communicate a previous finding expressed in the nominal clause, "that they do not have adequate information and knowledge on adolescent sexual and reproductive health both at school and at home". In Extract 130, the verb "shown" reports that many spices have harmless effects with considerable antioxidant effects. In Extract 131, the verb "revealed" is a material process verb that shows the findings of previous studies. Specifically, the verb reports that "pregnant women have little or no awareness about the use of pain relief practice in labour with the practice of pain relief method among health workers also being low in most African countries".

In addition, material process verbs were used in the Introductions to describe the activities of people as part of the general topic of the study. The use of material processes in this way suggests that the topics under study concern outer-world activities. Extracts 132-134 below show this use of material processes in the data analysed:

Extract 132

…and therefore, follow their sexual pleasure and explore without considering the right measures, leading them to acquire several sexual and reproductive health problems [Nursing].

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Extract 133

These antioxidant effects may greatly contribute to the prevention of pathological effects caused by free radicals and their associated oxidative stress. They are used either in their natural or highly processed form [Allied Health].

Extract 134

These infections have emerged as a common cause of morbidity and mortality especially in immune compromised patients [Medicine].

Extracts 132-134 illustrate the use of material processes to explain activities and processes in the research topic. In Extract 132, the material process verbs, “follow”, “explore”, and “acquire” were used to explain the activities of people, which result in reproductive health issues. In Extracts 133 and 134, the verbs “contribute” and “emerged” were used to explain the contributions of antioxidant effects and the emergence of certain infections.

Material process clauses were also used in the Purpose move. Here, they serve as procedure act verbs, used to specify the acts the researchers intend to perform. Extracts 135-137 below show the use of these verbs in the Nursing, Allied Health and Medicine dissertation abstracts analysed:

Extract 135

The aim of this study is to determine the awareness of nurses in the Korle-Bu Teaching Hospital on infection prevention [Nursing].

Extract 136

The aim of this study was to analyse the various sources of drinking water in the Ho municipality of the Volta region of Ghana, and establish their quality [Allied Health].

Extract 137

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The objective of this study is to determine the effect of proper sugar control on sleep disturbance and insomnia among diabetics' patients [Medicine].

In Extracts 135 and 137, the material process verb "determine" was used to communicate the research act of the writers of the dissertations. On the other hand, the verb "analyse" was used in Extract 8 to show the research activities the writers intended to undertake. It is important to note that these verbs are found in to-infinitive clauses.

Material processes were dominantly used in the Method sections of the dissertations across the three disciplines.

Extract 138

A descriptive cross-sectional survey was conducted among lactating mothers living in the Tema Metropolis. The study included only lactating mothers who are 18 years and above. The total number of people recruited in this study was 351. Stratified sampling method was used to select the study participants with the use of public and private health facilities as strata. A structured questionnaire was used to obtain data from participants. Analysis of this study data was performed with the Statistical package for social Sciences, version 25 [Nursing].

Extract 139

Review was performed empirically. Articles and journals were retrieved from websites such as Google Scholar, PubMed and ScienceDirect. Current and noncurrent literature was selected based on their level of importance to the research work. These articles and journals were then analysed, and deductions and conclusions were made in synchrony with recommendations and future solutions as well as other aspects of the topic [Allied Health].

Extract 140

This was a retrospective cross sectional study. Medical records and laboratory investigations of in-patients who were managed for febrile illness in the paediatric wards

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within a period of one year (November 1, 2017 to November 1, 2018) were retrieved, and data was collected with the aid of data-entry forms designed for this purpose [Medicine].

Extracts 138-140 show the use of material process verbs in the Methods sections of the dissertations analysed. In Extract 138, the material process verbs and verb phrases are "was conducted", "included", "recruited", "was used", "select", "obtained" and "was performed". In Extract 139, "were retrieved", "was selected", "were analysed", and "were made" were the material process verbs used to show the research activities performed. In Extract 140, "were managed", "were retrieved", and "was analysed" were used as material process verb phrases to explain the research activities that were undertaken.

The Product section used material process verbs to report the study results. Here, they served as research act verbs. This is demonstrated in Extracts 141-142 below:

Extract 141

The study results shows that factors influence tramadol among the youth Kassena Nankana Municipality in Upper East Region of Ghana. Study found out that anxiety, headache, sleepy confused and vomiting were serious effects of tramadol abuse that was observed from field and expressed by the respondents [Nursing].

Extract 142

Results show that 77.6% of patients were satisfied with the overall food service in the Volta Regional Hospital [Allied Health].

Extract 143

The findings of the study revealed that majority of the surgical patients experienced moderate and severe pain within 24 hours after surgery.

In Extract 141, the verb "shows" was used to report the result "that factors influence tramadol among the youth Kassena Nankana Municipality in Upper East Region of Ghana". In the

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same extract, the material process verb phrase "found out" is used to report the results "that anxiety, headache, sleepy confused and vomiting were serious effects of tramadol abuse that was observed from field and expressed by the respondents". Similarly, the verb "show" was used in Extract 142 to report that "77.6% of patients were satisfied with the overall food service in the Volta Regional Hospital". In Extract 143, the writer used the material process verb "revealed" to report the finding that within 24 hours following surgery, the majority of patients felt moderate to severe pain.

In the Conclusion move, material process verbs were used to report and make inferences from the findings. The findings were reported as activities of people; in some cases, the material processes served as reporting verbs used in communicating the findings. Extracts 144-146 show the use of material process verbs in the concluding sections of the dissertations analysed:

Extract 144

When a relative is sick or they are sick, they immediately attributed it to someone and then go to a fetish priest or faith healer to know the cause of the illness, take a locally prepared herbs/medicine, sit in the sun, pray and if the illness still persists, they will visit a faith healer or a herbalist/traditional healer to cure them with the health facility being the last option because they believe the faith healers and herbalist/traditional healers can cure them [Nursing].

Extract 145

Results indicated that unhygienic practices and poor handling of beef by the butchers in the abattoirs are the major causes of contamination of the beef. Beef could be contaminated by food borne microbes such as Escherichia Coli, Shigella, Salmonella, Staphylococcus aureus [Allied Health].

Extract 146

Virology laboratories should be put in place to help in definite diagnosing of viral diseases to enhance effective management of viral diseases and reduce the misuse of antibiotics [Medicine].

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The material process verbs are underlined in the extracts above. In Extract 144, we find that “go”, “take”, “sit”, “pray”, “persists”, “will visit”, “cure”, and “can cure” were the material process verbs used. Except for “persists” was used to talk about the illness, all other material processes used here explain people’s activities. Specifically, these verbs show people's healthcare approaches to responding to illnesses. In Extract 145, “indicated” is used to communicate the finding that unhygienic practices and poor beef handling by the butchers in the abattoirs are the major causes of contamination of the beef. In the same extract, “contaminated” was used to explain the activities of foodborne microbes. In Extract 146, “should be put in place” is a phrasal verb expressing a material process. It was used to recommend what needs to be done to remedy the situation. In the same extract, the verbs “enhance” and “reduce” were used to communicate the expected outcome of the actions recommended.

Relational Processes

In the Background move, relational process verbs (which establish the attributes or identities of people or things) were used to define or explain key concepts. The key verb used is “to be” and its synonyms, such as “remains”. Extracts 147-149 show the use of relational process verbs in the Background move of the abstracts.

Extract 147

Tramadol hydrochloride is a synthetic (man-made) pain reliever (analgesic) used for the management of moderate to severe pain. [Nursing]

Extract 148

Spices are essential ingredients used in almost every day in most of our meals [Allied Health]

Extract 149

Globally, hypertensive disorders in pregnancy remain a major health challenge because of its high adverse maternal and perinatal outcomes especially in Sub-Saharan Africa [Medicine]

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The extracts above show how relational process verbs defined or explained key concepts in the Introduction move. In Extract 147, the verb "is" is the relational process verb used. It is used to define tramadol hydrochloride. In Extract 148, the writer used "are" to define "spices". The writer used "remain" as the relational process verb to explain hypertensive disorders in pregnancy as a major health problem worldwide. In Extract 149, "remain" is the relational process verb.

Relational processes were also used in the Purpose move. Here, they were used to state the aim of the study. Extracts 150-152 illustrate the use of material processes in the Purpose move:

Extract 150

The purpose of the study is to assess the views and experiences of patients with hypertension in Greater Accra Region [Nursing].

Extract 151

The aim of this study was to analyze the various sources of drinking water in the Ho municipality of the Volta region of Ghana, and establish their quality [Allied Health].

Extract 152

The main aim of the study was to determine the prevalence and causes of febrile illness, how diagnosis is made, and the available treatments among children under 5 years at the Volta Regional Hospital [Medicine].

As can be seen in Extracts 150-152, the relational processes underlined were used to state the aims of the research studies. In Extract 150, we find that "is" was used to state the purpose of the study. In this extract, the noun phrase, "The purpose of the study" serves as the Identified, with the Identifier being the to-infinitive clause, "to analyze the various sources of drinking water in the Ho municipality of the Volta Region of Ghana, and establish their quality". In Extract 151, the verb "was" serves as the relational process verb. Here, "The aim of this study" serves as the Identified while the to-infinitive clause, "to analyse the various sources of drinking water in the

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Ho municipality of the Volta region of Ghana, and establish their quality", serves as the Identifier. Similarly, in Extract 152, "was" is the relational process verb used while "The main aim of the study" serves as the Identified. In this extract, the to-infinitive clause, "to determine the prevalence and causes of febrile illness, how diagnosis is made, and the available treatments among children under 5 years at the Volta Regional Hospital," functions as the Identifier. These extracts, thus, exemplify how intensive relational clauses (Halliday & Matthiessen, 2014) were used to identify the aim of the studies conducted by the writers of the dissertations analysed.

Relational clauses were used in the Method section of the dissertations analysed. The relational clauses were used to identify the research design in this move. Extracts 24-30 exemplify the realisation of these process types in the Method move of the Nursing, Allied Health, and Medicine abstracts analysed:

Extract 153

The study was a descriptive cross-sectional survey [Nursing].

Extract 154

The study design was quantitative and cross-sectional in design [Nursing].

Extract 155

The study was a retrospective case control with CKD patients… [Allied Health].

Extract 156

This research was a cross sectional study… [Allied Health].

Extract 157
This was a retrospective cross sectional study [Medicine].

Extract 158

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This was a cross-sectional study …. [Medicine].

The extracts above illustrate how relational process verbs were used in the Methods move of the dissertation abstracts analysed. In these extracts, the relational processes helped to identify the research design. In Extract 153, the relational process verb is "was", the Identified is "The study", and the Identifier is "a descriptive cross-sectional survey". In Extract 154, "was" is the relational process verb, "The study design" is the Identified and "quantitative and cross-sectional in design" is the Identifier. In extract 155, "The study" is the Identified, "was" is the relational process verb, while "a retrospective case control with CKD patients" is the Identifier. In Extract 156, we find that "this research" is identified as "a cross sectional study", and "was" is the relational process verb used to achieve this. In Extracts 157 and 158, we find that the Identified is realised by the demonstrative pronoun "This", with the Identifiers being "a cross sectional study" and "a cross-sectional study", respectively. These extracts demonstrate that relational process verbs were used to identify the specific research design used in the Method section of the dissertation abstracts of the Nursing, Allied Health and Medicine disciplines.

Relational process verbs were used to report the findings in the Product section. This is exemplified in Extract 159, where relational process verbs were used extensively in the Nursing dissertation abstract:

Extract 159

> This study reported majority of the respondents as female than males with majority of them being nurse assistants (41.3%). The overall leve1 of knowledge on essential new born care was 59.2%. With about 50.3% and 46.3o/o of the healthcare providers having adequate knowledge on airway patency and breastfeeding respectively. The attitude of the health care providers was good among 77.6% of them. About 54.2% and 45.3% also had good attitude on good care and resuscitation respectively [Nursing].

The underlined words in Extract 30 are the relational process verbs used. In the extract, "being" is the relational process verb. In this example, "them" is the Identified and "nurse assistants" is the Identified. The verb "was" is also used in a similar way two times in this extract.

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In addition to the verb "to be" we find that "to have" is used twice in this extract. This verb is used to show some qualities of the participants. In particular, this verb attributes the quality of having adequate knowledge and having good attitude, respectively, to the research participants.

Extract 160 below illustrates the use of relational clauses in the Product section of Allied Health dissertation abstracts.

Extract 160

> Results show that 77.6% of patients were satisfied with the overall food service in the Volta Regional Hospital. Logistic regression revealed that ages between 20-45 years, low monthly income, taste, variety of food, appearance of food, overall room satisfaction, absence of disturbance in/outside room and room cleanliness were statistically significant independent variables related to patient satisfaction with hospital food and food service ($p < 0.05$). According to the results of the study, physical environment (96.5%) was ranked highest followed by food quality (79.14%), meal service quality (62.06%), and food safety (40.95%) respectively. Confidence in hospital food is built only when proper foodservice is provided (100%) [Allied Health].

The words underlined in Extract 160 are the relational process verbs used. The clauses containing these verbs are attributive relational clauses. It is clear that in Example 1 above, "77.6% of patients" is the Carrier while "satisfied with the overall food service in the Volta Regional Hospital" is the Attribute. In the second example, "ages between 20-45 years, low monthly income, taste, variety of food, appearance of food, overall room satisfaction, absence of disturbance in/outside room and room cleanliness" are the Identified while "statistically significant independent variables related to patient satisfaction with hospital food and food service ($p < 0.05$)" is the Identifier.

In the Medicine dissertation abstracts analysed too, relational process verbs were used. This is illustrated in Extract 161 below:

Extract 161

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Out of the 123 respondents, 34 (27.6%) scored more than 10 on EPDS which is suggestive of postpartum depression. Out of the total number of respondents, 3(50%) of the 6 Mothers who gave birth to babies with congenital malformation scored more than 10 on the EPDS and were more likely to suffer from PPD. Other obstetrics risk factors which yielded recognisable but insignificant association with PPD were planned/unplanned pregnancy, complications with mother/baby during delivery and whether pregnancy was wanted or not [Medicine].

In the extract above, we have "is" and "were" as the relational process verb forms utilised. In the case of "is", we find that "34 (27.6%) scored more than 10 on EPDS" is the Carrier of the Attribute "suggestive of postpartum depression". In the case of "were", "Other obstetrics risk factors which yielded recognisable but insignificant association with PPD" is the Identifier, while "planned/unplanned pregnancy, complications with mother/baby during delivery and whether pregnancy was wanted or not" were the Identified.

In the Conclusion move of the abstracts analysed, the relational process types were used to summarise the study's findings or make inferences from them. Extracts 162-164 show how this process type was used in the Conclusion move:

Extract 162

In general, the overall knowledge of the respondents was adequate as students displayed high level of knowledge in most areas of the study [Nursing].

Extract 163

Results indicated that unhygienic practices and poor handling of beef by the butchers in the abattoirs are the major causes of contamination of the beef [Allied Health].

Extract 164

Urinary retention is the most common indication of urinary catheterization [Medicine].

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In Extract 162, we find that "the overall knowledge of the respondents" is the Carrier while "adequate" is the Attribute. In Extract 163, "the major causes of contamination of the beef" is the Identified, while "unhygienic practices and poor handling of beef by the butchers in the abattoirs" is the Identifier. In Extract 164, "Urinary retention" is the Identified, while "the most common indication of urinary catheterization" is the Identifier.

Mental Processes

Mental processes present experience as cognition, perception, desideration or emotion. These process types represent experiences of human consciousness rather than experiences of the outer, material world. They are expressed as emerging out of human consciousness or impinging on it. Except for the Method move, mental process verbs were used in all the other moves of the Nursing, Allied Health, and Medicine dissertation abstracts analysed. Extracts 165-167 illustrate the realisation of this process type in the Introduction move across the disciplines studied:

Extract 165

It is believed that about 518400 people in Ghana were living with diabetes in 2017 [Nursing].

Extract 166

Even though the food chain industry is considered an important part of the economies of many developing countries by generating revenues and providing affordable and easily accessible food, there have been major concerns of food safety because of the resultant increase in the number of food borne illnesses [Allied Health].

Extract 167

The American college of Obstetricians and gynaecologist (ACOG) observed that labour comes with severe pain for many women and that under no situation should a woman to bear pain which is amenable to safe intervention while under the care of a physician [Medicine].

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Extract 165-167 show the use of mental process verbs in the Introduction move of the dissertations analysed. In Extracts 165 and 166, the verb phrases “is believed” and “is considered” signal the mental processes used. In these extracts, the writers passivise the sentences by removing human agency, thereby making them general statements. Also, by removing human agency from the sentences, the authors achieve objectivity, a characteristic of scientific writing. On the other hand, in Extract 167, the perceptive mental process verb “observed” is used. Here, the Sensor is “The American College of Obstetricians and Gynaecologists” while “that labour comes with severe pain for many women and that under no situation should a woman bear pain which is amenable to safe intervention while under the care of a physician” is the Phenomenon. Here, the sentence is in active voice, with the Sensor present. The Phenomenon is presented as a fact, so the presence of the Sensor, which is the source, is needed to give credibility to the information.

The study found that mental processes were also used in the Purpose move. Since the Purpose move expressed the research intentions of the writers, they used mental process verbs to present their research studies as a mental or cognitive activity. Extracts 168-173 exemplify the realisation of mental process verbs in the Purpose move of the dissertation abstracts analysed:

Extract 168

The study aimed at assessing the knowledge on adolescent reproductive health among students of Mawuli School, Ho [Nursing].

Extract 169

To assess the knowledge of women on pain management during labour and delivery in the Ho Municipality of the Volta Region of Ghana [Nursing].

Extract 170

The aim of this study was to evaluate the food safety knowledge and practices of food handlers in the food service industry [Allied Health].

Extract 171

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The aim of this study was to assess the microbial quality of pepper sauces served by food vendors industry [Allied Health].

Extract 172

This study aimed to evaluate the knowledge of health professionals who perform urethral catheterization and to assess immediate complications that patients experience during the catheterization process in various health facilities across the Ho Municipality [Medicine].

Extract 173

The aim of this study was to evaluate the indications for urethral catheterization and the complications that arise from urethral catheterization in the Ho Teaching Hospital [Medicine].

In Extract 168, “aimed” is a desiderative mental process used. Here, “the study” is the Sensor. In Extract 169, we find a to-infinitive clause with the verb “to assess, “a mental process verb phrase. In Extracts 170 and 171, we find “to evaluate” and “to assess” as the mental process verb phrases. In addition, in Extract 172, we find “to aim” and “to assess” as the mental process verb phrases in their respective clauses, while Extract 173 has “to evaluate” as a cognitive mental process verb phrase. These verbs present the research process as an activity which involves a high level of thinking.

Also, in the Product move, mental processes were used. Here, they were used to report the results of the study. In this regard, some served as reporting verbs and others were used to report the cognitive activities of the research participants. Mental process verbs used to report the activities of the writers of the abstracts were in the passive voice, while those used to report the activities of the research participants were in the active voice. This is shown in the extracts below:

Extract 174

And it was observed that more than half of the respondents 65% (132) were females and

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34.3% (69) were males [Nursing].

Extract 175

Significance difference were observed for the proximate, physical and sensory evaluation of the milk samples [Allied Health].

Extract 176

This study discovered that 36.4% of the patients experienced pain, 98.2% experienced discomfort, 13.9% witnessed urethral bleeding and 13.9% experienced false passage which are immediate complications associated with catheterization [Medicine].

In Extracts 174 and 175, 'observed' was used as a mental process verb to report the findings of the studies. These verbs were used in passive constructions to downplay the agency of the researchers. In other words, the verbs were used to report the findings emerging naturally from the research process without human agency. This ensures objectivity in the writing of the abstracts. On the other hand, in Extract 176, the mental process verbs are presented as the cognitive activities of the research respondents. Here, the writer used the verbs "experienced" and "witnessed" in the active voice in order to account for the percentages of people involved.

Since the Conclusion provides a summary of the findings of a study, it uses mental process verbs in a way similar to how they were used in the Product move. This is exemplified in Extracts 177-179 below:

Extract 177

The knowledge of self-medication was high, with 98.6% of students indicating they have heard about self-medication, with their predominant source of information being health workers 21.4% and students 17.7% [Nursing].

Extract 178

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High prevalence of insufficient knowledge was observed among study participants [Allied Health].

Extract 179

Of the 385 students studied, 281 (73%) of them ever heard of breast cancer, with the commonest source of information being the media and school teachers. [Medicine]

In Extracts 177 and 178, the writer used the perceptive mental process verb “heard” in the active voice to enable him/her to report the percentage of students involved. In Extract 179, the verb “observed” was used in the passive voice to remove the writer's agency and ensure objectivity.

Verbal Processes

Verbal processes involve communicating information through the mouth, by writing or symbolically. The default verb type found in this clause type is “say”. Other verbs such as “report”, “recommend”, “discuss”, and “suggest” are also those used to accomplish verbal processes. In the dissertations analysed, verbal processes were used in the abstracts' Introduction, Product and Conclusion moves. In the Introduction move, verbal processes occurred in the three disciplines, as illustrated in Extract 180-182 below:

Extract 180

The World Health Organisation reports that about 5% of the world’s population are carriers for haemoglobinopathies and an estimated 300,000 children are born yearly with haemoglobinopathies - involving over 200,000 cases of sickle cell anaemia in Africa [Nursing].

Extract 181

Prevalence rates as high as 55.3% of milk-borne infections have been reported in the country, especially in the Accra plains [Allied Health].

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Extract 182

In a related development, it was earlier reported that about two thousand, one hundred and twenty one (2121) pedestrians had been knocked down by motorbikes (the Finder2017) and this is expected to increase if nothing is done to curb the situation [Medicine].

As can be seen in the extracts above, the verb, "report", is used to communicate some previous findings. Here, the writer passivized the sentence in order to avoid mentioning the source of the information.

In the Product move, verbal processes were used across the three disciplines. In this move, the verbal processes were used to report the findings of the study. Here, the findings of the study were reported as what the respondents said. This is illustrated in Extracts 183-188 below:

Extract 183

…thus, 27% of the cases were reported in 2013, 11% in 2015 and 7% in 2018 [Nursing]

Extract 184

In terms of access, majority of the students said they get Tramadol from the drug store [Nursing]

Extract 185

Majority of the mothers (77.0%) suggested that other mothers with infants below 6 months of age as well as expectant mothers should be educated and encouraged to practice exclusive breastfeeding [Allied Health]

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Extract 186

14.4 of them said that the number of months for exclusive breastfeeding should be reduced, 7.0% of the mothers said water should be introduced to the infants within the first 6 months of their lives [Allied Health]

Extract 187

Thirty percent of the participants reported they were hypertensive. [Medicine]

Extract 188

Majority (28.5%) of those who had not screened for BSE said they had no reason for not performing it while 28.1% of them said they did not know how to do it. [Medicine]

Extracts 183 and 184 are from the Nursing dataset. As can be seen from these extracts, the verbs "reported" and "said", respectively, were used. While Extract 183 is in the passive voice, Extract 184 is in the active voice. In Allied Health, Extracts 185 and 186 were used. In these extracts, the verbs "suggested" and "said" were used in the active voice. In Extracts 187 and 188, the verbs "reported" and "said" were used to communicate what the respondents said.

In the Conclusion move, verbal clauses offered recommendations or made inferences from the findings reported in the Product move. This is further illustrated by Extracts 189-193 below:

Extract 189

It is recommended that there should be more education on contraception anits importance… [Nursing]

Extract 190

The study recommends that educational campaigns on biomedical perspectives of the causes of disease should be intensified [Nursing]

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Extract 191

At the end of the review, it was recommended that policies and guidelines be developed, … [Allied Health]

Extract 192

These findings suggest an intensive education by the health workers on relevant information in the growth chart especially interpretation of growth charts [Allied Health]

Extract 193

It is therefore recommended that, primary care givers are educated, and often reminded on these preventive measures [Medicine]

Extracts 189 and 190, which come from the Nursing dataset, contain the verb, "to recommend". While Extract 189 is in the passive voice, Extract 190 is in the active voice. In the Allied Health dataset, "recommended" and "suggest" were used, as shown in Extracts 191 and 192, respectively. In Extract 193, "recommended" was used. These verbs suggest that the Conclusion move communicates recommendations.

Existential Processes

Existential clauses are used to show that something exists or happens. The subject of existential clauses is the word "there", which signals to the reader that something that exists will be introduced. The verb is usually "is" or "exists" and agrees with the noun phrase following it. This clause type was used in the Introduction, Product and Conclusion moves of the Nursing, Allied Health and Medicine abstracts.

In the Introduction move, this clause type was used to present some issues, such as concerns raised with regard to some health. In some cases, too, this clause type was used to highlight the focus of the study. Extracts 194-196 show how this clause type was used in the Introduction move:

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Extract 194

There are increasing concerns worldwide regarding the addiction potential of Tramadol [Nursing].

Extract 195

Even though the food chain industry is considered an important part of the economies of many developing countries by generating revenues and providing affordable and easily accessible foods, there have been major concerns of food safety because of the resultant increase in the number of foodborne illnesses. [Allied Health]

Extract 196

To improve upon the quality of medical records, there is a need to determine which of the systems is best to adopt in the documentation process [Medicine].

Extracts 194-196 show the use of existential clauses in the Introduction move across the disciplines studied. In Extract 194, "increasing concerns worldwide regarding the addiction potential of Tramadol" is presented as the Existent. Similarly, the Existent in Extract 195 is presented as a concern: "major concerns of food safety because of the resultant increase in the number of foodborne illnesses". In Extract 196, the clause is used to specify the focus of the study. Thus, the Existent is presented as "a need to determine which of the systems is best to adopt in the documentation process".

In the Product move, this clause type was used to present the findings. Here, the findings were presented as something that exists. Extracts 197-199 show the realisations of this clause type in the Product move:

Extract 197

There were barriers to the utilisation of paediatric pain assessment tools of which most are institutionally related [Nursing].

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Extract 198

There was a significant difference in the intake of energy, protein, total fat, carbohydrate, phosphorus and zinc between cases and controls [Allied Health].

Extract 199

There was a total of 253 respondents, consisting of 165 patients and 88 health care professionals [Medicine].

In Extract 197, the finding about "barriers to the utilisation of paediatric pain assessment tools of which most are institutionally related" was presented as the Existent. In Extract 198, the Existent is the finding: "a significant difference in the intake of energy, protein, total fat, carbohydrate, phosphorus and zinc between cases and controls". Similarly, in Extract 199, the writer presented "a total of 253 respondents, consisting of 165 patients and 88 health care professionals", which was the finding of his/her study, as the Existent.

In the Conclusion move of the dissertation abstracts analysed, the existential material processes were used to summarise the findings and to make recommendations. This is illustrated in Extracts 100-102 below:

Extract 100

There is the need for authorities to make the existing laws regarding over the counter drugs strong to ensure their national sale and use [Nursing].

Extract 101

There is a need for campaign, training and practice of food safety and hygiene among street food vendors in order to prevent any outbreak of food borne diseases [Allied Health].

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Extract 102

Though female students of the university have general knowledge about breast cancer, there exits knowledge gab regarding its risk factors and signs and symptoms [Medicine].

In Extract 100, the recommendation, “the need for authorities to make the existing laws regarding over-the-counter drugs strong to ensure their national sale and use”, is presented as Existent. Similarly, in Extract 101, “a need for campaign, training and practice of food safety and hygiene among street food vendors in order to prevent any outbreak of foodborne diseases” is presented as something that exists. In Extracts 102, the writer presented the finding, “knowledge gap regarding its risk factors and signs and symptoms”, as something which exists.

5.5 Chapter Summary

The thrust of this chapter has been to present the findings and discussion of the kinds, frequency and sequence of moves in the Nursing, Allied Health and Medicine dissertation abstracts. Accordingly, the findings were presented, showing how abstracts in these three disciplines were similar and/or different.

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CHAPTER SIX

CONCLUSION

6.0 Introduction

This study aims to analyse the schematic structure and linguistic properties of dissertation abstracts produced by students in the Nursing, Allied Health and Medicine Departments of the University of Health and Allied Sciences, Ho. The study specifically focused on the kinds of moves and steps in the abstracts and their frequency and sequences. In terms of the linguistic properties, the transitivity choices made in each move of the abstracts were examined. In this chapter, I conclude the study by summarising the key findings, the implications of the study, and some recommendations for further studies.

6.1 Key Findings

This section presents the key findings of the study. The findings are presented according to the research questions.

Research Question One: What differences and similarities exist in the abstracts written by students in terms of their rhetorical organisation?

This research question focuses on the kinds of moves and steps found in the Nursing, Allied Health and Medicine Abstracts. Generally, the dissertation abstracts across the three departments had five moves: Introduction, Purpose, Method, Product, and Conclusion. Another similarity is that the Introduction move of the abstracts in all three departments had three steps: the Background, Problem, and Focus. Moreover, across all departments, the Purpose move was not divided into steps. In terms of the Method move, the study revealed a notable difference in its steps. Specifically, the study found that the Method move had eight steps in Nursing, while the steps in Allied Health and Medicine were nine and ten, respectively. The study also found that the Conclusion move had two steps in all three departments: Summary and Recommendations.

Research Question Two: What differences and similarities exist in the frequency and sequencing of moves and steps of the abstracts in the three departments?

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This section compares the dissertation abstracts of the three disciplines in terms of the frequency and sequencing of the moves. The study found that the most frequent moves in the Nursing dissertation abstracts were the Introduction, Purpose, and Methods, each of which had a 100% occurrence, making them obligatory moves. The Product move also had a 94% frequency of occurrence, which establishes it as an obligatory move. In this regard, we can emphasise that the Introduction, Purpose, Methods and Product are typical in the abstracts. With a percentage of 62, the Conclusion move was a core move in the Nursing dissertation abstracts analysed. In Allied Health, the study revealed that the most frequent moves in the analysed data were the Introduction, Purpose, Methods, and Product, each of which had a 100% occurrence in the abstracts, making them obligatory moves. With a 42(84%) frequency, the Conclusion move achieved the status of a core move in the Allied Health dataset. With respect to the frequency of the moves in the Medicine abstracts, the present study found that the Introduction (100%), Purpose (96%), and Methods (100%) moves were obligatory, with the Product (74) and Conclusion (70) moves being core.

The Background Step occurred in all the Nursing dissertation abstracts. This makes it an obligatory step. On the contrary, the Problem and Focus steps recorded 40% and 6% frequency of occurrences, respectively. This shows that these writers paid particular attention to providing background information to the study. The Problem and Focus steps are not obligatory. The background, therefore, serves to introduce readers to the topic, and this is important (Swales, 1990). The Background step recorded the highest frequency (96%), followed by the Problem (64%) and Focus (10%). This is comparable to the frequency identified in the Nursing abstracts: Background (100%), Problem (40%), and Focus (6%). This highlights the significance of the Background step to the Allied Health dissertation abstracts. In the Medicine dataset, the Background step recorded the highest frequency (100%). This makes it an obligatory step. The second most frequent step was the Problem, which recorded 54% frequency of occurrence in the Medicine dataset, with the Focus being the least frequent (16%). This is comparable to the frequency identified in the Nursing abstracts: Background (100%), Problem (40%), and Focus (6%).

In the Nursing abstracts, the Methods move only had an obligatory step, i.e., the Study design, which recorded 90% occurrence. In addition, three core steps were found in the Methods move. These are Sampling technique, Data collection technique, and Data analysis technique. Sample size and Research site were ambiguous, recording 48% and 36% frequency of occurrence,

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respectively, while Population, Presentation of findings, and Ethical Issues, which recorded 14%, 12% and 12% occurrence, were optional. The implication of this is that the Study design step is a step that defines the Methods move. Thus, a Method move without the Study design may be regarded as incomplete. Also, since Sampling, Data collection, and Data analysis techniques are core steps, they are typical of the Method move, indicating that a Method move without these steps may be considered unacceptable. The acceptability of the ambiguous steps is contingent on expert advice, while the optional steps are not typical of this move (Hüttner, 2010). As shown in Table 4, the Summary of findings (60%) occurred relatively highly than the Recommendations (58%). However, they each are core steps. This means that both of these steps are important to the Conclusion move. The steps in the Method move of the Allied Health abstracts had varying frequencies of occurrence. Significantly, the Data Analysis Technique (88%) recorded the highest frequency of occurrence, followed by the Research Design (50%). These two moves, thus, are classified as core moves. Apart from these core steps, the table reveals three ambiguous steps: Sample Size (62%), Data Collection Technique (44%), Research Site (32%), and Population (32%). Presentation of Findings and Sampling Techniques occurred as optional moves. In the Medicine dataset, the study design was the most frequently occurring step (90%) in the Method move. Data Collection Technique (84%) and Data Analysis Technique (76%) were found to be core steps in the Method move of Medicine abstracts. Like the Nursing abstracts, the Research site was found to be an ambiguous step in the Method move of the Medicine abstracts. The sampling Technique, which occurred as a core step in the Nursing dataset, was found to be optional in the Medicine dataset. Other optional moves found in the Method move of the Medicine abstracts were Sample Size, Population, Presentation of Findings, Ethical Issues, and Variables.

In the Nursing dataset, the study found that the Summary of Findings (60%) occurred relatively more in the Conclusion move than the Recommendations (58%) step. However, they each were core steps. This means that both of these steps are important to the Conclusion move. Similarly, in Allied Health, none of the steps was obligatory. However, the Summary of Findings recorded a higher frequency (72%) than the Recommendations (46%). In Medicine, both steps of the Conclusion move were core. However, the Summary of Findings (78%) occurred more frequently than the Recommendations (56%) step. This finding shows that both steps were core across all three disciplines studied, with the Summary occurring more frequently than the Recommendation step.

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Regarding the sequence of the moves in the abstracts, the study found three patterns in the Nursing dissertation abstracts analysed. The linear sequence of M1>M2>M3>M4>M5 was the most preferred pattern, with a 31(62%) of occurrence. The second most preferred sequence type was M1>M2>M3>M4, where the Conclusion move was absent in the abstracts. With an occurrence of 3 (5%), M1>M2>M3 was the least preferred sequence. In Allied Health, it was evident that the linear sequence of M1>M2>M3>M4>M5 was the most preferred pattern. It recorded 82% occurrence in the Allied Health dataset, followed by M1>M2>M3>M4. The Medicine abstracts contained 5 different move sequences. The linear sequence of M1>M2>M3>M4>M5 was the most frequently occurring pattern. It recorded 54% frequency of occurrence. The second most frequent sequence was realised as M1>M2>M3>M5, and it recorded 24% frequency of occurrence.

In Nursing, the Introduction move was realised in three-step sequences. The most dominant was the pattern with just Step 1(Background). This pattern recorded 54% of occurrences. In 44% of the Nursing abstracts, the writers employed two steps in the Introduction move. It is usually a combination of Steps 1 and 2 or 1 and 3. The linear three-step arrangement (1>2>3) recorded the least frequency (2%). In Allied Health, the Introduction move was realised in three sequences. The pattern with two steps was the most dominant, which is further realised in two patterns. The first pattern (1>2) recorded 54% of occurrence, whereas the second pattern (2>3) recorded 4% frequency of occurrence. This means that, overall, the two-move sequence recorded a 58% frequency of occurrence. The second most frequent pattern was the one-step sequence. Here, the one with Background (Move 1) occurred with 30% frequency, while the one with Problem (Move 2) occurred with 6% frequency. The linear three-move sequence (1>2>3) also recorded a 6% frequency of occurrence. These findings differ from what was found in the Nursing abstracts, where the pattern with just Step 1(Background) was the most dominant. In the Medicine dataset, the Introduction move was realised in three sequences, with the most dominant having a single step. Specifically, this sequence, realised by the Background, recorded a 46% frequency of occurrence. The two-step sequences recorded the second most frequent degree of occurrence (40%). Of this sequence, the linear 1>2 recorded a 38% degree of occurrence while the sequence 1>3 recorded a 2% frequency of occurrence. On the other hand, the linear three-step pattern 1>2>3 recorded a 14% frequency of occurrence. These findings are similar to what was found in the Nursing abstracts, where the most dominant was the pattern with just Step 1(Background).

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In the Method move of the Nursing dissertation abstracts, the five-step pattern was the most dominant (40%). Whereas this pattern combined a variety of steps, it was evident that Step 1 (Research design) begins all the realisations in this pattern. The next most frequent pattern recorded 16% occurrence. These were the four-step and sixstep patterns. This was followed by the threestep pattern (14%), a two-step pattern (6%), a seven-step pattern (6%), and a one-step pattern (2%). In Allied Health, the Method move was dominantly realised with four and five-step sequences, each recording a 28% frequency. This is followed by the two-step sequence (18%), threestep sequence (14%), one-step sequence (12%), seven-step sequence (6%) and sixstep sequence (4%). In the Medicine dataset, the five-step sequence recorded a 28% frequency of occurrence, making it the most frequently used sequence. The three-step and four-move sequences each recorded a 24% frequency of occurrence. This was followed by the six-step sequence (12%) and seven-step sequence (8%), with the one- and two-step sequences each recording a 2% frequency of occurrence.

In the Conclusion move, the study made some insightful discoveries with regard to the sequence of steps. In the Nursing dataset, the writers preferred a two-step sequence (51.6%) starting with a summary of the entire research. Similarly, in the Allied Health dissertation abstracts, although the researchers presented the summary or recommendation separately, they predominantly preferred to combine the steps (60%) for a more comprehensive report, beginning with the summary of the research. Also, in the Medicine dataset, the linear two-step sequence was the most frequently used (39%). This was followed by the one-step sequence involving Step 1 (30%) and Step 2 (2%).

Research Question Three: What are the similarities and differences in the linguistic realisation of the abstracts in the three departments?

This section presents the findings on the transitivity choices made across the disciplines. The study found that in the Introduction move, across the three disciplines, material processes were the most used process types in the abstracts, followed by relational processes, mental processes, existential processes, and mental processes. With the material processes, in terms of percentages, Allied Health recorded the highest frequency (58.4), followed by Medicine (54.2%) and Nursing (50.6%). The same applies to mental processes. However, with the relational processes, Nursing recorded the highest frequency of occurrence (35.2%), followed by Medicine (33.3%) and Allied

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Health (32.0%). With the verbal processes, Allied Health and Medicine recorded a similar frequency of occurrence (0.7%), with Nursing recording the least (0.3%). Medicine recorded more existential process types (5.9%) than Nursing (2.7%) and Allied Health (1.1%).

The study also found that, across the three disciplines, material and mental processes dominated the Purpose move. In the Method move, it was found that material processes dominated. This process type recorded 90.7%, 91.3%, and 94.5% in Nursing, Allied Health and Medicine dissertation abstracts, respectively. Across the three disciplines, relational processes recorded the second highest frequency of occurrence, with mental and verbal processes occurring with a relatively lower frequency. Also, across all three disciplines, in the Product move, material processes had the highest frequency of occurrence. Specifically, this process type recorded 47.7% in Nursing, 48.2% in Allied Health and 42.1% in Medicine. Across all disciplines, the relational process type occurred as the second most frequent process type used in the Product move, followed by mental processes. In Nursing and Medicine, verbal processes occur more frequently than existential processes. This contrasts with Allied Health, where existential processes occur more frequently than verbal processes. This suggests that in Nursing and Medicine, researchers report findings as what the research participants said while in Allied health, findings are reported as what exists.

Across the three disciplines, material processes dominated the Conclusion move. Specifically, this process type recorded 64% in Nursing, 57.2% in Allied Health and 67.5% in Medicine. Relational process types occurred as the second most frequent process type in the Conclusion move. Beyond this similarity, the study found some differences. For example, in Nursing, verbal processes (17.5%) were the third most frequent process type, followed by existential (3.0%) and mental (2.5%) process types. In Allied Health, however, mental processes (7.2%) occurred as the third most frequent process type in the Conclusion move, followed by existential (2.6%) and verbal (1.3%) processes. In Medicine, existential processes (3.7%) were the third most dominant, followed by verbal (3.1%) and mental (1.2%) process types.

6.2 Implications of the Study

In this section, I discuss the study's implications, paying attention to its theoretical and pedagogical implications.

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This study has implications for the genre theory. In the present study, the move structure was examined using Hyland's (2002) five-move structure, which was initially developed to examine abstracts written by experts. In the present study, this model was used to study students' abstracts across disciplines. Beyond the move analysis, this study also identified the steps that constituted the moves. This brings out a new perspective on dissertation abstracts. Thus, the move/step approach developed by this study can be used by further studies interested in knowing the moves and steps that constitute dissertation abstracts.

Another theoretical significance of this study lies in its combination of the ESP and SFL approaches to genre study. In particular, the study used the ESP approach to examine the move structure and the SFL theory, specifically, the transitivity approach, to examine the linguistic features of the moves. This serves as a response to the call of Mwinlaaru (2017) that genre analysts can combine theories to offer a fine description of genres.

Pedagogically, scholars and practitioners of English for Academic Purposes (EAP) will find the present study's findings crucial. In particular, EAP course teachers can draw on this study's findings in teaching discipline-specific writing to students. Given that the present study used the disciplines of Nursing, Allied Health and Medicine, students in these disciplines will benefit the most from this study. For students in these disciplines, the researcher proposes the 5-Moves-15Steps Multidisciplinary Hybrid IPMRC Model (see Figure 1, p. 177) as a framework that can be used to assist them in writing research and article abstracts. It is believed that this model will contribute to theory and practice in academic discourse. The keys for the acronyms used in Figure 1 (p. 177) are presented below:

Key:
RD – Research Design
RS – Research Site
POP – Population
SS – Sample Size,
ST – Sampling Technique
DCT – Data Collection Technique
V&R – Validity & Reliability
DAT – Data Analysis Technique
VAR – Variable
RE – Research Ethics

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Figure 1 : 5-Moves-15 Steps Multidisciplinary Hybrid IPMRC Model

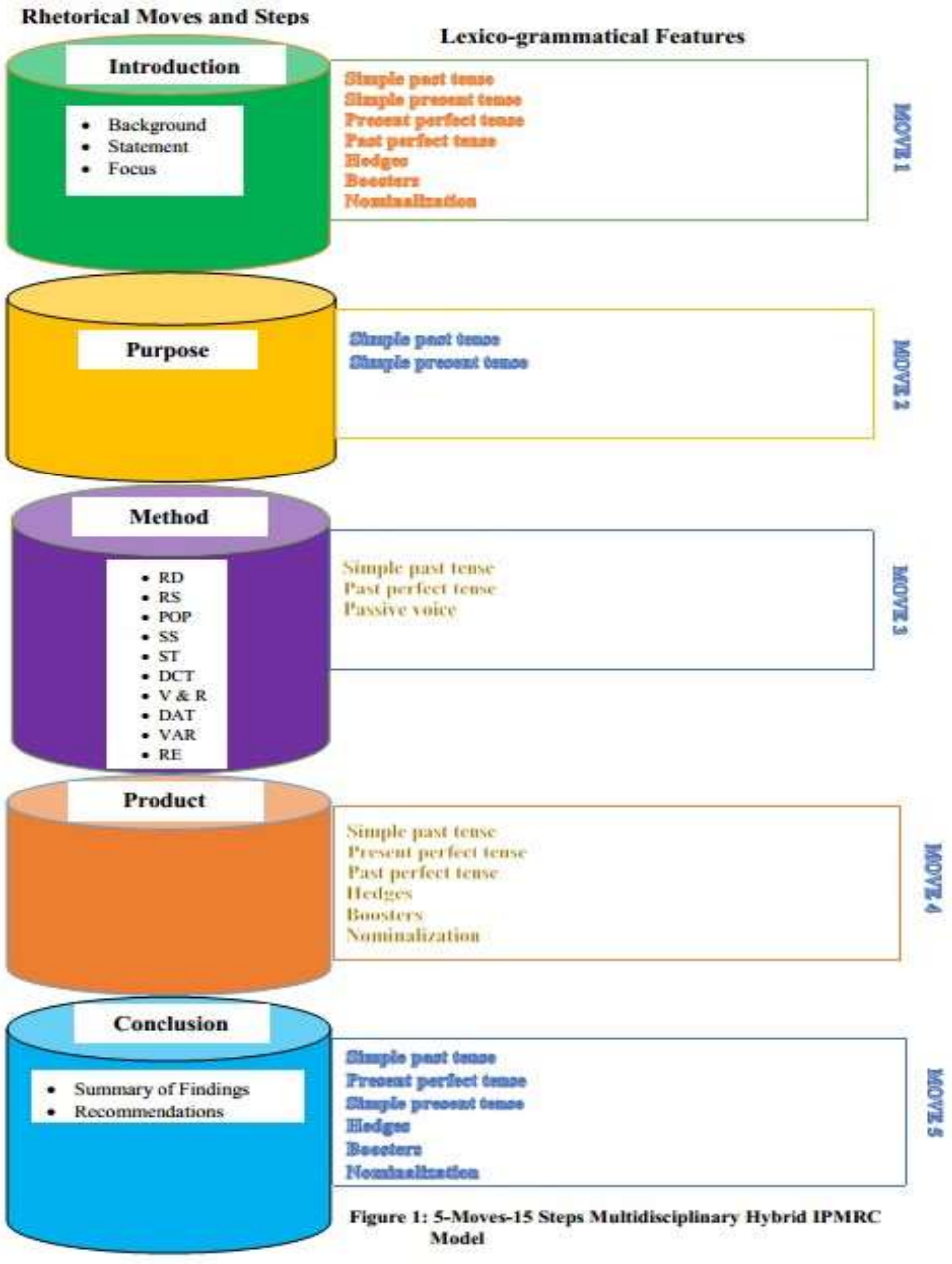

Figure 1: 5-Moves-15 Steps Multidisciplinary Hybrid IPMRC Model

Source: Fiadzomor (2023)

The 5-Move-15 Steps Multidisciplinary Hybrid **IPMRC** Model (see Figure 1, p. 177) is an integrated framework for presenting research and article abstracts. The 5 moves in the model include **Introduction (I), Purpose (P), Method (M), Results (R), and Conclusion)**. The **I**-move

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presents the background of the study which announces the topic, states the current knowledge, and situates the research. The introductory move comprises three steps, namely; the background, problem statement, and research focus or focus. The background is an obligatory step. The problem and focus steps are not obligatory. The **P-**move states the aim of the study and announces the research. The **M-**move describes the research methodology. The method move is realised by ten steps — research design, research site, population, sample size, sampling techniques, data collection techniques, validity and reliability, data analysis techniques, variable, and research ethics. The study design is an obligatory step. Sampling technique, data collection technique, data analysis techniques or procedures, validity and reliability are core steps. Sample size and research site are ambiguous steps. Population, presentation of findings, and ethical issues constitute the optional steps. The **R-** move presents the research outcome or product and findings of the study, that is summarizing the results and discussing the research findings. The **C-**move presents the summary of the findings and recommendations of the study. The conclusion move comprises two steps which are a summary of findings and recommendations.

The 5-moves **IPMRC** model reflects or mirrors the **BAMRC** — Background, Aim, Method, Results (Product), and Conclusion as well as the **IMRC** — Introduction, Method, Results, and Conclusion and **IMRD** — Introduction, Methods, Results, and Discussion frameworks by some researchers (El-Dakhs, 2018; Farzannia & Farnia, 2017; Hyland, 2000, 2002; Santos, 1996; Setyorini, 2017; Swales & Feak, 2009).

The IPMRC research abstract model is **multidisciplinary,** or **generic** because it applies to disciplines in the fields of humanities (literature, languages, academic writing, linguistics, and applied linguistics (El-Dakhs, 2018; Lorés, 2004; Santos, 1996; Setyorini, 2017), social sciences [educational administration, financial economics] (Doró, 2013; Pasavoravate, 2011; Pho, 2008; Santos, 1996; Tankó, 2017), sciences, technology and engineering [medicine, dentistry, nursing, midwifery, allied health sciences, biology, biochemistry, protozoology, civil engineering, computer science] (Cross & Oppenheim, 2006; Kanoksilapatham, 2005, 2013; Lon et al., 2012; Samraj, 2005).

The IPMRC research abstract model is a **hybrid** or **integrated** framework because it is a mix or blend of moves and sub-moves or steps in the 3-move (Al-Khasawneh, 2017), 4-move (Bhatia, 1993; Lorés, 2004; Swales, 1990; Vathanalaoha & Tangkiengsirisin, 2018), 5-move and

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8-move (Tankó, 2017) models. Again, the proposed framework is hybrid because it triangulates other frameworks (**BAMRC, IMRC, IMRD**) for writing research and article abstracts as well as theories of 'academic literacies' specifically, the Systemic Functional Linguistics (SFL) Theory, and the Transitivity Approach to examine the linguistic features of the moves.

The **IPMRC** research abstract model is suitable for both traditional and structured research abstracts. Traditional abstracts are unstructured abstracts that are presented in paragraph layouts without sub-headings. Unstructured research abstracts are mostly used in the humanities, literature, languages, academic writing, linguistics, and applied linguistics (El-Dakhs, 2018; Lorés, 2004; Santos, 1996; Setyorini, 2017). On the other hand, structured abstracts contain sub-headings, such as introduction, purpose, method, results, and conclusions. Such abstracts are mostly found in the sciences (medicine, nursing, midwifery, allied health sciences, protozoology, civil engineering, dentistry) and social sciences as in disciplines such as educational administration, and financial economics.

An integral part of well-written research and article (journal) abstracts is lexicogrammatical features, which are linguistic devices. In the introduction move, for instance, these devices are realised by tense patterns (simple past, simple present, present perfect, and past perfect tenses) as well as hedges, boosters, and nominalization. The purpose move is achieved by using the simple past and simple present tenses. The method move is written in the simple past and past perfect tenses, and the passive voice. The results or product move is achieved by using tense forms (simple past, present perfect, and past perfect tenses) in addition to hedges, boosters, and nominalization devices. Finally, the conclusion move is achieved by linguistic devices such as the simple past, simple present, and present perfect tenses as well as hedging, booster, and nominalization devices.

6.3 Suggestions for Further Research

This study used a qualitative approach for the analysis of the data. I recommend that further studies be conducted using quantitative approaches. For example, corpus linguistics can be used to identify the moves and linguistic properties of abstracts.

Generally, disciplines are categorised into Humanities, Social Sciences and Sciences. The disciplines used in the present fall under Sciences. I, therefore, recommend that future studies focus on non-science disciplines, especially those that have attracted little scholarly attention (e.g.,

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Economics). Importantly, other emerging Science disciplines, such as Biostatistics, also deserve scholarly attention (Swales, 2019).

Further studies can also adopt a comparative lens. In particular, dissertation abstracts of a particular discipline can be compared across Bachelor's, Master's and Ph.D. levels. This will reveal interesting similarities and differences. Similarly, dissertation abstracts can be analysed across universities. For instance, public universities can be compared with private ones.

6.4 Chapter Summary

This chapter has concluded the study. The chapter began by summarising the findings of the study according to the research questions. In addition, the implications of the study were discussed in this chapter. Finally, the chapter highlighted areas for further research.

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APPENDIX

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