Metadiscourse markers in English academic writing of Saudi EFL students and UK L1 English students

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Abstract

This study investigates and compares how three groups of students, Saudi students in Saudi Arabia, Saudi students in the UK, and UK L1 English students, organise and present their text through the employment of metadiscourse (MD). The study also looks at two factors that could influence the students' use of MD: cultural background and institutional context. MD is defined as rhetorical resources used to organise academic writing and show writers' attitude and engagement. Writers' uses of MD generally include: connecting arguments and presenting them in a coherent and convincing way, engaging with readers, showing their (the writer's) stance to persuade readers to accept their ideas, evaluating their content, and presenting themselves in their writing. The data is formed of three corpora consisting of 30 MA dissertations in applied linguistics (10 dissertations per corpus) analysed using a modified version of Hyland's (2005a) model. The modifications to Hyland's model include an additional classification of attitude markers and the addition of three layers of investigation, to further our understanding of MD and to comprehensively compare the three corpora. The first layer (unit place) is concerned with investigating what functions of the basic clause constituents (subject, predicate, etc) MD markers serve, or in which part of a unit expressing any of these functions they appear. The second layer (unit type) is about the form in which MD appears; a single word, a group of words or letters, or numbers. The last layer (dissertation section) is concerned with how MD markers are distributed across the dissertation sections and which rhetorical functions they serve.

This study reveals in its theoretical contribution that MD appears most frequently as adjuncts, with a frequency of over 34%. MD use is mostly distributed in the literature review and features least in the recommendations and abstract sections. Also, MD appears mostly as a single word (over 60% frequency) and rarely as letters or numbers (4%). Further, this study shows that interactive MD is more flexible than interactional MD in the ways it is used, in both unit place and unit type.

In its empirical findings, this study shows that the three groups differed significantly in their overall use of MD and in both interactive and interactional MD. Within the subcategories, the groups differed in almost every subcategory except in frame markers, code glosses, and attitude markers. However, there are some similarities

between Saudi groups which suggest that cultural background influences their use of MD significantly. Specifically, SIS and SIUK focus less on connecting different parts of their dissertations than UKIUK, provide less support for their claims and argument, show little engagement with their readers, and rarely explicitly present themselves in their writing or take an authorial stance. Further, this study suggests that the overall similarities in the three groups indicate that discipline and genre play an important role in how the students sequence their arguments, announce their goals, provide examples and explanations, and finally show similar use of their evaluation and attitudes. The study concludes with some teaching implications for MD in general and some specifically tailored suggestions for Saudi students as the main participants of this study.

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List of Abbreviations

AL	Applied Linguistics
CBA	Corpus-Based Approach
CR	Contrastive Rhetoric
DA	Discourse Analysis
DM	Discourse Markers
EAP	English for Academic Purposes
ESL	English as a Second Language
ESP	English for Special Purposes or English for Specific Purposes
IMD	Interpersonal Metadiscourse
L1	First Language or Mother Tongue
L2	Second Language
MA	Master of Arts
MD	Metadiscourse
NES	Native English Speaker of English
NNES	Non-Native English Speaker of English
NF	Normalised Frequency
RA	Research Articles
RF	Raw Frequency
TMD	Textual Metadiscourse
SIS	Saudi Students in Saudi Arabia
SIUK	Saudi Students in the UK
UKIUK	UK L1 English Students

Chapter 1: Introduction

1.1 Overview and Significance of the Study

Over time, academic writing has lost its traditional label as an impersonal and faceless kind of discourse. It is becoming more common for academic writing to be considered as a persuasive attempt to create interaction between writers and readers (Sultan 2011, p. 28.). According to Lee and Casal (2014, p. 40), to build texts successfully, writers need to interact and guide their readers through the unfolding text. To do this, writers must show a certain level of personality to offer a credible image of themselves and their work, to announce solidarity with readers, and to admit different views (Hyland 2005a, p. 4). These demands on writers can be accomplished using different linguistic resources known as metadiscourse (MD). MD is defined originally by Williams (1981, p. 226) as 'writing about writing' (see Section 2.2), however this thesis focuses on Hyland's more comprehensive definition (2017, p. 1) of MD as particular language features that writers use to interact with their readers in a specific discourse community. This definition highlights the reader-writer relationship, which is an important aspect in any convincing and appealing argument. MD is divided into two main dimensions: interactive/textual and interactional/interpersonal.[1] Each dimension comprises five subcategories that together offer a more complete picture of how reader-writer interaction is achieved and which specific linguistic resources can be used to achieve it (for more details see Section 2.8.3).

Interactive MD markers can contribute to the cohesion and coherence of the text by organizing it and guiding the reader through it. The five features of interactive MD are as follows: (1) transition markers (e.g., *additionally*, *however*) can facilitate the transition between ideas to make it clear for the readers to follow; (2) frame markers (e.g., *First, all in all*) refer and sequence discourse acts and stages; (3) endophoric markers (e.g., *as shown above*, *in section x*) link information with other parts of the text to remind the reader of what they have read or will read; (4) evidentials (*according to X*) indicate the sources of information to support and provide evidence for the claims made; (5) code glosses (e.g., *for example, such as*) explain the

[1] These terms will be introduced in detail in Section 2.8, but from now on they will be referred to as interactive and interactional.

ideational/propositional material by giving examples or explaining it in a different way (Hyland 2005a).

Interactional MD markers are important in involving the readers in the text and interacting with them. The five features are as follows: (1) hedges (e.g., *could, indicate*) show the writer's partial commitment to the proposition and that they are open for dialogue, or for a reader's alternative view; (2) boosters (e.g., *show, prove*), unlike hedges, show a writer's full commitment towards their proposition and they are closing up the dialogue; (3) attitude markers (e.g., *important, crucial*) express the writer's attitudes towards the proposition, whether negative or positive, in order to influence the readers to follow their lead; (4) engagement markers (e.g., *consider, look*) work to engage and build relationship with readers to have credibility and solidarity with them; finally, (5) self-mentions (e.g., *I*, *me*) indicate the presence of the writer, allowing them to take credit for their work and to show their voice (Hyland 2005a).

These two main dimensions of MD serve two important functions in successful academic writing (Thompson 2001, p. 61; Hyland 2005a, p. 50). The first is persuasion, which is an essential element of MD because it demonstrates rhetorical purposes or choices that are needed to convince readers of the writer's arguments (Mao 1993, p. 270; Hyland 2005a, p.63). To be persuasive, writers must carefully select rhetorical choices that help evaluate their propositions as well as guide the audience to a preferred conclusion (Lee 2009, p. 2). For example, this can be achieved by the use of evidentials and code glosses, which are used to support and elaborate claims. On an interpersonal level, self-mentions can increase the authority of the claim and engagement markers build solidarity with the readers (Lee and Casal 2014).

The second important use of MD in academic writing is writer-reader interaction. Crismore and Fransworth (1990, p. 118) state that MD permits texts to have some spoken language features such as personal pronouns, which makes the texts more reader-friendly and fosters comprehension. When the writer uses first person pronouns, they involve themselves in the text, claim authority for what they say, take a position and align with their readers. This interaction between the writer and the reader also involves social engagement as it shows how we portray ourselves in our

texts, through our attitudes towards the content and the readers. Hyland (2005a, p. 3) explains this relationship by suggesting that by using MD, we are negotiating the kind of interaction that we are having with others.

Using both main dimensions of MD in writing has been the central focus of functionally oriented approaches, which share the view that language use is related to social context, cultural context, and institutional context. Therefore, MD studies in academic writing examine how the linguistic characteristics of a text create a relationship, as the writers organise and evaluate their texts to meet the expectation of their readers (Hyland 2005b, p. 174). Without MD, writers cannot accomplish their communicative purposes as effectively (Crismore and Farnsworth 1989, p. 91). Finally, MD is a bond between disciplinary culture and writing in that it helps writers understand their intended audience's expectations, as the use and distribution of MD varies according to different disciplines (see Section 2.9.2) (Faghih and Rahimpour 2009, p. 93).

MD in academic writing has been approached from different angles, as will be discussed in Chapter 2. Some studies describe how MD is used by different writers in different disciplines (Hyland 2005a; Cao and Hu 2014), others compare MD use in different genres (Lee 2009; Alharbi 2021), and some compare first language (L1) and second language (L2) writers of English (Mauranen 1993; Adel 2006; Kuhi and Mojood 2014; Alshahrani 2015; Noorian and Biria 2017) with the view that L1 cultural background is a major factor influencing MD use. These studies in general report that L2 writers face difficulties in their use of MD and that they use MD differently from L1 English writers. This suggests that similar differences might be anticipated among the participants of this research. However, as only a few studies have looked at Arabic learners writing in English (Alshahrani 2015; Al-Zubeiry 2019), little is known about their use of MD. This indicates a gap in how Arab learners in general, and specifically Saudi students, use MD, and how different or similar they are to L1 English writers.

Most of the studies investigating the use of MD only looked at one dimension: either interactive MD (Ädel 2006; Alshahrani 2015); or interactional MD (Cao and Hu 2015; Ramoroka 2017); or even just one or two features of MD (Rabab'ah and Al-Marshadi 2013; Prasithrathsint 2015; Farrokhi and Emami 2008; Takimoto 2015). However,

this current research investigates both main dimensions as they 'are essentially the two sides of the same coin' (Thompson 2001, p. 61). Investigating both dimensions offers a holist picture, allowing us to understand not only the text-organising features and rhetorical strategies used by writers, but also how the writers express reader-writer relationships (Vande Kopple 1985; Crismore et al. 1993; Hyland 1998c, 2005a). This approach further adds to the significance of this study.

Another important aspect of the current research is that it reports on: (1) how MD is used within the clause and in which functional elements within the clause (subject, predicate, complement, and adjunct) MD markers are located; (2) in what form MD markers appear (as a word, a group of words, or letters or numbers); and finally (3) where MD markers are distributed across dissertation sections. These three layers of investigation, which have not been covered in the literature, will be explained in Section 3.6.1.1. They will help us to better understand MD in general and compare MD between the participants of this current research in particular.

1.2 Purpose of the Study

The present research aims to investigate and compare the use of interactive and interactional MD markers between 3 groups of students: Saudi students in Saudi Arabia (SIS), Saudi students in the UK (SIUK), and UK L1 English students (UKIUK). The data of this research is based on a corpus of 30 MA dissertations[2] in applied linguistics, 10 dissertations from each group of students. This study will explore how each group of students organises their text structure, engages with their readers, shows their stance to persuade their audience to accept their ideas, evaluates their content, and finally presents themselves in their writing. Specifically, the study will focus on which functions of MD markers the groups use in order to achieve the rhetorical strategies mentioned above and will compare the three groups across these functions.

Another purpose of this study is to look at two factors that could influence the students' use of MD in their writing: L1 cultural background and institutional context. To correctly attribute the variations of MD use to these two factors, other factors

[2] The terms dissertation and thesis will be used interchangeably throughout this study even though they might have two different meanings in the UK education systems as the former refers to masters' degree and the latter to PhD.

must be controlled. Thus, the genre and the discipline are the same across all groups, and the proficiency level is similar (for more details see Chapter 3). For this reason, three different student dissertation groups (SIS, SIUK, UKIUK) are examined, to compare Arabic and English cultural background and institutional contexts. If there are similarities between SIS and SIUK, then it could be because of their L1 culture as both groups are from the same culture, suggesting that the institutional context did not play a significant role in their MD use. However, if SIUK and UKIUK are similar, it suggests that the institutional context has affected their use more significantly despite the students being from different cultures. The influences from these two factors on specific MD categories will be traced back to their origins, such as L1 transfer or rhetorical protocols (see Chapters 5 and 6). A comparison between cultural and institutional context is an important aspect of this research investigation as few studies have looked at the influence of institutional context (e.g., Alshahrani 2015). Studies mostly attribute the differences between L1 English writers and their L2 English counterparts to cultural background without assessing the institutional influence or even assessing the influence of cultural background on specific features of MD (Lee 2009; Sultan 2011; Ozdemir and Longo 2014; Kuhi and Mojood 2014; Alotabi 2016; Noorian and Biria 2017; Al-Zubeiry 2019).

This study also aims to provide helpful insights for L2 English writers that can be used to improve writing courses or instructions. L2 writers in general, as will be explained further in the literature review (see Section 2.9.2), face challenges and difficulty in employing MD markers. Specifically, from my own experience in teaching English academic writing to advanced Saudi EFL students at Shaqra University, students misuse and underuse MD markers and would benefit from further advice in this regard. I personally believe that if students receive instructions and materials about using MD markers, their writing will improve significantly. This view is also supported by Taghizadeh and Tajabadi (2013) who experimented with giving instruction on MD use in students' writing and revealed that the students performed significantly better after this instruction, as their work became more organised and coherent. The findings presented in Taghizadeh and Tajabadi's study are in accordance with Al-Owayid (2018) and Tavakoli and Amirian (2012), who similarly claim that students who receive training on the use of MD accomplish better marks

in writing tests. It has been suggested that teachers should be made aware of the importance of MD and should familiarise students with MD classifications and functions (Tavakoli and Amirian 2012; Taghizadeh and Tajabadi 2013; Al-Owayid 2018). Consequently, developing insights and implications for using and teaching MD markers could be an important step in successful students' writing.

This study will analyse data from 30 dissertations to answer the following main research questions. These were formed carefully based on the gaps reported in the literature, as explained in detail in Chapter 2.

1- What is the *overall* use of interactive and interactional MD markers and their subcategories in the whole corpus, in terms of frequency, most used lexical items, unit place, unit type and dissertation section?

2- How do Saudi students in Saudi Arabia (SIS), Saudi students in the UK (SIUK), and UK L1 English students (UKIUK) use *interactive* MD markers and related subcategories in their writing, in terms of frequency, most used lexical items, unit place, unit type, and dissertation section?

3- How do Saudi students in Saudi Arabia (SIS), Saudi students in the UK (SIUK), and UK L1 English students (UKIUK) use *interactional* MD markers and related subcategories in their writing, in terms of frequency, most used lexical items, unit place, unit type, and dissertation section?

4- How do the factors of cultural background and institutional context influence the Saudi students' use of interactive and interactional MD markers?

These questions will be split into further sub-questions in the results and discussion Chapters (4, 5, and 6) for more clarity and to be comprehensively answered. The following section addresses the organisation of this study.

1.3 Organisation of the Thesis

This thesis is organised into seven chapters. Chapter 2, which provides a review of relevant literature, is divided into two main parts. The first part is concerned with the theoretical background of MD and how it developed over time, including similar

terms and concepts related to MD and how MD is different from them. It will also introduce the framework of this study, based on Hyland (2005a), how it was created and why it was chosen to be the foundation of this study. The second part of Chapter 2 discusses how MD is used in various genres and subgenres across scientific fields and cultures. It also highlights the gaps that this current research aims to fill based on what is reviewed in the wider literature. The methodology is introduced in Chapter 3 to describe how the study was done, including a test analysis, and which approaches and parameters were applied to account for presenting a proper investigation considering reliability, validity and ethics. Chapter 3 also explains how Hyland's (2005a) model is modified in this thesis to include other layers of investigation, thus providing a more holistic image of the use of MD in the data. Chapter 4 presents the results and discussion of the first research question about the overall use of MD markers in the whole corpus. It shows how MD markers in the dissertation genre in the field of applied linguistics are generally used in terms of frequency, unit place (syntactic functions of MD markers), unit type (in what form MD markers appear), and dissertation section (where MD markers are distributed across dissertation sections). Both Chapters 5 and 6 are concerned with comparing the similarities and differences between the three dissertation groups in their use of MD markers across the different layers of investigation (i.e., frequency, unit type, unit place, and dissertation sections). Chapter 5 focuses on interactive MD markers, while Chapter 6 focuses on interactional MD markers. These two chapters also discuss institutional context and cultural background as potential influences on Saudi students' use of MD. Finally, Chapter 7 expresses the conclusion and limitations of this study, some implications for teaching MD, and directions for future research.

Chapter 2: Literature Review

2.1 Introduction

Over the years, the definition of MD and the various types of discourse level related to MD, such as primary and secondary discourse, have varied and their meanings have been understood from the point of views of different scholars (Williams 1981; Kopple 1985; Crismore et al, 1993; Hyland 2005a). Hence, the present chapter aims to project and review some forms of MD in relation to the discussed views and by so doing, address the different types of MD and their varying models. This chapter also discusses parallel terms that could be confused with MD and clarifies the similarities and differences between them.

MD has a close association with rhetoric and this association is introduced and explained. In the later sections of this chapter, the main models of MD studies are critically reviewed and presented. Finally, Hyland's model (2005a) is introduced alongside its limitations and any problems associated with it, as an introduction to its use in this current study.

2.2 Definition of Metadiscourse

Metadiscourse was first coined by Zellig S. Harris in 1959 to signal pieces of a text that carry secondary information. From this definition, texts are divided based on the information provided: primary information and secondary information (explained in detail in the next section). The primary information is the propositional content that can describe an event in the outside world of the text and more importantly, primary information can be judged, questioned, and doubted. It also refers to the subject matter being addressed (Williams 1981, p. 226). On the other hand, secondary information stretches the primary information without adding anything to it, like MD. A typical example is '*clearly education is important'*. The first word *clearly* can be described as secondary information, because it did not add anything to the actual importance of education, but it expresses the certainty of the writer that 'education is important'. This scenario makes the text that carries secondary information less important than the primary information, 'education is important'.

The concept of MD is initially defined vaguely by Williams (1981, p. 226) as 'writing about writing' and later by Vande Kopple (1985, p. 83) as 'discourse about discourse'. These definitions are very similar in the sense that they distinguish

between the primary information and secondary information, and they refer to an element of the text that does not add or refer to the matter being addressed. Vande Kopple (1985, p. 83) justifies his definition by stating that MD assists reader to classify, interpret, organise, and evaluate the content, and he uses the term primary and secondary discourse instead of primary and secondary levels or information. According to Vande Kopple (1985, p. 83) MD is language use that describes and organises the primary discourse. Writers use MD to guide and direct the readers rather than informing them (Vande Kopple 1985, p. 83). Vande Kopple and Williams's definitions create an important background for the academic debate on the topic. However, these definitions are quite incomplete and insufficient as MD has a huge potential to contain language features that do not only show how we organise our texts and ideas, but also how we present ourselves to our audience (Fa-gen 2012).

MD is also defined as rhetorical devices that are used to organise an argument, convey the writer's competence, and indicate their standpoint. Some researchers like Nash (1992) created a model of MD based completely on effective and persuasive argument (rhetoric). In this sense, some linked MD to rhetoric and stated that MD has rhetorical functions (Geisler 1995; Fa-gen 2012; Toumi 2012). The relationship between MD and rhetoric will be explained in later sections.

In recent years, some scholars have limited MD to some characteristics or features of the text that signal its purpose, direction, and internal structure (Mauranen 1993; Adel 2006). As such, it was defined as words that a writer can use to give directions in the text, such as transitions (e.g., *but*) and frame markers (e.g., *first*, *second*). The restriction of MD to textual features is rejected by Hyland (2005a, p. 41) as this excludes the interpersonal nature of MD. Hyland argues that this is the definition of 'metatext', and not 'meta*discourse*' (see Section 2.4). Hyland (2005a, p. 11) defines the role of MD as not only to guide the reader through the text, but also to show how writers interact with their readers through the degree of formality, shared knowledge, and social status.

Another intriguing, as well as broad, definition of MD is that it denotes linguistic expressions or tokens which are used by writers to guide audiences through the text, improving the writer's point of view such that the reader sees the text from the

writer's standpoint (Fa-gen, 2012, p. 847), an argument that is supported by composition theorists, applied linguists and rhetoricians. However, this definition does not mention a distinction between the two levels of discourse (primary and secondary information), nor does it focus on the interpersonal side of MD.

From the debate above, the following conclusions are drawn. Some researchers have used the concept of MD to focus on the rhetorical features in the organization of the text and have also restricted MD to the information provided by the text alone (see Mauranen 1993; Valero-Garces 1996). Others have used it to study both textual and interpersonal elements, defining MD as features that support the reader and allow the writer to access a specific discourse community (Hyland 2005a, p. 14; Crismore and Farnsworth 1990).

To sum up, metadiscourse is an umbrella term used to include cohesive and interpersonal features that support the reader to connect and organise propositional material, and to interpret it in a way that is favoured by the writer concerning the understandings and the beliefs of a specific discourse community. This comprehensive definition is provided by Hyland (2005a, p. 14). However, even though this definition of Hyland is the most frequently used, and it seems the most appropriate, it has its limitations, such as the fact that it is too broad and encompasses too many elements (Adel and Mauranen 2010, p. 3) (see Section 2.8.3.1). Nevertheless, Hyland's view is widely accepted and applied in many studies as it incorporates the main aspects of the term, such as the distinction between propositional content and MD, and it includes both textual and interpersonal elements (Alshahrani 2015; Estaji and Vafaeimehr 2015; Alotabi 2016; Zhang 2016; Farahani and Sbetifard 2017). Hyland (2005a, p. 41) calls these interactive and interactional elements, because of the consideration that all MD resources should be of interpersonal nature or origin (this will be explained in 2.8.3).

Hyland provides a working definition which covers a wide range of linguistic tokens. It exceeds a definition of MD as text organization and describes the reader-writer relationship as an aspect that is important in any convincing and appealing argument. Additionally, Hyland indicates that MD is an important feature in modern rhetoric for composing a successful and effective text or speech. Therefore, this

study will use and apply Hyland's definition as it is consistent with most MD definitions and terminologies (Alshahrani 2015).

As observed from the above discussion, one common aspect in MD definitions is that it concerns the levels of primary and secondary information. Many scholars in the field of discourse have agreed that there are two levels of discourse, but there is a disagreement on the importance of the roles that these levels play in the text. The following section will be dedicated to expressing the difference and presenting the importance of these levels of discourse.

2.3 Levels of Metadiscourse

Discourse has two levels: primary, which carries the core message (propositional content); and secondary, MD (the non-propositional content), which includes linguistic expressions that help the reader understand the message, guide them through the text and indicate the writer presence. This concept of discourse levels has been used by many researchers, such as Lautamatti (1978), Vande Kopple (1985) and Williams (1981). Lautamatti (1978) named them topical elements and non-topical elements, the former referring to the propositional content, the latter referring to features that help the audience understand the text (this will be elaborated more in Section 2.4). Williams (1981) calls them the primary level and secondary level of writing, and he stated that the process of using these two levels could be unconscious. Finally, Vande Kopple (1985) refers to these two levels as primary and secondary discourse.

Both Williams (1981) and Vande Kopple (1985) agree that the secondary level or discourse refers to linguistic materials/expressions that do not add anything to the primary level or discourse, which is the propositional content. According to Williams (1981, p. 226) the secondary level includes all the writer's comments about their attitudes and confidence in their statements, as well as all connective devices. Examples of primary and secondary discourse are given in examples (1) and (2), where the italicised words indicate the MD (secondary discourse) and the rest of text represents the propositional content (primary discourse).

(1) *I believe that* tax reform is necessary.

(2) *I believe that in regard to* the American pharmaceutical industry, *we can say that there seems to be* excessive federal government regulation.

In these two examples, the primary discourse is easy to define, and is considered more important because it carries primary information (Harris 1970; Lautamatti 1978; Williams 1981; Vande Kopple 1985). However, later models of MD such as Hyland's (2005a, p. 44) reject this hierarchy of importance. Hyland sees the levels of discourse as having the same importance, as they complement each other and cannot work independently. In the same vein, Thompson (2001, p. 61) states that propositional content and metadiscourse are two faces of the same coin; they are equally important because texts are communicative and engaging. Mao (1993, p. 266) similarly rejects definitions of importance; he affirms that discourse cannot be classified as primary or secondary because discourse activities are all both expressive and referential.

Differentiating between these two levels of discourse has created confusion in MD identification. Adel (2006, p. 4) states that MD is 'a fuzzy term', because it lacks clear cut boundaries, and it can be difficult to differentiate between metadiscoursal and non-metadiscoursal levels. Enkvis (1975, cited in Mauranen 1993, p. 8) also notes that differentiating between propositional and non-propositional content is 'fuzzy' because metadiscourse categories are open and new elements can be added based on context. MD can be considered subjective; an expression can be propositional in one context and non-propositional in another context, and it can be even judged differently by different readers (Swales 1990). For illustration, see the function of *really* in examples (3) and (4) below (Crismore et al. 1993, p. 49).

(3) *Really*, it was terrible.

(4) It was *really* terrible.

In the first example, 'really' is non-content expression and so it is MD, whereas in the second example, it is propositional as it is functioning as an adverb modifying an adjective. Other examples excerpted from Hyland (2005a, p. 25) are given in (5) and (6).

(5) It is *possible* that he just forgot it.

(6) It is *possible* to see the peaks of Snowdonia on a clear day.

In example (5), the use of *possible* is functioning as MD as it is used to indicate that the speaker is guessing, while in example (6), it is propositional because it is expressing a potential occurrence in the right conditions.

Part of the fuzzy and subjective nature of MD is that one MD marker can have simultaneous functions; for example, *I conclude*. This example can function as a self-mention marker because of the pronoun *I,* and an illocutionary marker to indicate a discourse act the writer is performing. We require context to determine which level of discourse the phrase 'I conclude' operates in. It is subjective and is influenced by factors like the analyst, the model of analysis and the context of the discourse. Hyland (2005a, p. 59) thus admits that there is not a clear means of differentiating between the propositional and metadiscoursal elements, though it is important to distinguish them from each other to present accurate understanding of MD. Crismore et al. (1993, p. 41) affirms that these problematic features of MD (multi- functionality, levels of discourse, subjectivity) are important to take into consideration and must be found in any theory or typology of MD.

It is clear from these definitions and levels of MD that it can be related to Hallidayan's metafunctions of language, which underline and influence the main typologies of MD (Toumi 2012; Fa-gen 2012) Therefore, Halliday's metafunctions of language will be presented briefly in the next section.

2.4 The Hallidayan Metafunctions of Language and Metadiscourse

Halliday (1973, p. 27) suggested that language serves three main metafunctions: ideational, textual and interpersonal. The ideational function is the topical/propositional content, which is the primary discourse that describes the natural world and events (Lee 2009, p. 32). The textual function focuses on creating a text and organizing it so that it makes sense and functions as a message (Halliday 1973, p. 27). Finally, the interpersonal function, which focuses on the social world, and has two levels: the individual level, which expresses personal feelings and perspectives; and the social level, in which interaction is achieved between participants (Halliday 1973, p. 29).

Hyland and Tse (2004) use these metafunctions of language, as described by Halliday, in defining their key values and principles of MD. These principles are: (1) propositional content is different from MD, (2) MD embodies writer-reader

interaction, and (3) MD indicates relations that are internal to the propositional content. Halliday's three main functions also influenced the main models of MD as described by Williams (1981) and Vande Kopple (1985) who use textual MD and interpersonal MD as the main elements of their typologies. Vande Kopple (1985, p. 86), for example, classified primary discourse within the ideational function, while MD can function as either interpersonal or textual.

However, despite the influence of Halliday's metafunctions on MD studies, Halliday's work does not directly discuss the term 'metadiscourse', and instead refers to interpersonal and textual functions of language (Toumi, 2012, p. 16). Furthermore, many MD studies including Hyland (2004; 2005a), Vande Kopple (1985), Lautamatti (1978), Meyer (1975), Williams (1981) only focus on the communicative function of language, i.e., the functional approach, and not the syntactic approach, i.e., the function of a specific word in a clause. Fen-gen (2012, p. 847) also supports this view, emphasising that MD studies investigate how language is working to accomplish specific communicative purposes. Therefore, the current study aims to fill the gap in research in this regard by investigating the syntactical appearance of MD expressions to accurately understand MD and its syntactic functions in the clause.

To clearly understand the definition of MD, we should discuss similar terms that are often confused with MD. Some of these parallel terms to MD will be mentioned in the following section, to explain how they are different from or similar to MD.

2.5 Some Parallel Terms to Metadiscourse

Some of the problematic features of MD (such as the difficulty of differentiating between the two levels of discourse and multi-functionality), could be due to confusing MD with other parallel terms. According to Hyland (2017, pp. 16–17), the notion of levels of discourse associates MD with other terms such as Halliday's (1985, p. 271) 'metaphenomena', which are 'categories of language, not of the real world'. With this association arise some difficulties. Topical and non-topical (Lautamatti 1978), metatext (Mauranen 1993) and discourse markers (Fraser 1990) are some other terms used by scholars in this field.

These categories could be part of MD because they are all part of secondary levels of information, and they all direct the reader to comprehend the writer's message

unambiguously (Crismore 1989). However, it can be argued that they cannot be considered MD as they do not include the interpersonal function, which is one of the main elements of MD (Lee 2009; Khabbazi Oskouei 2011).

2.5.1 Topical and Non-Topical Material

Lautamatti (1978) was one of the first scholars to distinguish between the two levels of discourse; topical (primary level, referring only to the topic and sub-topics of the subject matter) and non-topical (secondary level, not linked directly to the subject matter). In her article, she writes about cohesion and coherence, stating that for an effective argument and successful communication, the text should be composed in a way that the reader can comprehend, evaluate, and connect to previous material. Lautamatti (1978, p. 187) affirmed that non-topical discourse contributes to the coherence of a text. In this way, she considers non-topical materials to be a framework for the topical materials, and as such, assist the reader only in understanding the textual organization of the text.

Lautamatti (1978) categorised the non-topical materials into five types: discourse connectives (*however, next*), illocutionary markers (*for example*), modality markers (*it seems obvious),* attitude marker (*it seems futile to*), and finally commentary markers (*you may like*). However, though these categories relate to MD markers, Lautamatti (1978) does not differentiate between textual and interpersonal MD markers, although her last three categories can clearly be considered interpersonal. Moreover, the examples presented by Lautamatti could be confusing, as the attitude and modality markers would generally be considered ‘hedges’ in MD research (e.g., Vande Kopple 1985). Her categories also sometimes overlap and are quite extensive and ambiguous. Lautamatti’s classification and examples incorporate her understanding of topical and non-topical materials, and so can be considered as parallel to, but not the same as, MD research.

2.5.2 Discourse Markers

Discourse markers (DM) have been studied by different researchers and labelled by many names such as sentence connectives (Halliday and Hasan 1976), discourse particles (Schourup 1985), pragmatic connectives (Fraser 1996) and pragmatic markers (Fraser 1988). Schourup (1999, pp. 230–234) listed common characteristics of discourse markers as follows:

1. Connectivity; connect discourse.

2. Optionality; if removed, the grammar will not be affected.
3. Non-truth conditionality; the condition the outsider world has to meet if the sentence or statement is to be true, meaning DM do not add to the truth condition of the content.
4. Weak clause association; the DM occurs outside the structure or are not strongly attached to it. For example, the roles of conjunctions and subjects where the conjunction has a detached role unlike the subjects.
5. Initially; precede the discourse they mark.
6. Orality; happens mainly in speech.
7. 'Multi-categorality'; could be any parts of speech.

From the above, we can notice some similarities and differences between discourse markers and MD. They both seem to be non-truth conditions as they do not change the propositional content. MD and DMs also usually introduce a discourse segment, and they both contribute to the coherence and organization of a text. However, DMs are studied syntactically and semantically whereas MD is mainly studied from a communicative functional aspect. DMs are more textual in nature, while MD goes beyond textual functions to include interpersonal elements.

2.5.3 Metatext

Metatext is another concept that is parallel to MD as they both classify the discourse into two levels, and they also improve the coherence and internal organization of the text. Mauranen (1993, p. 7) defined metatext as text about text, which differentiates between the two levels of discourse, but is limited to text materials i.e., it does not include the interpersonal materials. Mauranen's (1993) typology only used four types of Vande Kopple's (1985) model to demonstrate her understanding of metatext, focusing on textual elements which are given below (Mauranen 1993, pp. 9–10):

1. Connectors: Conjunctions, adverbial and prepositional phrases, which indicate relationships between propositions in text: *however… for example… as a result…*
2. Reviews: Clauses (sometimes abbreviated), which contain an explicit indicator that an earlier stage of the text is being repeated or summarised. *So far we have assumed that the corporate tax is a proportional tax on economic income.*

3. Previews: Clauses (sometimes abbreviated), which contain an explicit indicator that a later stage of the text is being anticipated: *We show below that each of the initial owners will find this policy to be utility maximizing.*
4. Action markers: Indicators of discourse acts performed in the text: *The explanation is… to express this argument in notation… to illustrate the size of this distortion*…

The limitations of Mauranen's typology are that she only includes four subcategories, which allows for some overlapping, limiting her study's scope. She excludes the interpersonal MD and focuses only on textual MD, meaning that she does not study how writers present themselves in the text and interact with their readers, only how they organise their text for the reader. Lastly, Mauranen's (1993) model could confuse analysts as it can be divided into very broad subcategories, such as connectives, which can be further divided into code glosses (e.g., *namely, for example)* and frame markers (e.g., *finally, my purpose here is*).

In these parallel terms to MD, and in Section 2.2 above 'Definition of Metadiscourse', the relationship that different scholars associate between their models and 'rhetoric' is recognised. Therefore, in the next section, the relationship between MD and rhetoric will be more fully explored.

2.6 Rhetoric

Metadiscourse and rhetoric cannot be separated from one another as they both include linguistic choices, promote successful communication and acknowledge the importance of the readers or listeners. Therefore, the next section will begin with a background to classical, modern, and contrastive rhetoric, and end by discussing the relationship between MD and rhetoric.

2.6.1 Classical Rhetoric

Classical rhetoric is mainly influenced by Aristotle's *Rhetoric* which is viewed as one of the most valuable works of ancient times, as it brought into creation a theory of oratory (Hyland 2005a, p. 64). Aristotle's work focuses on public speaking by orators and their attempts to persuade audiences by creating an effective argument (Connor 1996, p. 64), however it also established methods by which writers could persuade readers in their texts (Hyland 2005a, p. 64). According to Aristotle (as cited in Khabbazi Oskouei 2011, pp. 29–30), persuasion needs to account for the three parts

of communication, which are the speaker, the listener, and the language. More importantly, Aristotle suggested that for an effective and successful argument, the speaker needs to pay attention to three elements of argument: the source of persuasion, the language, and the structure. The source of persuasion includes three major components:

1. Ethos: the personal character/appeal of the sender.
2. Pathos: appeals to engage the receiver's emotions.
3. Logos: appeals to reasons to prove the speaker's case.

The language is the words, sentences and themes selected appropriately to support the argument. The structure organises the different types of the argument (Barnes 1984, p. 2155), including:

1. introduction, in which the subject is stated,
2. argument and counterargument, containing judgements, and
3. epilogue, the summary of argument.

Furthermore, according to Plett (1985, p. 60) classical rhetoric has five stages of producing a speech:

1. invention, which signals finding an argumentative matter,
2. disposition, which is the structure of the argument,
3. style, the verbal adornment of the argument,
4. memory, i.e. memorising the verbally adorned and structured texts, and
5. action and pronunciation, which could include facial expression.

In Plett's view, each of these parts contribute to 'successive stages in the production of the text' (1985, p. 60), and they all constitute the competence of the orator's rhetoric.

It can be seen from this brief discussion that classical rhetoric focuses on the audience, acknowledging their importance and presence in the production of texts. Another important centre of attention is on the persuasion of the audience. Lastly, it concentrates on the production of texts/speeches, classifies it into stages, and has rules for an effective and successful argument.

An observation from this section is that classical rhetoric considers the audience as passive participants and that the communication is just from one side, which is the speaker or orator. The speaker's goal was to convince the audience and influence them by constructing an effective argument using rhetorical techniques, such as appropriate metaphors, facial expression, and structure of argument. Most importantly, classical rhetoric has an assumption that the audience are lacking in knowledge and unable to follow long arguments (Perelman 1982, p. 5). This assumption is not apparent, however, in modern rhetoric. Unlike classical rhetoric, modern or contemporary rhetoric is concerned with discourse that is directed to any type of audience, whether that be people assembled in a town square, a formal meeting of specialists, or even all mankind (Perelman 1982, p. 5). More discussion on modern rhetoric will follow in the next section.

In relation to MD and rhetoric, Hyland (2005, p. 65) stated that the elements of argument suggested by Aristotle are fundamental in nearly all writing textbooks and instructions. He claimed that they are the bases of making a claim and careful choice of language forms. Hyland (2005, p. 65) also said that:

> All three of these characteristics are equally important, although some may become more important in different situations. Relating these means of persuasion to metadiscourse, we can see metadiscourse projecting the rational appeals of *Logos* when it explicitly links elements of the argument; it conveys an *Ethos* where it refers to the writer's authority and competence; and it relates to *Pathos* when it signals respect for the readers' viewpoint or that the message has direct relevance to the audience.

Therefore, MD is strongly related to rhetoric, and it uses its techniques to convince the reader by *logos* when it connects the arguments and arrange them in a way that is more appealing to reader. By *ethos,* the writer signals their presence in their text and establishes their creditability with the readers. Lastly by *pathos* where the writer acknowledges their audience and respect their ideas and stance by showing no bias and blind certainty.

Further, MD and classical rhetoric are both concerned with textual organization (for example, *logos* in rhetoric and connectives in MD) and interpersonal relation (*ethos* and *pathos* in rhetoric and hedges and boosters in MD), as they both recognise the

audience and are concerned with effective communication. However, classical rhetoric deals with the audience as passive participants, while MD is based on sharing knowledge and interacting with the audience.

2.6.2 Modern Rhetoric

There is no doubt that modern rhetoric is based on and greatly influenced by classical rhetoric. However, modern rhetoric is different from classical rhetoric, and it has more flexibility. Plett (1985, p. 59) identifies four differences between modern and classical rhetoric. Those differences are as follows:

1. Modern rhetoric is reader and listener based.
2. It is generative, which means it aims at understanding rhetorical phenomena.
3. It uses logical coherence and
4. It is more practical than classical rhetoric i.e., it is not just conclusive in theory but also in practice.

According to Young et al. (1970, p. xxi) modern rhetoric is mainly concerned with the choices that the writer makes from the pre-writing stage of the argument, through decisions made for different audiences, to the final stage of the writing. In this context, Purves (1988, p. 9) defines modern rhetoric as the choice of language that influences an audience. He argued that these choices of language are different from choices defined by grammar or structure. In this definition, Purves is referring to the propositional content and MD as in examples (2) and (3) above.

Plett's (1985, p. 60) discussion moves from the five stages of producing a rhetorical and successful argument in classical rhetoric texts or speeches into five competences in modern rhetoric, namely argumentative, structural, stylistic, mnemonic and medial. These competences are similar to those in the classical rhetoric, however, modern rhetoric is greatly focused on the interaction between the orator/writer and their audience, who should be considered when composing a text or a speech. Additionally, as mentioned earlier, modern rhetoric is practical so it can be more easily applied to written and spoken languages (Plett 1985, p. 60). More examples of this practicality of modern rhetoric can be witnessed in the models of MD and argumentation that have been designed to study writing such as Toulmin

(1958) and Perelman (1982) where the features of modern rhetoric e.g., the knowledge of the audience influenced the interaction with readers in such models.

2.6.3 Contrastive Rhetoric

Another type of rhetoric that is influenced by classical rhetoric is contrastive rhetoric, a term that was coined nearly 45 years ago by Kaplan (1987). Kaplan realised that the writing of English as a Foreign Language (EFL) students is not as successful as writing by native English speakers, especially in establishing an interaction with the reader, as cultural and linguistic traditions influence students' ways of writing. Therefore, the main purpose of contrastive rhetoric is in understanding that language and writing are cultural elements, leading to rhetorical conventions in different languages (see Connor 1996, p. 60). In contrastive rhetoric studies, therefore, discourse, rhetoric structure conventions and cultural dimensions are all important. Contrastive rhetoric emphasises some features that different cultures prefer in written discourse and is thus proven to be a useful way to reveal specific aspects of writing (Noorian and Biria 2017). If learned, these conventions will help EFL students be successful writers in the target language, as suggested by Kaplan (1987).

Connor (1996, p. 70) stated that there are two main aspect of rhetoric studies:

> (1) studies that investigate various kinds of text, for instance, narrative or persuasive essay, and (2) studies that look at the presence of a reader, for example, reader-responsible cultural prose versus writer-responsible.

An example of the second aspect is the difference between the English language and Arabic: in Arabic it is the reader's responsibility to find their way in the text and understand its meaning, while in English it is seen as the writer's job to clarify and simplify things for the reader (Sultan 2011, p. 38). In order to demonstrate this further, the present study will focus on a comparison in the employment of MD in English academic writing between Saudi Arabian students and UK L1 English students, as they come from two different cultures and speak two different languages.

The connection between rhetoric and MD can be seen in the sections above. However, the relevance of this connection to the current study will be clarified further in the following section.

2.7 Metadiscourse and Rhetoric

There is a strong relationship between rhetoric and MD as both terms share some important aspects. The two concepts are both concerned with creating effective communication and argument. MD and modern rhetoric in particular both centre on the audience and focus on making a two-way communication. Therefore, MD markers are used as rhetorical devices and writers use them to signal their introductions, explanation, evaluation, organisation, conclusion, etc. Nash (1992, p. 100) comments that the writer must make use of these methods to establish a resounding relationship with the audience: the writer may need to negotiate and express their line of thought; using 'I' and 'you' to establish 'we'.

Another essential similarity between MD and rhetoric is in the fact that some rhetoricians divided the classification of oratory into 'taxis' and 'lexis' (Nash 1992, p. 100). Taxis is defined as 'the structure of the argument or speech and the order of the argument', for example *first* and *in conclusion*, and lexis as 'the style and manner of the piece of speech or text that is adjusted by the orator's perception of his or her audience and the formality of the topic' (Nash 1992, p. 100). Nash (1992, pp. 100–101) calls these categories tactical MD and lexical MD and Hyland (2005a, p. 48) calls them interactive and interactional MD.

If we look at MD, then we can see that these categories of taxis and lexis are very similar to what MD researchers call textual and interpersonal elements (Vande Kopple 1985; Williams 1981) and they define them in a very similar way. For example, textual elements refer to the organization of the text to guide the reader (taxis), and interpersonal elements indicate the interaction with audience (lexis). The notion of MD possessing a rhetorical function is strongly supported by many studies, such as Vande Kopple (1985) Crismore and Fransworth (1989), Fa-gen (2012) and Toumi (2012).

From this discussion, MD can be considered a form of rhetorical devices, and, as indicated through contrastive rhetoric studies, it varies from language to language and from culture to culture. Therefore, rhetoric is an important field for cross cultural studies. The present study can be considered as having a contrastive rhetoric element as it involves speakers of different languages (native speakers of English and EFL Saudi students) and cultural variables (Saudi and UK).

Having identifying MD, knowing how it is different from some parallel terms, distinguishing it from propositional content, and considering its relation to rhetoric, it is time to discuss how it is studied and analysed. In the following section, the main models of MD will be introduced and criticised.

2.8 Main Models of Metadiscourse

Since the coinage of the term many years ago, many models that analyse and study MD have surfaced. Most of the models classify the linguistic units under two main functional headings: textual and interpersonal. The textual is concerned with the text organization whereas the interpersonal is concerned with the stance of the writer towards both his text and his reader (Dafouz-Milne, 2008, p. 97). However, the models of MD differ in many ways, from overlapping categories to including or excluding different subcategories. In this section, the main models of MD will be discussed: Vande Kopple (1985), Crismore et al. (1993) and Hyland (1998c; 2005a).

2.8.1 Vande Kopple (1985)

Vande Kopple's model appears to be very popular in the research of MD. It triggered lots of practical studies and gave rise to new taxonomies such as Crismore et al. (1993), and Cheng and Steffensen (1996) (Amiryousefi and Rasekh 2010, p. 161). Vande Kopple's model was one of the first to explicitly organise and categorise MD markers. The two main types of MD marker, interpersonal (IMD) and textual (TMD), are classified into seven further kinds of MD as shown in Table 2.1 below. This classification is influenced by Halliday's (1973) metafunctions of language (introduced in Section 2.3.1 above). The seven categories of Vande Kopple's model are also influenced by Lautamatti's topical and non-topical classification (1978) and Williams's studies (1981). Because this model introduced the first classification of MD subcategories, many later MD models maintained its main categories and some of the subcategories, such as Crismore et al. (1993). Being kept as the basis for later models proves that Vande Kopple's model is robust and well established despite some criticism against it, which will be covered later in this subsection.

As shown in Table 2.1 below, the first main category is 'connectives', which according to Vande Kopple (1985, p. 83) are devices that guide the readers and help them create a suitable representation in memory. Connectives have three subcategories, and they are similar to what other typologies refer to as 'textual' MD (e.g., Crismore et al. 1993). The first subcategory is 'sequencers', which indicate

sequence, reasonable relations, or order such as; *first, however, at the same time*. The second subcategory of connectives is 'reminders', in which the reader is reminded of what has been mentioned, as in, *I noted in Chapter one*. They also announce what is to come, such as *what I wish to do now.* In the latter function, it seems that the author is not reminding the reader, rather reminding themselves of the direction of their argument (Lee 2009, p. 63). This subcategory of reminders is similar to what Crismore (1983) calls 'pre-plans' and 'post-plans', where 'post-plans' remind the reader of something that has happened in the text, while 'pre-plans' indicate to the reader what will happen next. The last subcategory in connectives is 'topicalisers' and they draw attention to specific parts of texts e.g., *in regard to,* and *as for*.

The second main category according to Vande Kopple (1985, p. 84), is 'code glosses'*.* They function to assist the readers in understanding the meaning of words, elements, concepts, etc., e.g., *in other words, x is*. Vande Kopple considered code glosses to be a unique category rather than a form of textual MD, even though the code gloss category has no subcategory and code glosses serve textual functions (Lee 2009, p. 64). Conversely, researchers like Lee (2009) see code glosses as one subcategory of textual elements of MD. This could be confusing to researchers and analysts, as it would be more applicable to consider all MD as either textual or interpersonal, rather than creating further main categories.

The third main category of MD is 'validity markers' and Vande Kopple (1985, p. 84) defines these as how we evaluate our propositional content and how committed we are to an evaluation of the written text. He further provides three subcategories, as shown in Table 2.1. The first one is 'hedges' (*may, perhaps*), 'which let us register necessary doubts' (Vande Kopple 1985, p. 84). The second subcategory is 'emphatics', which highlight what the writer would want the reader to believe for certain e.g., *clearly, undoubted*. The last subcategory is 'attributers', which help the writer by leading the audience to respect or evaluate the truth of the content e.g., *according to Einstein* (Vande Kopple 1985, p. 84).

The fourth main category is 'narrators', and they inform the writer about who said or wrote something; for example, *Wilson announced that* (Vande Kopple 1985, p. 84). It could be argued that attributors and narrators are both denoting to the information

sources mentioned by the writer, and they are one category in Hyland (2005), where they are called ‘evidentials’. Despite the similarities between these categories, Vande Kopple (1985) considers them different as he classifies narrators as a main category and attributors as a subcategory of validity markers. Lee (2009) also classifies narrators as subcategories of validity markers because they serve similar functions, and it is important to be as specific as possible, and do not have too many main separate categories.

TABLE 2.1 VANDE KOPPLE'S MODEL (1985, PP. 82–92)

Textual metadiscourse	
Text connectives	Used to help show how parts of a text are connected to one another. Includes sequencers (first, next, in the second place), reminders (as I mentioned in chapter 2), and topicalizers, which focus attention on the topic of a text segment (with regard to, in connection with).
Code glosses	Used to help readers to grasp the writer’s intended meaning. Based on the writer’s assessment of the reader’s knowledge, these devices reward, explain, define, or clarify the sense of a usage
Validity markers	Used to express the writer’s commitment to the probability of or truth of a statement. These include hedges (perhaps, might, may), emphatics (clearly, undoubtedly), and attributers which enhance a position by claiming the support of a credible other (according to Einstein)
Narrators	Used to inform readers of the source of the information presented- who said or wrote something (according to smith, the Prime minister announced that)
Interpersonal metadiscourse	
Illocutionary markers	Used to make explicit the discourse acts the writer is performing at certain points (to conclude, I hypothesize, to sum up, we predict)
Attitude markers	Used to express the writer’s attitudes to the propositional material he or she presents (unfortunately, interestingly, I wish that, how awful that).
Commentaries	Used to address readers directly, drawing them into an implicit dialogue by commenting on the reader’s probable mood or possible reaction to the text (you will certainly agree that, you might want the third chapter first).

Vande Kopple’s fifth main category is ‘illocutionary markers’, and these explicitly show the readers what the writer will perform in each point in the text; for example, *to sum up, I hypothesise that* (Vande Kopple 1985, p. 84). This category is obviously textual, however Vande Kopple sees it here as an interpersonal marker. Considering this category as interpersonal can misguide researchers and analysts and present a false interpretation of MD use. Accordingly, other researchers, such as Crismore et al. (1993), believe that it is incorrect classification to refer to ‘illocutionary markers’ as interpersonal, and amended it in their models.

The sixth main category in Vande Kopple’s (1985) model is ‘attitude markers’, and these express the writer’s attitudes towards their propositional content as in

surprisingly and *I find it interesting that* (Vande Kopple 1985, p. 85). In this, the writer is evaluating their own content. Attitude markers carry the same name in Hyland's (1998c; 2005) models, as well as in Crismore et al. (1993). Attitude markers are considered by Hyland and Crismore et al. as interpersonal as they explicitly inform the readers what the writers think about their content. However, this category is broad in Vande Kopple's model, and it is not limited to specific expressions or tokens as is the case with other models.

The last main category is 'commentaries', where writers directly address their readers. In this category, the writer can (a) comment on their views in relation to the content e.g., *most of you will oppose the idea that,* and (b) can suggest an action to be taken as in *you might wish to read the last Chapter first*. And lastly, the writer (c) can comment on a relationship with the readers e.g., *my friend* (Vande Kopple 1985, p. 85). This category is what Hyland (2005a) calls 'engagement markers'. In both Hyland's and Vande Kopple's models, commentaries serve an interpersonal function and are realised by similar markers, but they are named differently in each model.

2.8.1.2 Criticism of Vande Kopple's (1985) Model

Vande Kopple (1985) lists all the seven categories separately and then categorises the following as interpersonal MD: illocutionary markers, validity markers, narrators, attitude markers, and some parts of commentary. Vande Kopple's typology fits his definition of MD as a feature that does not 'add propositional material but help[s] our readers organise, classify, interpret, evaluate and react to such material' (1985, p. 83). The typology also shows the writer's presence and their attitudes towards the content. However, some researchers who adapted Vande Kopple's model such as Crismore et al. (1993), classify text connectives, code glosses, illocutionary markers and narrators as textual MD, and validity markers, attitude markers and commentary as interpersonal MD.

As mentioned above, the first weakness in Vande Kopple's work is that there are areas of overlap and vagueness between categories (Lee 2009, p. 66). For example, narrators and attributers could have been in one category as they have similar functions (see also Hyland 2005a 'evidentials'). The reason for Vande Kopple's distinction of these two categories could be because he sees attributers as enhancing the position of a writer's claim by mentioning some known or famous

scholars, while narrators simply mention the sources of information for the writer's claims. However, the distinction is not very clear. Similarly, reminders and illocutionary markers are grouped together as 'self-mentions' in Hyland (2005) and 'self-reference' in Lee (2009). Additionally, Vande Kopple's (1985) typology has another problem with attitude markers as this category is broad and many items can come under it due to its evaluative nature.

Another issue with this typology is that Vande Kopple (1985) considers illocutionary markers to denote acts in discourse and are therefore referred to as textual elements. However, they might also function as interpersonal elements. A typical example cited by Vande Kopple (1985) is '*we claim that'.* Here, the introduction of a pronoun when addressing the reader creates a kind of relationship between reader and writer, thus making it interpersonal.

In 2002, Vande Kopple revised his typology and tried to avoid the issues mentioned above. However, the typology is still vague; for example, Khabbazi Oskouei (2011, p. 72) argues that Vande Kopple's distinction between propositional content and MD is still unclear. The updated version of this typology also failed to distinguish between inclusive *we* and exclusive *we* in the commentary category (Khabbazi Oskouei 2011, pp. 72–73). The former includes the audience, and the latter does not. Due to these weaknesses in Vande Kopple's typology, it will not be the MD model used in this study.

2.8.2 Crismore et al.'s (1993) Model

Another model that is based on Vande Kopple's (1985) model is Crismore et al. (1993). This model is widely used in MD analysis: it is seen as a better version of Vande Kopple's typology because it modified and adapted some categories and subcategories. For example, Crismore et al. added a new category of 'interpretive markers'. However, despite some modifications, the two major categories; textual metadiscourse (TMD) and interpersonal metadiscourse (IMD) were retained by Crismore et al. (1993) because they wanted to improve the model and make it more widely applicable.

As shown in Table 2.2, Crismore et al. (1993) divided the TMD into two main categories: textual markers and interpretive markers. They also added illocutionary markers and code glosses to the new category of interpretive markers, and

abandoned narrators. According to Crismore et al. (1993, p. 47), the textual markers are features that help the writer to organise the text and the interpretive markers 'help readers interpret and better understand the writer's meaning and writing strategies'. As for the IMD, Crismore et al. subdivided the attitude markers into hedges, certainty markers and attributors while keeping the attitude markers and commentary.

TABLE 2.2 CRISMORE ET AL.'S (1993, PP. 47–54) MD MODEL

Category	Functions	Examples
Textual metadiscourse		
1. Textual markers		
Logical connectives	Show connection between ideas	Therefore; so; in addition; and Sequencers
Sequencers	Indicate sequence /ordering of material	First; next; finally; 1,2,3
Reminders	Refer to earlier text material	As we saw in chapter one
Topicalizers	Indicate a shift in topic	Well, now we discuss …
2.Interpretive markers		
Code glosses	Explain text material	For example; that is
Illocution markers	Name the act performed	To conclude; in sum; I predict
Announcements	Announce upcoming material	In the next section
Interpersonal metadiscourse		
Hedges	Show uncertainty to the truth of assertion	Might; possible; likely
Certainty markers	Express full commitment to assertion	Certainly; know; shows
Attributers	Give source/support of information	Smith claims that …
Attitude markers	Display writer's affective values	I hope/agree; surprisingly
Commentary	Build relationship with reader	You may not agree that

2.8.2.1 Criticism of Crismore et al's (1993) Model

Crismore et al.'s (1993) model is an improvement on Vande Kopple's, but there are still some problems associated with it. Hyland (2005a, p. 33) criticises the lack of clarity created by dividing the TMD into two categories; this should not be necessary as TMD functions are an organizational element that 'contribute[s] to the coherence of the text and thereby assist[s] the reader in interpreting it'. Hyland (2005a. p. 34) also criticises this model as being in a state of confusion, wondering why Crismore et al. 'include the reminders, which refer to matter earlier in the texts, as a textual markers, while announcements, which look forward, as interpretive'?. These two

categories are combined into one in Hyland's work (2005a, p. 51), which he calls 'endophoric markers'. Another issue with this model is that it did not provide any original examples as Crismore et al. seem to depend on the ones already mentioned in Vande Kopple's (1985) model (Lee 2009, p. 62).

Moreover, like Vande Kopple's (1985) model, the problem of differentiating between propositional content and non-propositional content still exists. For instance, certainty markers and hedges both contain items which could be classified as propositional or non-propositional, and there is no clear way of distinguishing them and showing how they could function differently (Khabbazi Oskouei 2011, p. 74). Additionally, the commentary category is very broad, so the different functions of pronouns are not clear.

In conclusion, Crismore et al. (1993) is a model of MD that was mainly influenced by Vande Kopple (1985) and it is seen as an improvement on it. Crismore et al.'s (1993) definition is similar to Vande Kopple's and Hyland's, which support their models as they are in agreement in terms of most the categories. It kept the main categories of textual and interpersonal MD. Though the model is very similar to Vande Kopple's, it modified and adapted new categories like interpretive markers and dropped the category of narrators. However, Crismore et al.'s typology did not overcome the issues with Vande Kopple's model, especially in the distinction between MD and propositional content. Moreover, the model did not introduce any examples of the markers, which makes it difficult to apply. The categories in this model are as follows: textual, interpretive and interpersonal and the subcategories are logical connectives, code glosses, illocution markers, announcements, hedges, certainty markers, attributors, attitude markers, and commentary.

2.8.3 Hyland's (1998c) and (2005a) Models

Similar to the previously mentioned models, Hyland (1998c) classifies MD into two main types: textual and interpersonal. Hyland adapted his model (1998c) from Vande Kopple (1985) and Crismore et al. (1993). Hyland (1998c, pp. 442–43) defined textual elements as words that help to recover the author's intentions by creating chosen interpretations of the content. On the other hand, he defined interpersonal elements as devices that turn the reader to the writer's perception and towards the 'essentially interactional and evaluative' content of the text (Hyland 1998c, pp. 442–43). Hyland (1998c) modified previous models by dropping some

subcategories and renaming others to work in harmony with the goals of his study. For example, he included sequencers as a subcategory of frame markers, which were separate in earlier models. He also dropped narrators and attributors and replaced them with one category, named evidentials. In the TMD category, Hyland (1998c) included: logical connective, frame markers, endophoric markers, evidentials, and code glosses. Under the IMD category he included hedges, emphatics, attitude markers, relational markers, and finally person markers.

Hyland later produced an updated version (2005a) of his model, shown in Table 2.3 below, based on earlier models of MD, including his own models from 1998 and 2000. Hyland stated that his model was greatly influenced by Thompson and Thetela's conception (1995) of interactive and interactional elements. Interactive elements are how the writer signals the planning of the texts based on the readers' possible knowledge and understanding, and interactional are more personal elements that include the readers in the text's development (Hyland 2004; 2017). This distinction between interactive and interactional elements recognises both organizational and evaluative features (Hyland 2005a). Bearing this influence in mind, Hyland changed the names of the two main categories from textual to interactive, and interpersonal to interactional.

Hyland named his model interpersonal MD model, claiming that all MD is interpersonal because 'it takes account of the reader's knowledge, textual experiences and processing needs and that it provides writers with an armoury of rhetorical appeals to achieve this' (Hyland 2005a, p. 41). Therefore, all MD markers are embodying a relative interaction with the reader, which is important for successful communication. For example, the element evidentials (e.g., *according to Z*), which is elsewhere textual, is interactive for Hyland since it indicates interaction with a specific discourse community. For Hyland, the categories textual and interpersonal (based on Halliday's labels) are misleading and unhelpful (Toumi 2012, p. 23). Hyland (2005a, pp. 49–50) further describes interpersonal MD as:

> Essentially evaluating and engaging, expressing solidarity, anticipating objections and responding to an imagined dialogue with others. It reveals the extent to which the writer works to jointly construct the text with readers.

According to Hyland (2005a, p. 49), the interactive dimension is concerned with 'the writer's awareness of a participating audience' and helps the reader to understand the text. This happens because the writer is keeping the readers in mind and is aware of their needs, interests, probable knowledge, and rhetorical expectations. The interactive dimension shows to what extent the text is created with the awareness and presence of the audience (Hyland 2005a, p. 49), which is mainly influenced by modern rhetoric as introduced in Section 2.6.2. Hyland (2005a) divided the interactive dimension into five subcategories/resources: transition markers (logical connectives in his earlier model [1998c]), frame markers (previously discourse acts), endophoric markers, evidentials, and code glosses.

Transition markers, according to Hyland (2005a, p. 50), are devices that help the readers to understand connections between parts of an argument. This subcategory is divided into three further categories: addition, which adds items to the argument (e.g., *furthermore, moreover*); comparison, which signifies the argument as similar or different (*similarly, in contrast*); and finally, consequence*,* which informs the reader that a concluding thought will be coming (*thus, anyway*).

Frame markers are the second subcategory in Hyland's (2005a) model and are defined as devices that mark each stage of the text, making the text clear by identifying and shifting the arguments. Frame markers can be used to serve four functions:

1. to sequence or order some parts of the text or the argument. For example, *first, next, secondly,* etc.
2. to announce goals *(my purpose here is).*
3. to label the stages of the text, for example, *in sum* and *to summarise*.
4. to express topic shifts e.g., *well, let us return to* (Hyland 2005a, p. 51).

The third subcategory is endophoric markers. They refer to particular parts of the text (Halliday and Hasan 1976, p. 33) and function to help readers understand the 'writer's meaning' and arguments (Hyland 2005a, p. 51). This function is achieved by referring to something that has been mentioned or will be mentioned in the upcoming material as in *see figure 2, as noted above*. So, the readers will be directed to the writer's preferred interpretation (2005a, p. 51).

Evidentials are the fourth subcategory of the interactive resources. According to Hyland (2005a, p. 51), they indicate the source of information that supports the writer's arguments, for instance, *according to X, Z states*. In academic text, this subcategory is referring to as a 'community-based literature' (Hyland 2005a, p. 51). Additionally, evidentials help distinguish between which writer or source is behind a particular position. Evidentials clearly contribute to persuasive goals, but they need to be separated from a writer's own stance, which is of an interactional nature.

The last subcategory in this dimension is code glosses, which provide further information so that the readers will comprehend the intended meaning (Hyland 2005a, p. 52). They also indicate how authors predict the reader's knowledge by explaining specific statements that they assume the readers do not know; for example, this *is called*, *that is* etc. (Hyland 2005a, p. 52). Code glosses are also often used within parentheses. See Table 2.3 below for a breakdown of Hyland's interpersonal model of MD.

TABLE 2.3 HYLAND'S (2005A, P. 49) INTERPERSONAL MODEL OF METADISCOURSE

Category	**Function**	**Example**
Interactive	**Help to guide the reader through the text**	**Resources**
Transitions	Express relations between main clauses	In addition; but; thus; and
Frame markers	Refer to discourse acts, sequences and stages	Finally; to conclude; my purpose is
Endophoric markers	Refer to information in other parts of the text	Noted above; see figure; in section 2
Evidentials	Refer to information from other texts	According to X; Z states;
Code glosses	Elaborate propositional meaning	Namely; e.g.; such as; in other words
Interactional	**Involve the reader in the text**	**Resources**
Hedges	Withhold commitment and open dialogue	Might; perhaps; possible; about
Boosters	Emphasize certainty and close dialogue	In fact; definitely; it is clear that
Attitude markers	Express writer's attitude to proposition	Unfortunately; I agree; surprisingly
Self-mentions	Explicit reference to authors	I; we; my; me; our
Engagement markers	Explicitly build relationship with reader	Consider; note; you can see that

The second dimension of Hyland's model is interactional, which is concerned with 'the ways writers conduct interaction by intruding and commenting on their message'

(Hyland 2005a, p. 49). According to Hyland, writers use this dimension to actively involve and engage the readers within the text, and to allow the readers to interact with their views. This how the 'textual voice or the community-recognised personality' is expressed (Hyland 2005a, p. 49), and the allegiance with readers is achieved. The interactional dimension is divided into five subcategories/resources: hedges, boosters (emphatics in his earlier model), attitude markers, engagement markers (relational markers in the earlier model) and self-mentions (person markers in his earlier model).

Hedges are devices that indicate the writer's choice to acknowledge other standpoints and voices. They show that the writer's position is subjective, which allows information to be expressed as opinions not facts. It also means that the position is negotiable, and that standpoint can be changed over time. Some examples of hedges are *possible, perhaps*, and *might*. Hyland (2005a, p. 52) stated that hedges suggest a position is based on the reasoning of the writer rather than certain knowledge. Therefore, writers need to be cautious about the weight given to an assertion based on its reliability.

The second subcategory is boosters, which are the opposite of hedges. Boosters permit the writer to express the certainty of their position and reject other opposing views (Hyland 2005a, p. 53). By doing so, boosters highlight certainty and create a bond with the topic and audience, confronting opposition with one assured voice (Hyland 2000). Hyland (2005, p. 53) reported that the balance of hedges and boosters is important to show that writers are open to alternative voices, that they are committed to a position, and that they are respectful towards their readers. Typical examples of boosters are *clearly, obviously* and *demonstrate*.

The third subcategory is attitude markers, which express the writer's attitude towards their content. Writers use attitude markers to evaluate the relevance, value, and truth of the information (Hyland 2005a, p. 53). Additionally, attitude markers 'convey surprise, agreement, importance, obligation, frustration, and so on' (Hyland 2005a, p. 53). According to Hyland (2005a, p. 53), they can be expressed by comparatives, punctuations, subordination etc. but explicitly by attitude verbs (*prefer, agree*), adjectives (r*emarkable*) and adverbs (*hopefully*).

Self-mentions are the fourth subcategory in the interactional dimension. Hyland (2005a, p. 53) defines them as elements that signal the writer's presence explicitly. They are counted by the frequent use of 'first-person pronouns and possessive adjectives' (Hyland 2005a, p. 53). Some examples of self-mentions are *I, me*, *we*, and *our.* Moreover, Hyland (2001) argued that the absence or presence of self-mentions is a conscious decision taken by the writer to reduce subjectivity or to adopt a particular stance. In addition, writers reference their presence to show their voice regarding their arguments, community, and audience (Hyland 2005a, p. 53).

The last and final subcategory in Hyland's (2005a) interpersonal model is engagement markers. These address and engage the audience to include them in the interaction or to guide their attention. Hyland (2005a, p. 54) admits that it is sometimes difficult to differentiate between attitude markers and engagement markers, but he tries to facilitate that distinction by stating two purposes for engagement markers that focus on readers. The first purpose is to sufficiently include the readers and to create disciplinary solidarity. This can be done by directly addressing the reader, and through interjections (e.g., *you* inclusive *we, by the way, you may notice*). The second purpose is to position the reader using rhetorical devices, attracting them to certain arguments and anticipating opposition. This purpose additionally includes directing the readers to a preferable interpretation, and is achieved through questions, obligation modal verbs (*have to, should*), directives (*see, note*) and referencing shared knowledge (Hyland 2005a, p. 54).

2.8.3.1 Issues and Limitations of Hyland's (2005a) MD Model

Hyland's (2005a) model has been shown to be useful in analysing the use and distribution of MD in written discourse (Lee 2009), and it seems the most appropriate to use in this study. However, like the previous models of MD (e.g., Vande Kopple 1985; Crismore et al. 1993), Hyland's model, has some problems. First, the issue of distinguishing between propositional discourse and MD remains. Second, the overlaps between subcategories. For instance, according to Lee (2009, p. 88), the endophoric marker subcategory 'sequence' and frame markers (*in page x, in section x*) could be placed in one category as they refer to upcoming or already mentioned information. Additionally, Lee (2009, p. 103) stated that the model is very functionally diverse, so it includes many items in each subcategory; for example, frame markers include four elements that function differently. However, in order to be precise in

describing MD subcategories and their functions, these further elements in each subcategory are needed. Therefore, Lee's (2009) criticism in this regard may not be accurate.

Another problem with this model is that it has some broad subcategories that could be difficult to identify (see Adel and Mauranen 2010, p. 3). For example, attitude markers. In Hyland's (2005a) definition any verbal, adjectival or adverbial clauses can be functioning as MD in this category. Thus, attitude markers are too vague and difficult to distinguish from propositional content. Additionally, the subcategories of boosters and hedges are very broad, and they can include too many expressions. To overcome this issue, it is advised to have a predetermined list of MD markers and to be consistent in applying it. Paying close attention to the use of MD markers in the text will also help overcome this problem.

Hyland (2005a, pp. 58–59) admits that his model, as with most of MD models, are inductive and not comprehensive regarding the analysis of MD studies. This means that the model will present part of the actual use of MD and not the complete picture. He reported that MD can be confused not only with propositional content but also within the categories themselves. For example, *but* and *however,* which function interactively, can also function to shift from one judgement to another (and therefore, function as an interactional element). Also, this model as emphasised by Hyland (2005a, p. 48) 'is based on a functional approach which regards MD as the ways writers refer to the text, the writer or the reader'. Therefore, it only focuses on the communicative functions of MD, disregarding its syntactical functions.

However, despite all these shortcomings, Hyland's model is widely applied in many studies as it encompasses the two main aspects of MD: the distinction between propositional content and MD, and the inclusion of both textual and interpersonal elements (Cao and Hu 2014; Alshahrani 2015; Estaji and Vafaeimehr 2015; Alotabi 2016 Farahani and Sbetifard 2017). It is also a model that is specifically designed and created to analyse the use of MD markers in academic writing (Hyland 2005a), and therefore is suitable for this study.

2.9 Applied Research on Metadiscourse in Writing

Metadiscourse use and patterns in writing are shaped by the context in which they occur and are strongly connected to the expectations and norms of specific cultural

and professional communities (Hyland 1998c, p. 438). Therefore, MD use is influenced by the variations in different cultures and languages (Mauranen 1993), genres (introduced below in 2.2.1) (Mauranen 1993; Lee 2009), disciplines (Hyland 2005a), and institutional contexts (Alshahrani 2015), as will be elaborated in this section. Amiryousefi and Rasekh (2010, pp. 161–162) explicitly listed these aforementioned factors as the most influential on MD use and distribution. MD is used to assist in the understanding of how different people use language to orient and construe different communicative settings (Noorian and Biria 2017). More importantly, exploring MD across genre, disciplines, and cultures, will help us understand better how MD use is influenced by these factors, and thus control them carefully when collecting the data for this research.

Examples of different genres that have been researched are newspapers (Kuhi and Mojood 2014; Wang and Zhang 2016), research articles (Mauranen 1993; Hyland 2005b), textbooks (Hyland 2000; Kuhi and Behnam 2010), advertisements (Fuertes-Olivera et al 2001), conversations (Schiffrin, 1980), and essays (Adel 2006). However, only a few MD studies (see for example Alshahrani 2015) have examined dissertations as a genre, and so dissertations will be further explored in later sections. Additionally, some studies investigated different disciplines in one genre e.g., Al-Zubeiry (2019) and Hyland (2005b) and some looked at culture and language (native and non-native) in one genre e.g., Mauranen (1993), Adel (2006), and Alotaibi (2015). Very few studies have looked at institutional contexts in one genre e.g., Burneikaite (2008). Institutional context, according to Lee and Casal (2014, p. 50) is where texts are produced and consumed, which in the case of this study will be UK universities.

In what follows, we will first consider how MD is used in different genres, with a particular focus on academic writing sub-genres (e.g., journal articles, essays). Then, cross-disciplinary and cross-cultural/linguistic differences are addressed, including differences in soft and hard science, and native and non-native language use. The section will conclude by introducing MD research on Saudi students as the main participants of this research.

2.9.1 Metadiscourse across Genres

MD has a contextual specificity that is apparent in the ways MD markers are distributed in various genres to help the readers and the writers to interact. MD is a social act because it presents the social purpose of the writer, both in interacting with the reader (Kress 1989, p. 10) and in interacting with the subject matter or genre (Alotaibi 2005, p. 703). In this sense, Koutsantoni (2006, p. 24) asserts that researchers change their use of MD to be in control of their argument according to their relationship with the genre audience (e.g., marker or examiners). Hence, MD uses will vary from one genre to another based on different factors, namely (1) the audience, (2) the purpose of the text, and finally (3) the social context (Hyland 2005a, p. 87). According to Amiryousefi and Rasekh (2010, p. 161), texts can be classified as one genre or another based on their key reoccurring linguistic or rhetorical features, including MD.

Before exploring some of the research on MD in different genres, it is important to briefly define genre itself. Genre, according to Hyland (2005a, p.87), is a grouping of texts that symbolise how writers usually use language to react to specific, repeated circumstance. In this sense, Miller (1984, p. 159) defines genre as 'typified rhetorical actions based in recurrent situations'. The basic notion of genre is that it is a form of social action (Martin 1985), as individuals from a particular community will be able to understand the similarities in the discourse they use, which gives them an advantage in both writing and understanding texts (Swales 1990, p. 63). The main justification for this is that writing is a practice that is based on writers anticipating the expectations of the reader (Hyland 2005a, p. 87). According to Hyland (2005a, p. 87), such predictions are based on texts of the same type that the writers have read. He further comments that specific choices are familiar in certain contexts and through recurrent use of these choices, they conventionalise certain forms by which communities are created and ideas exchanged. Therefore, every successful text will not only show its writer's awareness of its context but also the writer's awareness of the reader, who is a part of that context (Swales 1990, p. 62).

One genre that has been investigated globally, in different contexts and by culturally different writers is the newspaper genre. Although newspapers are not academic writing, it can be seen as similar to academic work as they both use persuasion to

convince their readers (Dafouz- Milne 2008). In the following section I will briefly explore some studies on the newspaper genre, which may be of assistance to this study, as the participants of this study also come from different cultural backgrounds and speak different languages. Finally, by comparing newspapers with academic writing, we analyse how MD is used across different genres and which specific MD employments are used as part of a genre's conventions.

2.9.1.1 Newspapers

Various sub-genres can fall within newspaper genre such as headlines, news reports, sport reports, and editorials. These sub-genres have been studied in terms of their use of MD markers to investigate the effects of cultural influence and generic conventions (Kuhi and Mojood 2014; Wang and Zhang 2016). For example, Kuhi and Mojood (2014), who compared English and Persian newspaper writers, reported that the English use significantly more MD than their Persian counterparts and attributed this difference to the influence of L1 culture on the use of MD (Kuhi and Mojood 2014, p. 1050).

Within MD subcategories, newspapers favour transitions in the interactive MD and attitude markers in the interactional MD (Kuhi and Mojood 2014, p. 1050; Wang and Zhang 2016, p. 82), and use few evidentials and code glosses. Both Kuhi and Mojood (2014) and Wang and Zhang (2016) indicate that attitude markers are expected to make up a huge portion of MD because the newspaper genre is argumentative and persuasive, and attitude markers are used to convey the writer's attitudes and convince their reader of their stance on the propositional content (Kuhi and Mojood 2014, p. 1052). Thus, the writers of newspapers give more attention to interactional subcategories by interacting with their readers, anticipating their needs to gain their approval and show solidarity.

Even though they are investigating a different genre from the one used for this present research, the studies above can be used to develop informed conclusions on the differences in the use of MD, for example when evaluating Saudi learners. More importantly, they portrayed cultural differences amongst writers from different cultures and L1 languages, which highly influenced their employment of MD. Therefore, it can be assumed that the participants in this present study might also be influenced by their culture and native language as is shown in the following section on academic writing.

2.9.1.2 Academic Writing Sub-Genre: Research Articles, Essays, Dissertations

Since each genre is different, there are MD differences between newspapers and academic writing (Lee 2009). Academic writing employs more interactive markers than interactional in general, as academic writing gives more attention to the organization of the text than engaging with readers or anticipating their objections (Alshahrani 2015; Zakaria and Malik 2018). Hyland (2005a), in his study on academic writing, reported that students used frequent interactive markers, and also stated that hedges and evidentials are the most dominant subcategories. This suggests that academic writing is concerned with presenting claims carefully and providing evidence for those claims in order to convince the readers. Unlike newspapers, attitude markers are among the least used subcategories in academic writing (Lee 2009, p. 172; Abdual Ameer et al. 2018, p. 356) indicating that students do not use emotional engagement as frequently to win their audience.

Academic writing is one of the major registers in the English language (Biber et al. 1999) and many sub-genres can fall under it e.g., research article, essays, and dissertations. These sub-genres, even though they are under one category (academic writing), are expected to use MD quite differently. For instance, research articles are believed to be written by experts, and essays and dissertations are commonly written by students i.e., novice writers (Lee 2009). A quick comparison between the sub-genres and how MD is used within them will be discussed briefly below. However, a special focus will be given to dissertations as it is the genre that this research is investigating.

2.9.1.2.1 Sub-Genres

Research articles (RA), dissertations and essays concentrate more on interactive markers, in line with specific MD features of academic writing (Zakaria and Malik 2018; Al-Zubeiry 2019 Alharbi 2021). The sub-genres in these studies show similarities in the use of MD subcategories, as transitions (e.g., *additionally*) were the most frequent interactive subcategory across all sub-genres. In RAs and essays, the second most used MD subcategory is frame markers (Al-Zubeiry 2019; Alharbi 2021), while in dissertations, it is evidentials (Hyland 2005a). The sub-genres also differed in code glosses and endophoric markers, as dissertations employed these two subcategories more frequently than essays and RAs (see Al-Zubeiry 2019; Alharbi 2021). This is mainly attributed to the length of the texts, as endophoric

markers particularly function to connect different sections of texts together, refer to what has been said and indicate what will be said in different sections (Alharbi 2021, p. 50).

As the purpose of the texts and the audience influence the genre (see 2.9.1), the sub-genres of academic writing (RAs, dissertations, and essays) differed in their use of interactional MD subcategories. For example, attitude markers, self-mentions, and boosters are less frequent in RAs compared to dissertations and essays (Zakaria and Malik 2018; Al-Zubeiry 2019; Alharbi 2021), which could be related to how more experienced writers/researchers present their claims and findings such as that they avoid the use of self-mentions to minimise subjectivity. The sub-genres, however, all favour the use of hedges, which is again a feature of academic writing used to negotiate meaning, so that a writer's claims can be considered by sceptical examiners (in the case of dissertations and essays) or sceptical colleagues (for RAs) (for more details see Hyland 2005a; Zakaria and Malik 2018; Al-Zubeiry 2019; Alharbi 2021).

This is a quick comparison that is based on the studies reported so far, however what can be noticed is that each genre is different (e.g., newspapers and academic writing), and there will be differences even within a main genre (as seen in the comparison among RAs, dissertations, and essays). This shows that this research's genre of dissertations, which is further explored below, is likely to be different in its use of MD.

2.9.1.2.2 Dissertations

Dissertations are an essential part of almost any postgraduate degree in any discipline. This importance carries with it a concern for students as they strive to show their competence in doing original research, presenting knowledge of research fields, and creating high-quality writing to satisfy the requirements of their departmental, institutional, and field communities (Lee and Casal 2014, p. 2; Alshahrani 2015, p. 1535). Due to their different purposes, reader expectations and rhetorical structure, dissertations are distinct from other sub-genres of academic writing (Burneikaite 2008; Alshahrani 2015). Dissertations are considered 'the longest and most challenging piece of assessed writing' (Thompson 2013, p. 284). Yet, not enough attention has been given to this important genre of dissertations in MD field. Dissertations have been investigated by few studies such as Hyland

(2005a), Burneikaite (2008), and Alshahrani (2015). However, only Hyland and Burneikaite looked at both interactive and interactional MD, whereas Alshahrni just studied the interactive dimension. This gives significance to this research as it looks at both dimensions.

Hyland (2005a) looked at MD use in Chinese students' doctoral and masters' dissertations written in English in different disciplines and reported that the students used significantly more interactive MD than interactional. Within the subcategories, hedges, transitions, and evidentials were the most frequent MD, respectively. Similarly, Burneikaite (2008), who studied MD in English and Lithuanian students' dissertations written in English, reported that interactive resources are more used than interactional recourses. However, Burneikaite (2008) portrayed different results from the ones found in Hyland (2005a) regarding the distribution of the markers and the most frequent markers. The most frequent markers in Hyland's (2005a) study are hedges, while in Burneikaite's (2008) these are transitions. Also, within the interactive dimension, endophoric markers are the second most used in Burneikaite's (2008), whereas they are the least used ones in Hyland (2005a). Finally, Alshahrani (2015), who investigated interactional MD in doctoral dissertations by native English and Arab students reported the same results as Hyland (2005a) and Burneikaite (2008) in relation to the high use of interactive over interactional MD. Alshahran's study was in line with Hyland and Burneikaite in reporting that transitions were the most frequent interactive MD, however his study is different in the use of code glosses, which were used less frequently in his study than in Hyland's.

A pattern can be seen here in terms of the overall use of MD in dissertations based on these studies. First, interactive MD is more common than interactional MD. Second, within MD subcategories, hedges are the most used in interactional MD, and transitions in interactive MD. Thirdly, the least used subcategories are engagement markers in interactional MD and endophoric markers in the interactive MD (apart from Burneikaite 2008).

Burneikaite (2008) and Alshahrani (2015) also reported some differences in the use of MD subcategories among the writers from different L1s and cultures. For example, in Burneikaite (2008), Lithuanian students used more boosters than their

English counterparts, and in Alshahrani (2015), Arabs used significantly fewer evidentials than native speakers of English. These differences are attributed to the writers' cultures (Arabic and Lithuanian) and institutional contexts (Arab universities and Lithuanian universities) (Burneikaite 2008; Alshahrani 2015). The comparisons are important as they can show the differences in the use of MD markers among L2 writers and between L2 writers and L1 native speakers of English (see Section 2.9.2.2 on Cross-Cultural/Linguistic Differences). Moreover, by reviewing and comparing these studies, we can see that it is difficult to generalise findings, although Burneikaite (2008) claims that the frequency of MD in her study is the typical and optimal use of MD. The findings of these studies suggest that it is difficult to make speculations about the typical use of MD in specific genres, although we can give an overview or a general idea of the use and frequency of MD.

It could be argued that the differences between the writers investigated in these studies are due to the different requirements of students' university programmes i.e., institutional, or educational context (Burneikaite 2008; Alshahrani 2015). They could also be due to the length and the level of study, as some of the corpora included MAs as well as PhDs. However, none of these studies reported on the student's level of proficiency or what the similarities and differences are between the admission and the dissertation requirements. Knowledge of proficiency and requirements could affect the MD use and inform us if the corpora are comparable, in order to facilitate a fair comparison. All of which have been taken into consideration in our current study to bridge the gap in the literature and to inform confidently about the investigated data sets.

Having reviewed how MD and its subcategories are impacted by specific genres and how this research will account for genre differences by focusing on one genre to control the comparison, it would be appropriate to review other factors that also could have some influence on MD use: disciplines and cultural backgrounds. These two factors will be introduced in the following sections.

2.9.2 Cross-Disciplinary and Cross-Cultural Differences

As it is mentioned in the beginning of this chapter, MD use is affected and influenced by different disciplines[3] and cultures and this has been investigated in many of the studies covered in this section (Maruanan 1993; Hyland and Tse 2004; Burneikaite 2008; Alshahrani 2015). Culture is a difficult word to define and there is no single agreed definition (Amiryousefi and Rasekh 2010, p. 161), but it can be considered a way of life and shared patterns that characterise certain group of people and distinguish them from other people or nations (Lee 2009, p. 15). According to Lee (2009) and the *Longman Dictionary of Applied Linguistics*, language is an important component of culture, together with other components e.g., beliefs, values, and behaviour. This relation between culture and language is explained by Brown (1994, p. 165), who states that both culture and language are 'intricately interwoven so that one cannot separate the two without losing the significance of either language or culture'. Therefore, this current research used the term cultural background to refer to both culture and language.

Before exploring studies related to these differences, it is important to know first what the motivation behind such studies could be, as introduced in the following sub-section.

2.9.2.1 Cross-Disciplinary and Cross-Cultural Studies' Motivations

Disciplinary practices and culture highly affect the employment of MD in writing by people from different disciplines (Hyland 2005a; Burneikaite 2008). Hyland (2005a, p. 57), for example, states that MD is associated with disciplines, and it changes significantly from one discipline to another (see Section 2.9.2.2 for more details) (also see Ifantidou 2005). Therefore, MD can be used to investigate academic writing in different disciplines and to compare them based on writers' rhetorical preferences.

As for cross-culture studies, one essential justification is that there is an interface between writing and culture. Mauranen (1993, p. 4) states that:

> Culture influences writing in an important way. This is because writing is a cultural object. The use of rhetoric is dependent on the writer's perception of

[3] By discipline in this study, we mean academic discipline (fields of study), hard and soft fields like humanities, engineering, chemistry and so on. For more on disciplines see Hyland and Tse (2004).

> persuasiveness in terms of form and content of presentation. The rhetorical choices and strategies available to a writer are limited by the value and belief systems prevailing in the linguistic and cultural community the text is written in. A writer's notions about what convincing prose or persuasive writing looks like is a product of socialisation into his or her native culture's way of perceiving written text.

Mauranen (1993) stresses that writing is highly influenced by native cultures of writers and that writers' rhetorical choices are based on what they think is appropriate and convincing within that culture. For example, in Mauranen's (1993) study, she found that Anglo-American writers have more interest in directing and guiding the reader, unlike Finnish students. In the same vein, Burneikaite (2008) states that native culture greatly impacted the rhetorical choices of her students, for example in the way that they overuse certainty markers (boosters) and underuse hedges (see Section 2.7 on MD and rhetoric). Other researchers claim that differences could also be attributed to different factors like the discipline, proficiency of the writers, their native language, and institutional/educational contexts (Alshahrani 2015; Noorian and Biria 2017; Al-Zubeiry 2019).

The influence of a speaker's native language and second language on their MD use has been investigated previously and research suggests that there is an impact in terms of the types and number of markers used (Mauranen 1993; Crismore et al 1993; Burneikaitė 2008; Sultan 2011). Indeed, this might be a reason why scholars of other studies embraced a comparative perspective. These comparisons motivated linguists to study the use and distributions of MD to explore how influential these differences in genres, disciplines, cultures, and languages are on the actual employments of MD in writing. Some examples of MD use in different disciplines (hard vs soft) and cultures are presented in the following subsections.

2.9.2.2 Differences between Soft and Hard Science

The concept of disciplinary community is important in understanding the use of MD as it reminds us that communication is situated in a social context, making it complementary to the concept of genre (Hyland and Tse 2004). Hyland (2005a, p. 138) states that these two concepts specify each other's domain as they both explain how meanings are socially constructed. The notion that is behind this disciplinary community is that language users do not use it to communicate with the

world at large but rather with individuals in specific communities who shares collective purposes and goals (Barton, 1994, p. 57). Becher (1989) describes these disciplinary communities as tribes, as each discipline has its own culture that define its norms and conventions. Therefore, readers and writers from each discipline begin to identify certain patterns by which they can make successful and convincing arguments. Such patterns do not only reflect different disciplines' social practices but also different fields of knowledge structure and modes of inquiry (Cao and Hu 2015).

Various disciplines employ MD differently based on their disciplinary communities. For example, Hyland and Tse (2004), who compared different disciplines' use of MD, indicated that the soft sciences (applied linguistics, public administration, and business studies) used more MD than the hard sciences (computer science, electronic engineering, and biology), and almost two thirds more interactional markers. They also reported that applied linguistics, and public administration contained the highest proportion of MD, whereas the fewest markers were used by electronic engineering. Similar results are also reported by Zarei and Mansouri (2011), who stated that humanities use significantly more MD in general, and specifically more interactional MD, than non-humanities.

Regarding subcategories, Hyland and Tse (2004) found that the soft sciences used twice as many hedges as well as four times as many self-mentions as the hard sciences. Similarly, in Zarei and Mansouri (2011), hedges and self-mentions are used more significantly by humanities than non-humanities. Soft sciences also used more attitude markers and engagement markers than hard sciences. However, in the hard sciences, the focus was more on interactive markers, and transitions were the most frequent subcategory.

Applied linguistics (which is the focus of this research) as a discipline differed from other disciplines in both Hyland and Tse (2004) and Zarei and Mansouri (2011). Applied linguistics as a distinct discipline favours the use of hedges and transitions as the most frequent subcategories, followed by evidentials, and self-mentions. On the other hand, it uses fewer attitudes and frame markers than other disciplines. Nevertheless, applied linguistics, in line with academic writing in general focuses on interactive MD in order to present arguments clearly and coherently, while being

cautious about the degree of confidence expressed. Additionally, arguments are usually backed up with evidence from the literature to make the arguments more appealing and trustworthy and finally, claiming authority and authorial identity is often present in applied linguistics with the frequent use of explicit self-mentions.

What is also worth mentioning in the further differences between soft and hard sciences is the importance of personal interpretations as claimed by Hyland and Tse (2004, pp. 172–174). In soft sciences, these are needed to present an authorial stance which helps their opinions to be seen as evidence. In the hard sciences, however, proof and evidence are presented as facts with less personal authorial claim. Hyland and Tse (2004) also emphasised that rhetorical strategies are inseparably associated with the various disciplines. Thus, writers from different disciplines represent and interact with their work and readers differently, for example, writers in the soft sciences involve and personalise positions more than their counterparts in the hard sciences.

So far, we have discussed MD across genre and across disciplines. The following section will explore MD similarities and differences between different cultures as the data of this research is obtained from students from different cultures (Saudi students vs UK L1 students).

2.9.2.3 Cross-Cultural Differences

It is essential to learn about the similarities and differences between different cultures in their use of MD to be able to understand their influence and their rhetorical preferences on MD use. Cultures, according to many researchers, are a key factor in shaping our background understanding and our use of MD (Mauranen 1993; Adel 2006; Burneikaite 2008). Culture ‘provide us with taken-for-granted ways of engaging with others’ (Amiryousefi and Rasekh 2010, p. 162). Thus, L1 cultures affect the ways we write and what we write. Different L1 cultures have different preferred patterns of organising text, engaging with readers, presenting arguments, and claiming authority (Crismore et al 1993; Mauranen 1993). For example, Hyland (2009, p. 7) summarises from different studies that in writing, native English speakers tend to:

- be more explicit about its structure and purposes;
- employ more, and more recent, citations;

- use fewer rhetorical questions;
- be generally less tolerant of asides or digressions;
- be more tentative and cautious in making claims;
- have stricter conventions for sub-sections and their titles;
- use more sentence connectors (such as therefore and however);
- place the responsibility for clarity and understanding on the writer rather than the reader.

Therefore, as native language greatly influences MD use, considerable literature has looked at L2 English writing by writers from different L1s, for example, Chinese (Hyland and Tse 2004), Finnish (Mauranen 1993; Adel 2006), Lithuanian (Burneikaite 2008), Turkish (Ozdemir and Longo 2014), and Persian (Kuhi and Mojood 2014; Noorian and Biria 2017). Very few studies have investigated Arabic (Alshahrani 2015; Al-Zubeiry 2019). Nearly all of the studies reported that non-native speakers (NNSs) use fewer MD markers than their English native speaker (NS) counterparts and writers in both groups differ significantly in using interactive and interactional MD regardless of their culture and the written genre e.g., newspapers, RAs, essays, or dissertations.

Specifically, in cross-cultural studies of MD in academic writing that investigated both interactive and interactional features, such as Burneikaite (2008) and Ozdemir and Longo (2014), it is reported that non-native speakers of English (NNSs) in general focus more on the text organization than their interaction and engagement with readers than native speakers of English (NSs). Within interactive MD, endophoric, frame markers and evidentials are least used in NNSs while they are more frequent in NSs. Within interactional MD, NSs use more hedges, self-mentions, and attitude markers than NNSs.

As Arabs are a distinct group, their use of MD in a general sense is similar to that of the NNSs reported above in terms of using fewer MD markers than NSs and focusing more on text organisation at the expenses of interaction and engaging with readers (Zakaria and Malik 2018; Al-Zubeiry 2019). The differences in MD are attributed to the cultural and linguistic background of the Arab learners. Therefore, to better understand the use of MD of the participants of this research, MD in Arabic is introduced in the next subsection.

2.9.2.3.1 Arabic Culture

It is important to review the use of MD in Arabic writing and its influence on MD when writing in English to understand the participants of this study as they come from an Arabic culture and speak Arabic as their L1. There are few studies that discuss Arabic or Arab students' use of MD, and those that exist mainly look at this topic from two contrastive perspectives. First, research investigated MD in Arabic writing vs English writing. Second, research investigated Arab students' writing in English vs writing by native speakers of English. This study follows the latter type.

One of the researchers that looked at Arabic writing and English writing MD is Sultan (2011), who compared discussion sections in Arabic and English written by speakers of Arabic and English. The results revealed that interactive resources are more frequently used than interactional ones in both corpora. Like other NNSs studies (e.g., Burneikaite 2008; Ozdemir and Longo 2014), within the interactive resources, the Arabic text used more transition markers and code glosses, whereas the English text used more frame markers, endophoric markers and evidentials respectively. Additionally, all the interactional resources were more apparent in the Arabic texts than in the English texts, except for self-mentions, which English writers used more significantly (Sultan 2011, p. 38).

The study concluded that, due to Arabic's high use of interactive resources, the Arabic writers focus more on textual aspects, and used considerably fewer self-mentions, unlike the English RAs, which seem to be more reader-responsible and more reader-involved (Sultan 2011). As such, according to Sultan (2011) Arabic writing favours more transitions to coherently present and connect texts, as well as hedges to present claims with caution and allow for alternative views. It also tells us that Arabic writing does not favour self-mentions nor endophoric markers as they were among the least used subcategories. However, a similar study on MD in introduction and conclusion of RAs written in Arabic and English by Alotaibi (2016) reports contradicting results. It shows that in all MD subcategories, Arabic writing used less MD in comparison to English. Therefore, the contradictions between these two studies could be due to the different sections of the RAs investigated. It also could be attributed to the two studies not normalising their varying corpus sizes. However, Alotaibi's study is smaller in size, and it could influence the reliability and the generalisability of its findings.

Other research specifically investigating Arabs' academic writing of dissertations in English is limited. Alshahrani (2015), for example, looked at interactive MD only in the discussion and conclusion sections of doctoral dissertations of Arabs and English NSs written in English. The study reveals significant differences between the two groups in the use of interactive markers, as the NSs used more interactive markers than Arabs. The NSs used more transitions, frame markers, and evidentials, while the Arabs used more code glosses and endophoric markers. Alshahrani concludes that native speakers of English used more evidentials to explain their arguments and justify their claims by connecting them with previous research. Another similar study that looked at abstracts in MA dissertations is Abdual Ameer et al. (2018). They reported very similar results, as the Arab writers use fewer transitions, frame markers, and evidentials and used more frame markers and code glosses. Within the interactional features, only hedges and boosters were used by the Arab writers (Abdual Ameer et al. 2018).

Alshahrani (2015) attributed the Arab students' use of MD to Arabic cultural interference and the institutional context. His study also suggested further research needs to be done in comparing Arab learners in different institutional contexts. Alshahrani also suggests that further studies should focus on comparing all chapters of dissertations, which will aid in understanding the distribution of MD more comprehensively. My study has taken both suggestions into consideration.

After reviewing these studies related to Arabic culture, it appears that when Arab writers write in English, they use less MD than NSs of English. This reflects similar studies on other groups of learners, such as Lithuanians (Burneikaite 2008) and Turkish (Ozdemir and Longo 2014). Moreover, the influence of Arabic culture/language is quite apparent in the fewer use of evidentials, endophoric markers, and self-mentions and the frequent use of transitions, code glosses, hedges, and boosters.

The studies reviewed in this section cannot fully be representative of MD in Arabs' writing in English, especially in the dissertation genre, for various reasons. Firstly, Sultan (2011) looked at a small corpus (less than 50,000) of MD in Arabic, not in English written by Arabs, and studied one section of RAs (discussion), which is a different genre. Second, Alshahrani (2015) and Abdul Ameer (2018) investigated

small data sets too; the latter only looked at abstracts and the former only looked at interactive MD in discussion and conclusion sections. Therefore, research on MD in dissertations by Arab writers in English is limited and this study will attempt to fill the research gap on this. Despite their limitations, these studies can inform us about the basic patterns of MD use and distribution in order to understand this research's participants as there is a notable pattern in terms of the most frequent categories and subcategories.

As can be seen from the above studies, each culture affects writing differently, and especially the use of MD. The studies covered in the following section are in different academic genre of writing, however, they can introduce us to some basic understanding of Saudi students' use of MD.

2.9.3 Research on Saudi Students' Use of Metadiscourse

Literature has little information on the use of MD by Saudi students in academic writing, as only a few studies have been conducted. For example, Alkhathlan (2019) investigated 50 research articles (23,870 words) written in English by Saudi students majoring in Translation and Interpretation at King Saud University as a part of their course requirements. The study reports significant differences in the frequency of interactive (8.961%) and interactional (5.320%) markers, with the total number of MD markers being 3409 (14.281%). The study also shows that transitions appeared most frequently from the interactive dimension, followed by hedges from the interactional dimension. Saudi students' second most used interactional subcategory is engagement markers, and second most used interactive subcategory is evidentials. On the other hand, the least used markers were endophorics, attitude markers and frame markers respectively. See Table 2.4 for all the other markers and their frequency.

TABLE 2.4 FREQUENCY OF MD IN ALKHATHLAN'S (2019, P. 223) STUDY

Interactive	**Marker Type**	**Frequency**	**Percent**
Transitions	And	1332	62.27%
Evidentials	Not reported	299	13.97%
Code glosses	Not reported	279	13.04%
Frame markers	Not reported	171	7.994%
Endophoric markers	Not reported	58	2.711%
Total		**2139**	**100%**
Interactional	**Marker Type**	**Frequency**	**Percent**
Hedges	Should	406	31.96%
Engagement	You	338	26.61%
Boosters	Know & in fact	251	19.76%
Self-mentions	We	178	14.01%
Attitude markers	Not reported	97	7.63%
Total		**1270**	**100%**

Saudi students used interactive elements more than interactional elements, which, according to Alkathlan (2019, p. 223) indicates that they focus more on the organization at the reader's expense. However, within text organization features, the students did not show evidence of ordering their arguments nor signaling the text's structure, instead focusing on backing up their claims and supporting them. On the other hand, within the interactional dimension, the students showed fewer attitudes and evaluation of their content and readers in their writing. Alkathlan (2019) mentioned that this use of MD by the students could be due to their limited knowledge of MD markers and that the student had not received instructions on how to use MD markers. Alkathlan (2019, p. 223) further states that the use of more interactive markers is related to the students' culture, which is reflected in their writing conventions and style in general.

It is concluded in Alkathlan (2019, p. 224) that Saudi students must be made aware of the importance of MD in order to improve their writing, and that they specifically need more training in the use of interactional MD to convince and involve their readers. Finally, she suggests that future research should focus on larger corpora and investigate other genres to determine Saudi writers' accurate use of MD, which this current research has taken into consideration.

This study by Alkathlan is insightful, as it provides basic information on the Saudi students' use and distribution of MD, however it has a few limitations. The size of the corpus is small, and this can limit the results to the specific group of students investigated. In addition, the word count for each sample was not normalised (for example, per 1000 word) which can make it difficult for future researchers to compare this data to other studies. One of the aims of Alkathlan's research was to report the lexical types of the markers used; however, only five types were mentioned. Additionally, the study did not provide any samples of the students' writing, or any examples of the markers used, nor it provided any explanations of what could have possibly influenced the students use. It also did not mention the students' minimum level of proficiency, which could affect their employment of MD. As Simin and Tavangar (2009) have claimed, the more proficient NNS learners are, the more they use MD in their writing. Importantly, the study also investigated a different genre (RAs) to the genre that will be studied in this research (dissertations).

2.10 Conclusion

MD has been defined as 'writing about writing', a definition that classifies discourse into two levels. One level, the propositional level, carries the core message and describes an event in the outside world. The other level is MD, which facilitates the readability of the texts by making it more coherent and cohesive. Thus, MD guides the reader through the text, but it also shows the presence of the author and their attitudes towards the content and/or their readers. This classification of discourse is important in introducing reliable interpretations of the use of MD and its functions as some MD markers can function as propositional discourse, which can confuse results. Due to the imprecise nature of MD, some researchers confuse it with other parallel terms such as discourse markers and metatext, which are analysed differently and studied using different models. MD studies as a field is built upon the macro-functions of language presented by Halliday (1973) and researchers

commonly organised their categories around the textual and interpersonal functions of language.

MD has a close association with rhetoric and its persuasive goals. Rhetoric is an art of persuasion, and of winning the audience to follow your stance or position. Rhetoric and MD are similar in many ways, for example they are both concerned with effective communication and the clever choice of words and expressions. More importantly, they also both focus on the audience and aim to engage the audience by establishing a two-way communication.

Many models were introduced and designed to analyse MD. Vande Kopple's (1985) original study was the basis of many other MD models such as Crismore et al. (1993) and Hyland (1998c). These models have the same main categories of textual and interpersonal and differed in some subcategories. Hyland reintroduced his model in 2005 and renamed the textual and interpersonal main categories as interactive and interactional categories as he considers all MD to be interpersonal. Hyland's model is designed to analyse academic writing, which makes it very suitable for this study despite some minor issues in the model.

Section 2.9 on applied MD studies started with the definition of genre as a grouping of texts that symbolises how writers usually use language to react to repeated situations (Hyland 2005a). It also introduced the importance of MD in academic writing and what the motives are for MD comparative research across disciplines, cultures, and genres. For example, in newspapers interactional resources are used more than interactive and the most frequent MD category is attitude markers, whereas in academic writing, interactive resources are used more than interactional, and the most frequent category is transitions (see Kuhi and Mojood 2014; Noorian and Biria 2017). In addition, the uses of MD also differ across disciplines, as the soft sciences employ more markers, especially interactional markers, than the hard sciences (see Hyland and Tse 2004; Hyland 2005b). In respect to cross-cultural research, it has been shown in all the studies reviewed above that NNSs use both interactive and interactional MD differently to their English NS counterparts, and that the use of MD differs even between Arabs and Saudis. In general, the NSs use more MD and give more attention to the interactional features than NNSs. NSs use more hedges, engagement markers, self-mentions, and attitude markers.

In the literature reviewed above, the researchers attributed the differences in the distribution of MD to culture (Mauranen 1993; Crismore et al 1993; Burneikaitė 2008; Sultan 2011), genres (Lee 2009), institutional/educational context (Burneikaite 2008; Alshahrani 2015), and discipline (Hyland and Tse 2004; Hyland 2005b). Therefore, this research controls genre (dissertations), discipline (applied linguistics) and the minimum level of proficiency to make a reliable comparison between samples and determine what is affecting MD in students' writing. This study will look at two variables. Firstly, the variable of culture (Saudi writers and UK English writers), and secondly the variable of institutional context (Saudi universities vs UK universities). The study will attempt to determine the effects of these variables on Saudi students.

This study will try to fill some research gaps and to add to the knowledge of MD in various ways. Firstly, this research will explore the use and frequency of both interactive and interactional MD in full dissertations in English by NSs and NNSs in the field of applied linguistics. Limited research has investigated full dissertations by both NSs and NNSs in English, and Saudi students have been particularly neglected in studies so far. Secondly, this study will combine both communicative and syntactic functions of MD to reach comprehensive and accurate results (see Section 3.8). Almost none (to my best knowledge) of the MD studies investigate MD syntactically, as they are only focused on functional /communicative functions, as Hyland (2005a) and Lee (2009) stress. The syntactic analysis will look at the four basic units of the clause, namely subject, predicate, complement, and adjunct (Thompson 2013). Studying use of MD in these units will help us know where exactly the markers are functioning in the clause, which allows us to make an even better comparison between our data sets. In this way, this research will bring new insights to MD studies.

Thirdly, most of the previous studies (e.g., Alshahrani 2015; Alkathlan 2019) use a predetermined list of MD markers, created by Hyland (2005a), which consists of around 400 markers. Using this list exclusively could limit the scope of the use and distribution of MD and thus limit the comparison of students' work. Therefore, this study will use Hyland's list as a base, and examine the data closely to find new markers to be added to the list. This will also benefit future scholars. Lastly, many studies (e.g., Hyland 2005a; Sultan 2011; Kuhi and Mojood 2014; Ozdemir and

Longo 2014) did not investigate MD manually, instead they used electronic software to save time and effort. This approach can miss the context of the MD markers, which can make the distinction between MD and propositional content inaccurate. This is a major feature in MD research; therefore, this study will use a corpus-based manual analysis (annotation). This method will capture as closely as possible the distinction between MD and propositional content and will allow the researcher to report the actual communicative and syntactic functions of the markers.

Chapter 3: Methodology

3.1 Introduction

This third chapter describes the methodology followed in this study. It opens with a general introduction of quantitative and qualitative methods and then introduces mixed methods research (MMR) as the specific research design chosen for this current study. The quantitative techniques of this research include frequency counts of metadiscourse (MD), classifications of MD's clause functions, and chi-square statistical tests in R. The qualitative part of the study includes a close and focused analysis of selected subcategories. The chapter then discusses the research sites of the data, the data collection process, and the corpus. This chapter also presents in detail the analysis framework and how it was modified, based on a trial analysis and the available literature, to produce more reliable and valid results. Additionally, this chapter explains the parameters that were applied to maintain consistency in coding the data. The chapter ends with a discussion of how the study satisfies factors of reliability and validity as well as ethical considerations.

3.2 Research Methods

Research can be investigated quantitatively or qualitatively, or through a third methodological movement called 'mix methods' (Tashakkori and Teddlie 2010, p. 14). This methodology, as described by Dornyei (2007, p. 44), utilises both quantitative and qualitative research to investigate and analyse data. This process has been given different names such as multimethod, mixed methodology, integrating, quantitative and qualitative methods, etc. However, methodologists seem to agree on the term mixed methods research (MMR) (see for example, Teddlie and Tashakkori 2009; Dornyei 2007) and this is the name that is used to describe the methodology in this study.

It is useful to briefly introduce quantitative and qualitative approaches, as MMR combines elements of both. Creswell (2014, p. 4) defines qualitative research as 'an approach for investigating the meaning that individuals or groups attribute to a social or human problem', and quantitative research as 'an approach for testing objective theories by looking at the relationship between variables'. Thus, the basic distinction between these two approaches lies in how they collect and analyse data (Paltridge and Phakiti 2018, p. 12). For example, in applied linguistics, qualitative data is

analysed by a conceptualization in words, which can include data collection through observations, texts, surveys, pictures, and interviews. Quantitative data, however, is analysed statistically in numbers and can be collected from tests scores, questionnaires, and grades (Paltridge and Phakiti 2018, pp. 12–13).

There are numbers of more complex differentiating characteristics between qualitative and quantitative research. Creswell (2018, p. 278) lists some aspects of qualitative research as follows:

1. Qualitative research occurs in natural settings, where human behaviour and events occur.
2. Qualitative research is based on assumptions that are very different from quantitative designs. Theory or hypothesises are not established a priori.
3. The researcher is the primary instrument in data collection rather than some inanimate mechanism […].
4. The data that emerge from a qualitative study are descriptive. That is, data are reported in words (primarily the participant's words) or pictures, rather than in numbers […].
5. The focus of qualitative research is on participants' perceptions and experiences, and the way they make sense of their lives […]. The attempt is therefore to understand not one, but multiple realities […].
6. Qualitative research focuses on the process that is occurring as well as the product or outcome. Researchers are particularly interested in understanding how things occur […].

From the above characteristics, it can be understood that each research approach has its own strengths and weaknesses, such as the subjectivity of qualitative research and the limitations of data interpretation in quantitative research. Therefore, researchers mix these two approaches to better investigate and understand a phenomenon, and to apply the most appropriate approach to specific research objectives (Dornyei 2007, 44; Doyle at el. 2016, p. 624). MMR is an integration of qualitative and quantitative approaches to provide 'a more complete understanding of a research problem than either approach alone' (Creswell 2014,

p. 4). As MMR is the research design of this study, it will be introduced in the next subsection along with the justification behind its selection.

3.3 Mixed Methods Research Design

MMR became very popular in recent years in the field of applied linguistics because of its potential to improve the quality of an investigation (Paltridge and Phakiti 2018). Methodologists stress that research should not be categorised as just quantitative or qualitative due to the variety of underlying perspectives and philosophies in terms of what constitutes knowledge and reality, both of which underscore research paradigms (Paltridge and Phakiti 2018, p. 12). Therefore, the best research method depends on the researcher's aims and goals and the nature of their inquiry (Creswell and Plano Clark, 2011). Some examples of research problems that can be most effectively investigated using MMR are when one approach could not be sufficient, when results require further explanation, or when a secondary method is needed to support a main method (see Creswell and Plano Clark, 2011). MMR was chosen for the design of this study because it offers many benefits. At a practical level, MMR offers 'a sophisticated, complex approach to research' and can be 'an ideal approach' for researchers who have access to both quantitative and qualitative data (Creswell 2018, pp. 297–298). At a procedural level, MMR is deemed a useful technique for gaining a complete grasp of research questions and problems; for instance, further explaining quantitative results with follow-up qualitative investigations (see Creswell and Creswell 2018, p. 298).

MMR, therefore, may lead to fruitful avenues of research as it could (1) aid in achieving a 'complete understanding' of a phenomenon (Creswell 2014, p. 4), (2) validating a research conclusion by converging results from different methods, (3) reaching an audience who may not approve of qualitative or quantitative approaches when used alone, and (4) if executed well, it can generate a level of trustworthiness for researchers (Dornyei 2007, p. 45). However, methodologists (e.g., Creswell and Creswell 2018, p. 298) also warn of the challenges of MMR. First, it requires researchers to be acquainted with both qualitative and quantitative data research. Second, it needs extensive data collection in which researchers can gather and analyse two distinct forms of data.

According to Creswell (2014, pp. 15–16), there are three models of MMR:

Convergent parallel mixed methods

In this design, the investigator typically collects both forms of data at roughly the same time and then integrates the information in the interpretation of the overall results. Contradictions or incongruent findings are explained or future probed in this design.

Explanatory sequential mixed methods

The researcher first conducts quantitative research, analyses the results and then builds on the results to explain them in more detail with qualitative research. It is considered explanatory because the initial quantitative data results are explained further with the qualitative data. It is considered sequential because the initial quantitative phase is followed by the qualitative phase. This type of design is popular in fields with a strong quantitative orientation (hence the project begins with quantitative research).

Exploratory sequential mixed methods

This is the reverse sequence from the explanatory sequential design. In the exploratory sequential approach, the researcher first begins with a qualitative research phase and explores the views of participants. The data are then analysed, and the information is used to build into a second, quantitative phase.

The explanatory sequential mixed methods model was selected for this study, as it best suited the design of the investigation. The study investigated quantitively the frequencies of MD markers, the functions they served and the section of the thesis in which they occurred. Based on the results of the quantitative analysis, the study then looked qualitatively at the most and the least used subcategories of MD markers in all three groups and the subcategories that show an interesting finding that is worth of further investigation. The reason behind this limited qualitative choice is that the study has a potentially huge number of MD markers to be investigated and examined through different criteria (unit place, unit type and dissertation section) (see Section 3.8). This would have made more qualitative work impossible to do within the timeframe of this project.

The next section introduces some approaches to written text analysis before focusing on the corpus-based approach that is incorporated in this study.

3.4 Written Text Analysis vs Discourse Analysis

This section will address two main approaches to language: discourse analysis and written text analysis (Wang 2019). According to Wang (2019, p. 453) the latter is concerned with the textual features and practices that can be found in texts and the former is concerned with 'the social construction of reality through language use'. Brown and Yule (1983, p. 1) define discourse analysis as 'the study of language in use', thus, it mostly focuses on the relationship between language and the cultural and social context in which it is used (Paltridge 2006, p. 2). Discourse analysis also looks at how language use is influenced by different world views and identities and how these are also constructed in discourse (Paltridge 2006, p. 2).

It should be noted that written text analysis and many similar methods – such as speech act theory, conversation analysis, genre analysis and corpus approach – are all approaches to discourse analysis and can all fall under its heading (Paltridge and Wang 2018). It can therefore be said that discourse analysis is a very broad approach, whereas written text analysis is a more specific approach, focusing on concrete textual features. Therefore, as written text analysis approach is more focused on the textual features of a text, such as MD markers in this study, it is adapted to be a part of this research design.

According to Wang (2019, p. 453) written text analysis includes different approaches to the analysis of different forms of writing (including academic papers). These different approaches include systemic functional linguistics (see Halliday and Matthiessen, 2004), the Birmingham School of text analysis (see Sinclair and Carter, 2004), and corpus-based approaches to text analysis (see Baker and McEnery, 2015). All these approaches have 'shared goals of analysing texts from different perspectives' and they 'might overlap or complement each other in one way or another' (Wang 2019, p. 453). Hence, this study utilises a written text corpus-based approach, based on its research questions and the prospects that a corpus-based approach can offer. These are introduced and explained in the following section.

3.5 Corpus-Based Approach

A corpus-based approach is a technique used to investigate naturally occurring language with the help of computers (Paltridge and Wang 2018, p. 149). Corpus here means a large body of text that has been put together for research or educational purposes (Baker 2006). Cheng (2012, p. 6) describes it as 'a collection of texts that has been compiled to represent a particular use of a language and it is made accessible by means of corpus linguistics software that allows the user to search for a variety of language features'. Corpus linguistics is defined as a study of real-life language use that 'utilises bodies of electronically encoded text' (Baker 2006, p. 1).

Corpus linguistics and discourse analysis slightly differ in the ways they approach language. Discourse analysis involves in-depth qualitative investigation that can be extended beyond language, and corpus linguistics concentrates solely on the text (Virtanen 2009, p. 49). The other major difference is the use of computer programmes, which play a key role in facilitating analysis in corpus linguistics. Indeed, Wang (2019) states that the availability of computers has significantly enhanced the development of corpus linguistics over the last two decades, making it widely used for text analysis research. According to O'Keeffe et al. (2007, p. 8), using corpus software to search for occurrences of specific words and phrases is possibly the most prominent feature in corpus linguistics. A corpus-based approach thus offers exceptional insights into the use of language and enables researchers to save time and effort in dealing with large quantities of text in a short period of time (Paltridge and Wang 2018, p. 149; Wang 2019, p. 458).

The current study uses corpus-based analysis for the great benefits and advantages this approach can offer for example, in the ease of electronic investigation of word usage, collocation, frequency and concordance (Lee 2009, p 128). According to Lee, corpus-based analysis can include the following features, all of which are apparent in this current study:

- It is empirical, analysing the actual patterns of use in natural texts.
- It utilises a large and principled collection of natural texts as the basis for analysis.

- It makes extensive use of computers for analysis, using both automatic and interactive techniques.
- It depends on both quantitative and qualitative analytical technique.

(Lee 2009, p. 128)

Another key use of a corpus-based approach is avoiding human bias (Baker 2006), but this advantage was not fully applicable to this study as it involved a manual analysis and annotation of the MD features. The process of identifying MD features and distinguishing them from propositional content (see Section 2.3 on levels of MD) was based on the judgement of the researcher, which could be influenced by bias and may not always be as accurate as a computer. However, automatic MD identification is deemed more problematic as it does not differentiate MD from propositional content and does not account for the multifunctionality of MD markers (for more details see Section 2.3).

Nevertheless, a corpus-based approach is considered more reliable than undertaking research completely manually as corpus tools are more proficient in coding data, saving it, and allowing more flexible accessibility. However, as Baker (2006, p. 10) explains, a corpus-based approach is not always a time-saving process as large texts may need to be collected and uploaded, and some researchers might need to learn how to process and analyse data using corpus. The limitation stressed by Baker in terms of time consumption in collecting data was one of the difficulties faced in doing this research. The Saudi students' dissertations were only available as hard copies; I had to collect them in person and then digitalise them to be uploaded to the corpus tool, a process which required much time and effort. The specific tools that were used to facilitate the corpus-based analysis are described in the next section

3.5.1 Application of UAM Corpus Software

The UAM corpus is a free program that assists in annotating text corpora and was developed by Michael O'Donnell. This tool can automatically annotate text, perform concordance searches to find lexical patterns, and allows for a manual analysis for any language features that cannot be identified using the tool alone. As O'Donnell (2008) observes, some linguistic patterns (e.g., semantic features) cannot be automatically identified and need human intervention. For example, the instances of MD in my research, which needed a human judgement as explained earlier.

Using the corpus software in my research was greatly beneficial in many ways. For instance, all the files and codes are saved and secured so that they can easily be accessed from different computers at any time. The tool also keeps the number of frequencies and occurrences updated after each coding is done. Specifically, the UAM corpus tool instantly offers statistical information that the researcher can view to see how the study is progressing. Moreover, UAM can hold main corpora and sub corpora and can compare them to one another as well as generate built-in statistical differences like chi-square test.

UAM comes with many built-in features, but the most prominent one for this research is that it can annotate texts using multiple schemes and 'layers'. For instance, this research uses four main layers: MD types, Unit place, Unit type and Section. Each one of these entries is further classified to accommodate the subcategories of MD. For example, on the MD interactive layer, frame markers can be subcategorised into announcing goals, topic shifters, sequence, stage labelling or attention marker. On another layer, for example, the Unit Place layer, frame markers can be classified as one of the following: subject (part of a unit expressing a subject), predicate (part of a unit expressing a predicate), complement (part of a unit expressing a complement), or an adjunct (part of a unit expressing an adjunct). The layers and their sublayers are illustrated in Figures 3.1 and 3.2, each of which represents one view from the UAM corpus tool.

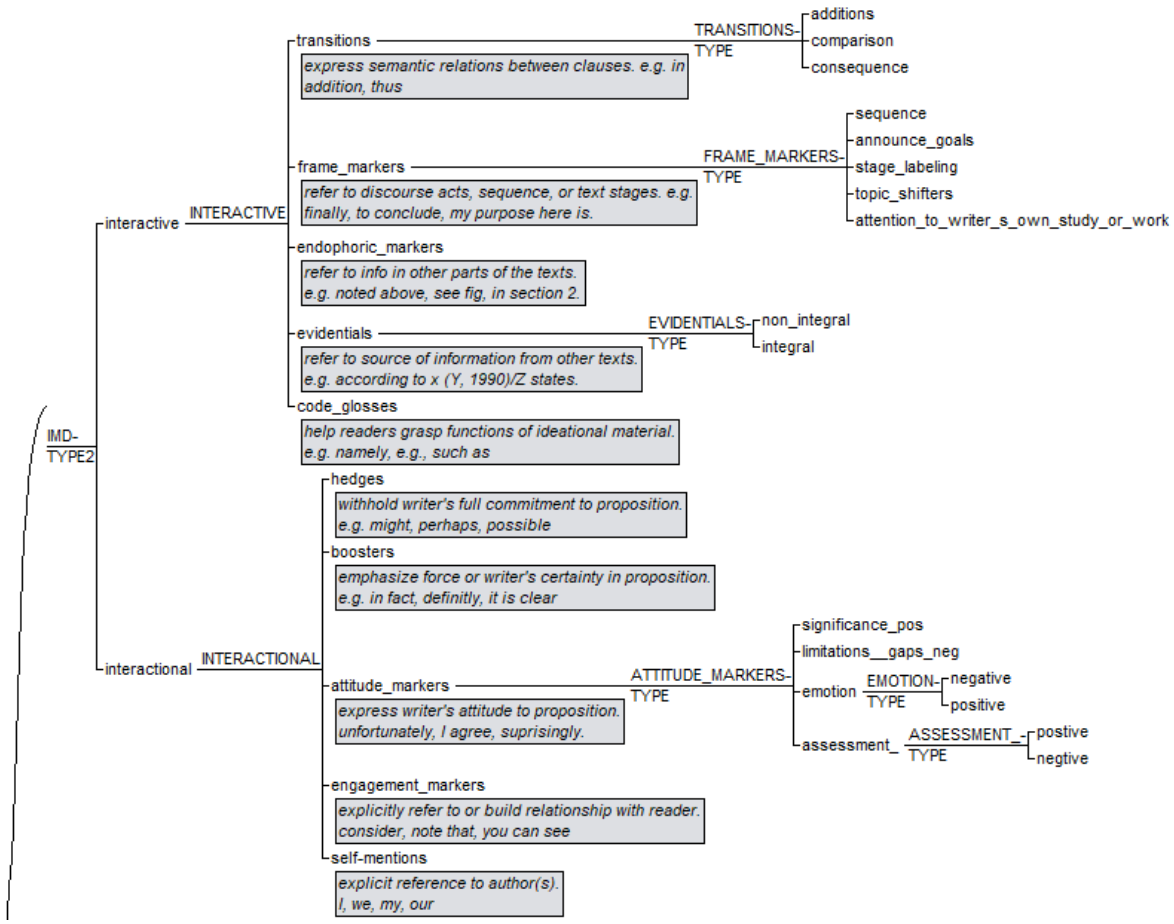

FIGURE 3.1 THE PRINT-SCREEN OF THE UAM CORPUS TOOL INTERFACE SHOWING THE SCHEME OF MD: THE MAIN MD MODEL

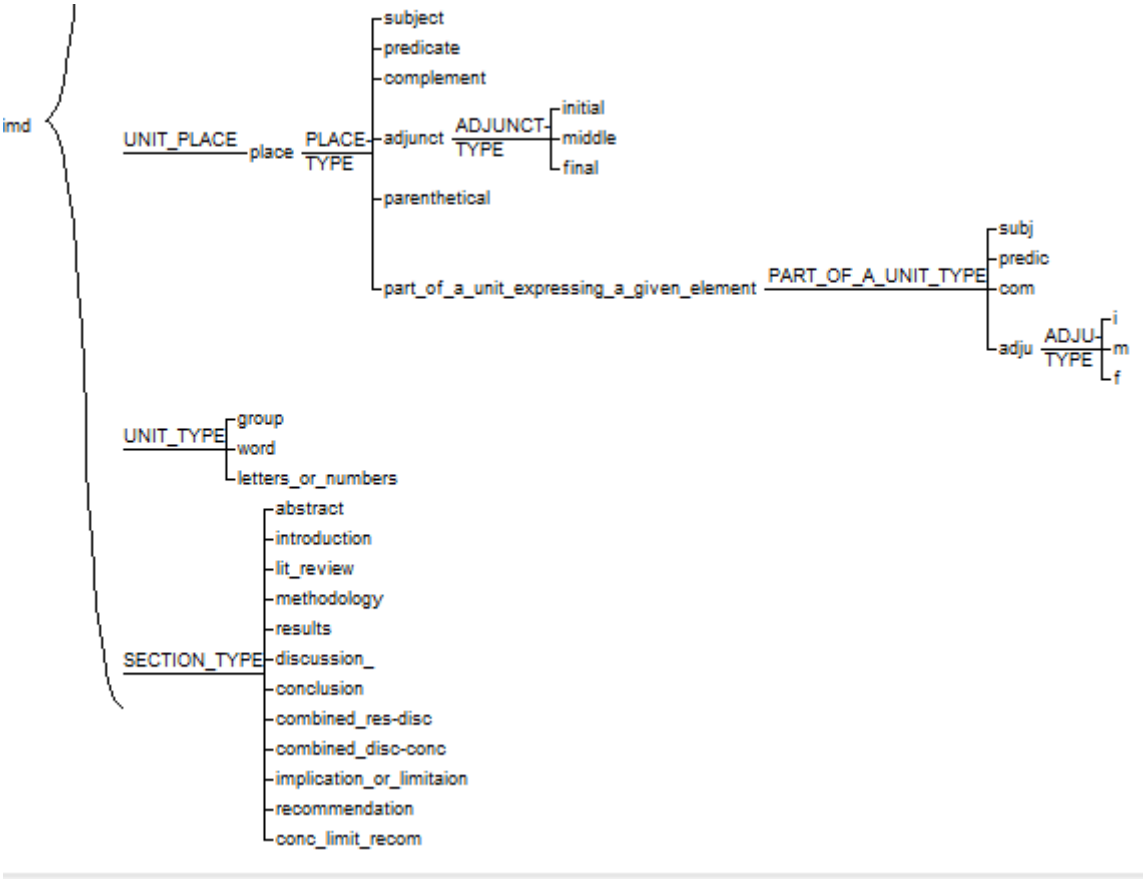

FIGURE 3.2 THE PRINT-SCREEN OF THE UAM CORPUS TOOL INTERFACE SHOWING THE SCHEME OF MD: THE OTHER LAYERS OF ANALYSIS

3.6 Research Site

As stated in previous sections, this research investigates three groups of students: Saudi students in Saudi Arabia (SIS), Saudi students in the UK (SIUK), and UK L1 English students (UKIUK). This study obtained dissertations from two Saudi universities – King Saud (KS) and Imam Muhammed Bin Saud (IMBS) – for SIS, from different UK universities for SIUK, and from Cardiff University for UKIUK. All the dissertations collected are in the field of applied linguistics (AL). Thus, this research controlled two factors: discipline (AL) and genre (dissertations) to investigate two factors: cultural background and institutional context.

In the following subsections, a summary of the description of the different applied linguistics MA programmes that the data was gathered from will be introduced along with the similarities and differences between these programmes to understand them

and to show how the data is comparable. I will start with the Saudi and the UK programmes, and finish with a brief subsection on the overall similarities.

3.6.1 Applied Linguistics MA programmes in Saudi Arabia

This section provides an overview of admission requirements first and then a description of applied linguistics MA programmes in Saudi Arabia that are specific to the Saudi universities of KS and IMBS.

3.6.1.1 Admission Requirements

The main admission requirements for an applied linguistics MA in Saudi Arabia are that the applicant must be Saudi or have a valid scholarship if they are not Saudi. They must have a bachelor's degree in English Language and Literature (or any other relevant discipline) and must have achieved a grade of at least 'very good', which is the equivalent of 85%. They must also have an IELTS test score (or its equivalent) that is 6.5 or higher for KSU and 6 or higher for IMBS. Additionally, students must pass a written test conducted by the department and present two academic recommendations from previous teachers (for more details see Appendix One).

3.6.1.2 Description of the Programme

The programme is extended over two years, divided into four semesters. In the first two semesters, eight applied linguistic-related courses are taught such as semantics, discourse analysis and language assessment. The last two semesters are dedicated to the thesis, which is required by the department to be of high quality and to discuss a topic that is applied linguistics-oriented. The length of the thesis is from 15,000 to 18,000 words (see Appendix Two for more details). Yet, when the dissertations were gathered and analysed, I found that some of them were less than 10,000 words. However, as the frequency is normalised to account for an accurate comparison between the dissertation groups, this will not be an issue for this study.

3.6.2 MA Applied Linguistics Programmes in the UK

This section provides a brief overview of MA programmes in applied linguistics in the UK. It starts with general admission requirements of the programmes, and it concludes with a description of these programmes.

3.6.2.1 General Admission Requirements of MA in UK Universities.

Most UK universities ask international students for 6.5 in IELTS or any equivalent score in other recognised tests, but a few UK universities require 7 in IELTS,

including Cardiff University and Manchester University. They also require a bachelor's degree in English or any related field and academic recommendations. These requirements are similar to those required by Saudi Universities except for the written admission test, which is not required by UK universities.

3.6.2.2 Description of the MA Programme.

Generally, the MA is a one-year programme that is divided into three semesters. It has six modules in total and a dissertation, and mostly the modules are divided into three cores and three electives. The modules cover a wide range of topics in applied linguistics, including language description and research methodology to better understand issues related to language such as acquisition and social interaction. Similar to the Saudi programmes, the dissertation length is from 15,000 to 18,000 words.

3.6.3 Similarities and Differences

Based on the information reviewed above, it can be seen that the Saudi and UK programmes are similar in terms of the admission requirements and the structure of each programme, except that the Saudi programmes consist of two more modules and are one semester longer. This means that all groups in my study are comparable in terms of their minimum language proficiency, as the admission requirements are similar, and the students have similar BA backgrounds. As for the programmes' comparability, they appear to be comparable as they cover similar topics, consist of a similar number of modules and require a thesis that is of a similar quality and length.

3.7 Data Collection

3.7.1 The Corpus

The corpus of this study comprises 30 MA dissertation in applied linguistics written by the three groups of students: Saudi students in Saudi Arabia (SIS), Saudi students in the UK (SIUK), and UK L1 English students (UKIUK); 10 for each group; between the years 2014 and 2018 (except for two dissertations which were written in 2012-2013).

MA dissertations were chosen to be the data for this study for different reasons. First, dissertations are 'a high stakes genre' at the students' highest level of academic achievement, and they could be 'the most significant piece of writing' that students ever write (Hyland 2004, p. 134). Second, dissertations pose a challenge

for students in general as novice researchers, and specifically for L2 writers writing in a foreign language (Darwish 2019, p. 6). Dissertations are not only demonstrating knowledge related to research but also using that knowledge to 'argue logically and meaningfully the meaning of the research results' (Dong 1998, p. 369). Thirdly, the length of the text requirements in dissertations allows for a higher possibility of MD use than shorter texts, which helps the current study to collect more data. Fourthly, even though the dissertation genre is a reliable genre for linguistic analysis, especially MD investigation (Cao and Hu 2014; Alshahrani 2015 Alotabi 2016), there has been relatively little literature published on it in the field. Most of the research investigating MD in dissertations does not analyse dissertations as a whole, but rather focuses on specific sections such as abstracts (Kawase 2015), results, or discussion sections (Lee and Casal 2014; Alshahrani 2015). This lack of examination of how MD is distributed across dissertation sections created a gap for this study. Additionally, most research on MD use in academic writing has been carried out on other genres, specifically research articles, which are typically written by experienced researchers (Mauranen 1993; Hyland 2005b; Sultan 2011; Toumi 2012; Alotaibi 2015; Chang 2016; Zakaria and Malik 2018; Al-Zubeiry 2019; Alharbi 2021). This suggests a neglect of dissertations as a genre and of novice researchers as a group of writers (see 2.9.1.2.2 above for an analysis of this sub-genre).

The field of applied linguistics was chosen to investigate how English-language Saudi students, who are most likely to become English language teachers, are using MD. As a researcher, I am also specialised in applied linguistics and have an experience in teaching academic writing to L2 students, which gives me an advantage in understanding the topics and structure of these dissertations. In addition, for the data to be comparable, the dissertations should be from one field as different fields require different requirements, such as thesis length and structure. In this context, Hyland (2005a) affirms that there are variations in the use of MD features in soft science and hard science. Most importantly, most research in MD has focused on English language in general but not on applied linguistics (e.g., Alotaibi 2015; Estaji and Vafaeimehr 2015; Farhadi et al. 2016; Farahani and Sbetifard 2017; Noorian and Biria 2017). Therefore, applied linguistics seemed the most appropriate field for this study.

3.7.2 The Collection Criteria

The collection criteria are important in any research to have reliable data and therefore reliable results. For comparison purposes, the data need to be similar and comparable for a better understanding of MD in different educational sets and institutions. In this case, the collected dissertations were written recently between 2014 and 2018 and in the field of applied linguistics. As for the specific groups, the SIS dissertations needed to be written by Saudis, from Saud or Imam University. While it would have been ideal to focus on one university and have a balance of writers' genders, there was not a high enough number of dissertations submitted to the public library of King Fahad to meet my criteria. The SIUK dissertations needed to be written by Saudis from a UK university. It would also have been ideal to have the data from one university (e.g., Cardiff University) but that was not possible either as there were very few students who met the criteria at Cardiff University, and so I had to collect dissertations from different UK universities (Essex, Reading, Newcastle, Cardiff, Liverpool, Nottingham, and Sussex). Finally, for the UKIUK dissertations, they needed to be from one UK university and written by UK L1 English speakers which I found and collected from Cardiff University.

3.7.3 Description of the Data Collected

The data consisted of 30 dissertations with a total number of 411,238 words (see Table 3.1 for the description of each dissertation), which were chosen as a reasonable number to inform us about MD frequencies and distribution in postgraduate writing. According to Baker (2010, p. 95) there are no clear rules regarding how large a corpus must be, so this number of dissertations was decided after a careful review of the literature and similar PhD studies, which this study is larger than most of them in terms of the corpus size (e.g., Khabbazi Oskouei 2011; Lee 2009; Chang 2015; Darwish 2019). More importantly, the corpus was aligned with the corpus-based developments in the fields of EAP (English for academic purposes) and ESP (English for specific purposes), which are especially important given that this study reports on the implications of its findings on MD use in a Saudi context. These two fields (EAP and ESP) facilitate the establishment of smaller and more focused corpora (Alshahrani 2015; Chang 2015), which will enable the study to meet the research objectives bringing forth important findings for learning and teaching of MD in general and for Saudi students in particular.

3.7.3.1 Saudi Students in Saudi Arabia (SIS)

The SIS dissertations were collected from King Fahad National Library (KFNL) as it has a good number of dissertations from all fields and are all publicly available. Initially I went directly to the libraries of Saudi and Imam universities to acquire the dissertations, unfortunately this was not successful as only a very limited number of dissertations were available. I then tried KFNL and found a section dedicated to dissertations. I asked first about 10 dissertations within my criteria from one university, either Imam or Saud. Unfortunately, this too was unsuccessful as the KFNL did not have enough dissertations from one university. So, I decided to collect from both universities to complete the required number. One reason which could have caused this limited availability of the Saudi dissertation in Saudi libraries is because it is the students' responsibility to submit their dissertations to the libraries. See Appendix Three for the confirmation from KFNL that the dissertations were written by Saudi students.

The dissertations were only available as hardcopies, so I had to transform them into PDFs and then into TXT format in order to upload them to the corpus tool. That was not an easy task as the text recognition software that was used to digitalise the dissertations, Adobe Acrobat, was not 100% accurate and needed human interference. Therefore, I had to check every thesis to make sure every word and punctuation mark was identified and manually complete what was missing. The total number of words in the 10 dissertations in this group is 109,000 words (see Table 3.1 for more details on each dissertation in this group).

3.7.3.2 Saudi Students in UK (SIUK)

The SIUK data was collected electronically from Saudi Digital Library (SDL), which is an online public library that has a huge number of Saudi students' dissertations from universities all over the world. Each Saudi Cultural Attaché around the world has its section in SDL of dissertations submitted by Saudi students in the country where these attachés are based. In my case, I searched for the Saudi Cultural Attaché in the UK, then acquired 10 dissertations that best fit my criteria from the following universities: Essex (3), Reading (2), Newcastle (1), Cardiff (1), Liverpool (1), Nottingham (1), and Sussex (1). I also obtained a confirmation that these dissertations are written by Saudi students in UK (see Appendix Four). The dissertations were then changed into TXT files to be uploaded to the corpus. In this

group of dissertations, the total number of words is 139,775 words (See Table 3.1 for more details).

3.7.3.3 UK L1 English Students (UKIUK)

The data for this group was obtained from Cardiff University. For my criteria to be met, I did not go directly to the university library, but spoke with the Postgraduate Office at the school of English, Philosophy and Communication and informed them that I was looking for dissertations written by UK native speakers of English in the field of applied linguistics between the years of 2014 and 2018. I learned from them that they only found 9 dissertations of this sort with one missing an abstract. I then widened the search to dissertations from 2013 and which enabled me to add one more to complete the required number. The details of these dissertations are outlined in Table 3.1. The total number of words from this group is 162,463.

TABLE 3.1 DESCRIPTION OF THE DATA OBTAINED.

Number	University	Year	Words	Gender
1	Cardiff	2014	18691	F
2	Cardiff	2017	13656	F
3	Cardiff	2014	16507	M
4	Cardiff	2017	18188	F
5	Cardiff	2018	14266	F
6	Cardiff	2017	16981	F
7	Cardiff	2012/3	19372	M
8	Cardiff	2017	15682	F
9	Cardiff	2012/3	14821	Not Known
10	Cardiff	2015	14299	F
11	IMBU	2015	12623	F
12	IMBU	2016	9420	M
13	IMBU	2015	14465	F
14	IMBU	2015	9000	F
15	IMBU	2015	10110	M
16	IMBU	2016	8027	F
17	IMBU	2016	7306	F
18	IMBU	2015	6584	F
19	KSU	2015	15089	F
20	IMBU	2017	6264	M
21	Reading	2016	15065	F
22	Newcastle	2016	13339	M
23	Liverpool	2016	16374	F
24	Reading	2014	12118	F
25	Nottingham	2016/7	13474	F
26	Sussex	2016	10061	F
27	Essex	2017	13655	M
28	Cardiff	2017	20225	F
29	Essex	2014	13602	F
30	Essex	2015	11832	F

3.7.4. Formatting the Corpus

As previously mentioned, the dissertations were collected in both electronic format and in print. During the process of converting the hard copies to TXT format, I removed the cover pages, acknowledgements, table of contents, table of figures, tables, figures, pictures, long quotations, reference lists, and appendixes. I kept all the main chapters along with abstracts, embedded quotations and headings. These were kept so that I could understand MD usage better as writers use MD differently in different dissertation sections (Mirshamsi and Allami 2013; Alshahrani 2015) and so that the sections could be compared across the corpora.

I named each file after the group that it belongs to and numbered them from 1 to 30, starting with UKIUK (from 1 to 10), then SIS (11 to 20), and finally SIUK (from 21 to 30). Then, all the files were uploaded to the UAM corpus to compose the corpus of this study, and three sub-corpora (SIS, SIUK and UKIUK).

3.8 Data Analysis

3.8.1 Analytical Framework of MD

As explained in Chapter 2, the framework of this study is Hyland's (2005a) MD model. Although the model was explained and discussed in detail along with its limitations, it will be reintroduced briefly again here, along with the justifications for using it in this study.

In Hyland's (2005a) interpersonal MD model, there are two main dimensions, interactive and interactional. The former is concerned with the text's organization and the ways in which readers are guided through that text; it includes transitions, frame markers, endophoric markers, evidentials and code glosses. Interactional dimension is concerned with the reader-writer involvement in the text and their relationship beyond the text; it includes hedges, boosters, attitudes markers, self-mentions, and engagement markers. Some of these subcategories are further classified into subcategories. For example, evidentials are divided into 2 subcategories integral and non-integral. Transitions are further divided into 3 subcategories: additions, comparisons, and consequences. Frame markers are divided into 5 subcategories: sequence, announce goals, stage labelling, topic shifters, and attention to writers' own study or work. See Table 3.2 below for Hyland's (2005a) MD model.

This study used Hyland's (2005a) interpersonal model of MD for different reasons. First, it largely facilitates the identification of similarities and differences between different learner groups in the use of MD markers, as stated by Fu and Hyland (2014). Second, Hyland's model, offers a dynamic and comprehensive view of MD, as it recognises that authors or speakers sometimes unconsciously evaluate their output by deciding on the impact they want to have on their audience (Hyland, 2004; 2005a; 2017). Thirdly, it was based on earlier models in the field (e.g., Vande Kopple 1985; Crismore et al. 1993; Hyland 1998c; Hyland 2000; Hyland 2001; Hyland and Tse 2004), suggesting that it is a robust and consistent model. Most of the MD

features in this model have appeared in previous MD models like Vande Kopple ’s (1985) and Crismore et al.’s (1993), which support the reliability of this model further.

Hyland’s (2005a) model was also revised many times and in different years (e.g., 1998, 2000, 2001, and 2004), and with each revision Hyland attempted to avoid the pitfalls of the previous ones. The typology also provides strong criteria which helps to code and identify MD features (Hyland 2005a, p. 37). In addition, this model provides the opportunity for analysis beyond the text itself, to the writer’s stance on the text or the writer-reader relation. This model can also be used to explain why some MD subcategories are used in a specific way among a specific discourse community (Hyland 2005a, p. 37). Hyland’s (2005a) model has been successfully used in many studies which presented a good understanding of their MD findings (e.g., Cao and Hu 2014; Alshahrani 2015; Estaji and Vafaeimehr 2015; Alotabi 2016; Farahani and Sbetifard 2017; Farhadi et al. 2016; Mahmood et al. 2017; Salek 2014). Lastly, Nan and Liu (2013) affirmed that this model is a significant analytical tool which provides a promising application in the investigation of textual and interpersonal meanings of language.

TABLE 3.2 HYLAND'S (2005A, P. 49) INTERPERSONAL METADISCOURSE MODEL

Category	Function	Example
Interactive	**Help to guide the reader through the text**	**Resources**
Transitions	Express relations between main clauses	In addition; but; thus; and
Frame markers	Refer to discourse acts, sequences and stages	Finally; to conclude; my purpose is
Endophoric markers	Refer to information in other parts of the text	Noted above; see figure; in section 2
Evidentials	Refer to information from other texts	According to X; Z states;
Code glosses	Elaborate propositional meaning	Namely; e.g.; such as; in other words
Interactional	**Involve the reader in the text**	**Resources**
Hedges	Withhold commitment and open dialogue	Might; perhaps; possible; about
Boosters	Emphasize certainty and close dialogue	In fact; definitely; it is clear that
Attitude markers	Express writer's attitude to proposition	Unfortunately; I agree; surprisingly
Self-mentions	Explicit reference to authors	I; we; my; me; our
Engagement markers	Explicitly build relationship with reader	Consider; note; you can see that

This current study employed Hyland's model as its principal framework for the analysis of its data. However, after a trial analysis (introduced in the following section) with Hyland's model, it was felt that it needed some supplementary modifications in order to reach a better understanding of MD and to analyse features that were missing from the literature. For example, attitudes are one of the important features of academic writing and can be expressed in texts in different ways as either positive or negative (Azar and Hashim 2019). However, Hyland only grouped attitudes as one subcategory, which might not be sufficient for our understanding of such an important feature of MD. Therefore, I explored the literature carefully looking for a further classification of attitudes and found Azar and Hashim's (2019) model, which classifies attitudes into four subcategories – significance, limitations, emotion, and assessment – and classifies each one of these categories as either positive or negative. See Table 3.3 of Azar and Hashim's (2019) attitude markers model and Figure. 3.1 for how they are embedded in the analysis framework.

According to Azar and Hashim (2019, p. 154), attitude markers serve important functions in academic texts. The functions are as follows:

> Attitude markers express the significance of the proposition, (2) they can justify the research, (3) they can judge and evaluate the researchers' works positively or negatively (i.e., praise and criticize), (4) they may indicate limitations and niche, and (5) they can emphasize the originality of the researchers' works by comparing and contrasting.
>
> (Azar and Hashim 2019, p. 157)

All of these functions are important in academic writing and for reader–writer interaction in written texts. In the same vein, Adel (2006, p. 174) stresses that writers employ attitude markers to communicate with readers the importance of a topic, its appropriateness, and their interest. Due to the importance of attitudes and the clarity of Azar and Hashim's (2019) classification, it was successfully applied as a supplementary model to Hyland's (2005a) for the further subcategorization of attitude markers in this study. Azar and Hashim (2019) stated that their model is valid and reliable because it was 'developed based on previous works and lists in literature especially Hyland [2000, 2008]'. Thus, it was chosen to be included in this study's framework of analysis.

TABLE 3.3 AZAR AND HASHIM'S (2019, P. 166) CLASSIFICATION OF ATTITUDE MARKERS

Significance	Limitations and gaps (negative)	Emotion (positive/negative)	Assessment
Crucial critically fundamental (ly) importance importantly influential main major notable noteworthy primary relevant significant significantly	Critical difficult issue lack limited only neglect need to short of unfortunately	Amazing (positive) Interestingly (positive) Fortunately (positive) surprising (positive) surprisingly (positive) unfortunately (negative)	Adequate best caution complex complexity comprehensive conclusively dangerous desirable dilemma easy effective generalizable great marginal new obvious

Another important modification that was made in relation to Hyland's model was to determine MD occurrence in the clause, and what functional elements of the clause MD serves. Four basic clause elements were added in order to keep track of where

the markers occur in the clause. This modification takes notice as ‘unit place’ as I have called it and includes subject, predicate, complement and adjunct, following Thompson’s (2014, p. 62) definitions.

The subject, as given in italics in example (7), is usually expressed by a nominal group (which can include determines, pre- and post-modifiers as well as a head noun, unless expressed by a pronoun or a proper name) and is mostly the first element in the clause (Fontaine 2012, p. 110). The predicate in this study will refer to the verb group (see example [8]). Thompson (2014, p. 63) states that the predicate shows ‘the process – the action, happening, state, etc.’. Complements, as in example (9), include both (in)direct objects and complements in the traditional sense (Thompson 2014, p. 63). They are typically expressed by nominal groups, but also by adjective phrases, prepositional phrases, and embedded clauses and mostly placed after the predicate. Finally, adjuncts, as in example (10), are optional elements of the clause, typically expressed by adverbal expressions which give information such as why, where, when or how the process takes place. While they can be placed almost anywhere in the clause (clause initial position, near the predicate, or clause final position), they differ from complements in that they cannot function as subjects (for more details, see Fontaine [2012] and Thompson [2014]). While subjects and complements are defined to some extent by their position in the clause (i.e., subject – predicate – complements), adjuncts vary in their clausal positions and for this reason, I have further classified adjuncts in terms of their three main positions: initial, middle, and final.

(7) *The purpose of this research* is to explore the validity of an assumption that native speaking teachers are more competent.

(8) The data analyzed *indicated* that students exhibited preference for NESTs.

(9) This is *important* because it enables the speakers to establish […]

(10) *Moreover*, few native speakers are outnumbered by non-native speakers who undertake a teaching career after graduating from higher learning institutions.

Due to the nature of MD markers, they are not always expressed by the grammatical units we find in each of the four-unit place types discussed above. In some cases, MD was expressed by only a part of the grammatical unit in subject position, for example *influential* in example (11) below. It would not have been possible to code the marker *influential* as a subject because the marker alone does not serve the subject function but the whole grammatical unit *influential corpus studies* does and *influential* is just a part of a unit expressing the subject. So, it is coded as part of a unit expressing a subject. Also, *such as* is coded as a unit expressing an adjunct function because the adjunct is expressed by the entire prepositional phrase (*such as Jie (2008) and Yaochen (2006)*). For this reason, such instances were coded as 'part of a unit' of a given element (i.e., subject, predicate, complement or adjunct). Also, in coding the evidentials *Jie (2008) and Yaochen (2006)*, I consider them as part of a unit expressing an adjunct as they have no clear function in the clause and were introduced by an adjunct. In total, example (11) expresses three different types of MD marker, each one is expressed by expressions within a larger grammatical unit.

(11) *Influential* corpus studies confirmed these results, *such as Jie (2008) and Yaochen (2006*).

So, the immediate structural function of a MD marker will be looked at within the grammatical unit. If the marker is the whole grammatical unit, then it will be coded as per the functional element that this particular grammatical unit is expressing as in example (12). In example (12), the marker *Medgyes* is the whole grammatical unit, which serves the functional element of a subject, so it is coded as per the functional element it serves, subject. However, if the marker is a part of a larger grammatical unit as is the case with *influential* in example (11), and it does not serve the functional element subject alone, but as part of the whole nominal group, then it will be coded as 'part of a unit of a unit expressing a subject element'. In examples (13) and (14) below, the markers are not the whole grammatical unit expressing a functional element, in example (13), *could* is a part of the verb group that express the predicate, so it is coded as a part of a unit expressing a predicate. In example (14), it is the same case as *crucial* is not the whole nominal group that function as a complement, but it is a part of a unit expressing a complement and it is coded accordingly.

(12) *Medgyes (1992)* refers to a non-native failing to 'be as creative and original as those whom they have learnt to copy' (p. 343).

(13) The findings *could* be used to help stakeholders to improve […]

(14) The financial outcome of internationalization plays a *crucial* part in the growth of the economy.

Another important addition that was added to unit place is the parenthetical subcategory to accommodate the MD markers such as evidentials and code glosses because they did not have a function in the clause as given in example (15) below.

(15) This study focuses on the spoken and written discourses that exist in academic context practices *(Bruce 2011, p. 6).*

In the above example (15), the source in the parentheses is working as an evidential MD marker that must be coded in this study, however it has no function in the clause grammar according to the four basic constituents: subject, predicate, complement and adjunct. Therefore, to account for these types of markers and similar ones, I added the unit place type 'parenthetical'.

With the above modifications, I was not only able to code MD markers and their types and functional/communicative functions as MD but also other functions. The unit place modification can only tell us what functions MD markers serve and where in the clause they occur i.e., syntactic functions. However, MD markers can come in different forms – as one word, group of words or even numbers or letters. Thus, these types were put in one category to form 'unit type' which is introduced in order to classify MD markers in terms of their occurrences as a single word, a group of words, or letters and numbers. For example, *crucial* in example (14) is one word while *the purpose of this research* in example (7) is a group. See Figure. 3.2 to see how these modifications are embedded in my framework.

The last modification, as shown in Figure 3.1 is the section type. This category refers to the dissertation sections in which the markers occur. Before the trial analysis (discussed below), I started by adding subcategories of the main sections/chapters of the dissertation such as abstract, introduction, literature review, methodology, results, discussion, and conclusion. However, during the trial analysis it became clear that some sections were combined in some dissertations, some sections were

not used, and there were new sections in some dissertations such as recommendations and implications. For example, dissertations number 13 and 22 combined results and discussion sections into one section. Therefore, I tried to be as flexible as possible in order to find comparable sections and added further subcategories into the section type: combined results and discussion (shown as combined res-disc in my framework); implication or limitation (shown as implication or limi); and recommendation.

Now after the explanation and introduction of my analysis framework, I will discuss the trial analysis in more detail.

3.8.2 Trial Analysis

Before doing the main analysis of this study and to test how reliable and valid this study's framework is, a trial analysis was performed. The trial analysis was beneficial and advantageous in that it presented us with (i) modifications and developments of the framework and (ii) a set of parameters to guide and assist the coding. First, I started with a trial analysis of five dissertations after uploading the data to the UAM corpus tool, in order to test the framework, which was initially Hyland's (2005a) MD model as shown in Figure 3.1. While the model provided a reliable presentation of MD use and types, it did not include classification of the MD markers in terms of their functions in the clause or their grammatical forms (e.g., whether a single word or a phrase and so on). Hyland's (2005a) model, similar to most MD studies in the literature, focuses on the communicative functions of MD (e.g., Hyland and Tse 2004; Hyland 2005a; Hyland 2005b; Alotaibi 2015; Estaji and Vafaeimehr 2015; Farahani and Sbetifard 2017). Therefore, since there is a value in considering the functions of MD markers in terms of the clause grammar, I introduced the modifications introduced in Section 3.8.1 to present MD functions communicatively and syntactically.

The framework was therefore modified, when necessary, based on the data (see Section 3.8.1 for more details). If we compare Hyland's (2005a) model in Figure 3.3 and the proposed framework of analysis presented in Figures 3.1 and 3.2, we can see that the proposed framework is an expansion of Hyland's model in coverage and detail, and more importantly that all Hyland's subcategories are preserved as the foundation of the analysis. Above all, the framework now covers both communicative/functional and syntactic functions of MD.

Hyland's (2005a) list of MD markers is suitable for the current study as it was created based on an investigation of dissertations. Additionally, the list, according to Hyland (2005a), Alshahrani (2015) and others, is comprehensive. During the trial analysis, any MD markers in my data that were not in the list were added. Maintaining this list allowed me to compare my analysis with other studies in the literature and updating the list means that this can be used in further academic studies. Some examples of the markers that were added are in Table 3.4 below, and the full list is in Appendix Five. This does not mean that every MD marker in the data is coded. There could be MD markers that are not coded in my corpora as it is not feasible to code every MD marker due to the size of the corpus, but every attempt was made to ensure that every MD marker is coded.

TABLE 3.4 EXAMPLES OF THE MD MARKERS ADDED TO HYLAND'S LIST

Original Markers in the List	The Added Similar Markers
On the contrary	Contrary to that; to the contrary
On the other hand	On one hand
Then	After that; afterwards
Certain extent	A large extent

Another important outcome of the trial analysis, adopting the 'let the data speak for itself' approach (Aarts 2011, p. 125), is the addition of a new subcategory of frame markers. This new subcategory is intended to draw 'attention to the writer's own study or work'. In Hyland's (2005a) model, the markers that form this new subcategory were simply labelled as 'announcing goals' even if they did not serve this function (announcing goals), but in practice they functioned to draw attention to the writers' own work and to distinguish it from other studies they have mentioned. To see how these two subcategories are distinct, see the following examples (16) and (17).

(16) However, what is clearer, and was raised early in *this study* is that the generalized NESTs versus NNESTs quandary is not one suitably answered […].

(17) *This study* could provide a preliminary basis for a communicative framework to be used by staff […].

In example (16), the marker is supposed to be coded as announcing goals as per Hyland's list, however that did not seem correct as the marker is serving the function of drawing attention to the author's study and differentiating it from other studies they cited, rather than trying to present the goal of the study. Therefore, it was coded as 'attention to the writer's own study', while in example (17) the marker is announcing the goal of the study, which is to provide a preliminary basis for a communicative framework, and it is coded as an announcing goal marker.

3.8.3 List of Parameters

The trial analysis was very informative and fruitful in that it aided in setting the parameters of the coding process. A list of parameters was created to ensure the consistency of the coding and its reliability, so that it can be duplicated and tested anytime. The following is a list of parameters and guidelines for the coding process for unclear markers or markers that can perform more than one function, some of which have been laid out earlier. All the examples are taken from my data.

1. To check that the markers identified are not a part of an embedded direct quotation. See the following example, where the marker *can* is MD, but it appeared in an embedded direct quotation and thus cannot be coded.

   (18) According to her, statement analysis is not 'an end in itself' but an 'aid that *can* be used to obtain a confession' (1996, p. 14).

2. To check if the marker is MD or propositional (see Section 2.3). Once it is decided, then it is coded as per the framework. Example (19) of *since* shows that the marker is not MD as is a part of the propositional content, whereas, in example (20), *since* is MD as it expresses a causative relationship between the stretches of discourse and justifies an argument. Likewise, in example (21), *while* is not MD because it is not comparing or contrasting; it means 'at the same time' or 'during'. However, in example (22), it is MD as it is functioning to express a comparison between two arguments, and it is similar to 'whereas'.

(19) *Since* 1970, the theoretical foundation of English learning textbooks has evolved […].

(20) Effective and efficient teaching and learning of English are very crucial *since* the language is international.

(21) […] as they have direct interaction with nurses *while* the nurses are performing their job duties.

(22) […] selecting phrasal verbs items for textbooks and that it depends majorly on the intuitions of the writers. *While*, in fact, the selection must be based on pedagogical standards and the findings of previous studies.

3. To code dashes (–) to separate group of words or a clause as parenthetical, as they both have similar functions such as separating extra information from the clause and not being a part of the clause grammar. See example (23) below where ‘ – *such as fourtly meaning fourthly* –‘ was coded as parenthetical.

   (23) TEEP-ArSL was therefore carefully checked, and all misspelt connectors – *such as fourtly meaning fourthly* – were taken into consideration […].

4. If *can* is expressing ability as in example (24), then it is not counted.

   (24) The researcher *can* count the frequencies of the modal verbs […].

5. To not count *Significant* and *significantly* as attitude markers when describing statistical tests as this is the convention for describing statistical analysis. For example, in (25) below, *significant* is not coded as MD, while in (26) it is.

   (25) There was *significant* negative relationship between […].

   (26) The theoretical framework of the study, well as its findings, are believed to be *significant*.

6. *Will* as MD is considered an endophoric marker (following Hyland 2005a, p. 156) if it comes after words like previous, next, following, subsequent… etc. It is coded as a booster if it shows certainty, or a stance. Examples of *will* as endophoric markers are given below in (27) and (28).

(27) The next Chapter, Chapter III, *will* discuss the research methods of this thesis.

(28) The next area of my paper *will* examine the immediate pre-war years.

7. *The next Chapter concludes/summarise* markers are considered stage labelling even though they could function as announcing goals. They are coded this way because Hyland (2005a) grouped them under the category of stage labelling.

8. When dealing with most of the markers that can serve two functions, i.e., multifunctional MD (Hyland 2005a), it will be looked at the context that it occurs in and one function will be decided. In this study, as general guide markers like *in fact* and *again* given in examples (29) and (30) are coded as boosters as they always stress certainty, even though it is mentioned in Hyland's list that they can function as code glosses. By this parameter, I try to be consistent as possible with these types of markers.

    (29) *In fact*, Wikins (1927) aimed to identify the notions that learners wanted to communicate […].

    (30) *Again*, the materials do not cater for the nurses' specific occupational needs […].

9. To code other multifunctional markers such as *e.g*., *for example*, and *see* when they are followed by a reference or references according to the first marker that describes their main function. These markers can function as code glosses which elaborate or explain the meaning (e.g., for example), engagement marker (see) or evidentilals (reference: source of information). However, researchers like Hyland (2005a) and Lee (2009) assign each marker to one subcategory that describes its main function. So, examples (31) and (32) are code glosses and example (33) is an engagement marker as the writer is directing the readers to check the source of information and not showing what the source of information is. (This is how Lee [2009] treated the same markers).

    (31) *(e.g. Hinkel 1995 and Decarrico 1986).*

(32) *(for example, Lea and Street 1998; Lea and Stierer 2000; Baynham 2000).*

(33) *(see Thompson 1984; Perks 1992).*

This was the set of coding guidelines I composed for myself and for the independent rater. Most importantly, when I was unsure about something, I reviewed the same or similar markers that I had coded earlier in the data to maintained consistency. Some of these guidelines were generated during the trial analysis and some during the actual analysis, which is discussed in the following section.

3.8.4 Textual Analysis

Despite the beneficial use of the UAM corpus tool, it only assisted the coding as all the codes themselves were manually annotated. This was because concordance searches did not produce specific enough results for me to decide whether a marker is functioning as MD or part of the propositional content. Additionally, I needed to look at the whole dissertation rather than concordance lines when addressing the other modifications of the analysis, such as the function of MD marker in the clause and in which sections of the dissertation it appeared. Therefore, I decided to read every word in each dissertation and annotate manually using the UAM corpus tool, to have a more reliable and sound analysis. The process was as follows:

1. I studied Hyland's list and reviewed it many times in order to be familiar with all the markers and their categories.
2. I opened the corpus on one page and the list on another page at the same time. I would start by reading the data very carefully and slowly to try to understand it in order to identify the markers. If I spotted a marker or something very similar to the original markers in Hyland's list, then I would reread the whole paragraph(s) that the marker appeared in and go through the parameters (see above) to decide if the marker is MD or propositional.
3. Once a MD marker was identified, I coded it according to the framework. First, the marker is coded as MD then as either interactive or interactional. After that, it was placed into a further subcategory of these two main dimensions (interactive or interactional).
4. I then moved to the 'unit place' modification (see Figure 3.2) which determines if the marker serves a function of the clause grammar (subject,

predicate, complement, or adjunct), part of a unit expressing a given element or none (parenthetical, which is not part of the clause grammar).

5. After choosing the marker unit place, I coded the 'unit type', which shows in what form the marker occurs (a word, group of words, or letters or numbers).
6. Finally, I labelled the dissertation section or chapter (abstract, introduction, literature review etc.) that the markers appeared in.

Figure 3.3 below shows how a MD marker appears on the UAM corpus tool after the coding is done and the above steps have been followed. The selected subcategories can be extended even further according to the marker type.

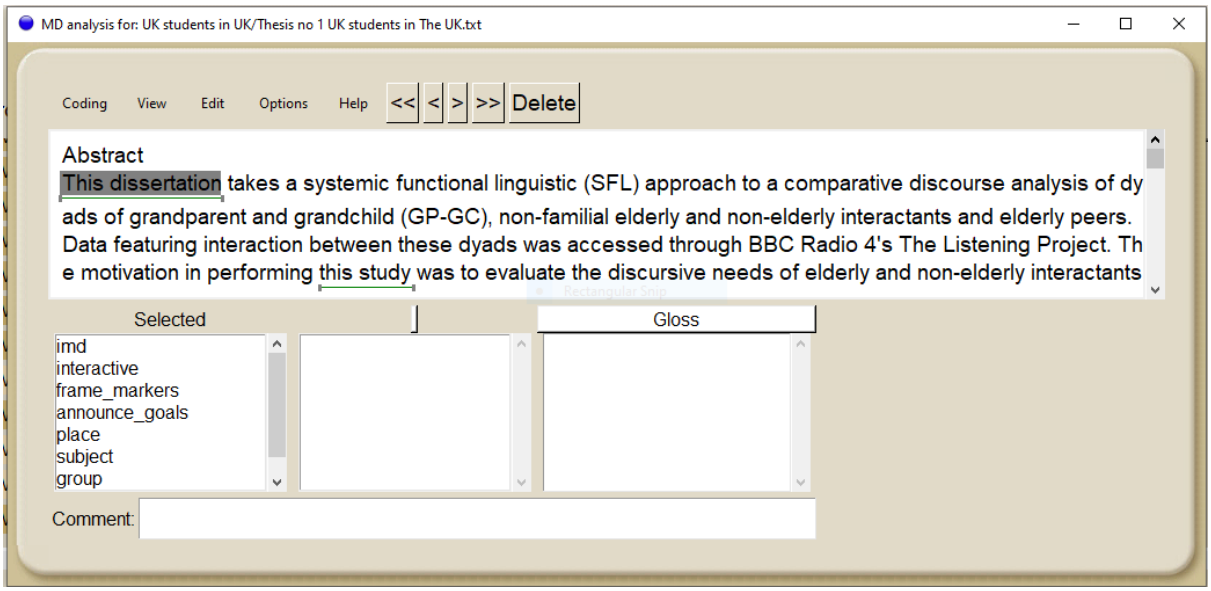

FIGURE 3.3 HOW A MD MARKER APPEARS ON THE UAM CORPUS TOOL AFTER THE CODING IS DONE.

These steps were repeated for every marker that was identified until all the data was coded to ensure consistent and systemic analysis and to present a clear understanding of MD in my data. In total, I coded over 29,000 markers. This was very time-consuming because it entailed reading each dissertation more than once and annotating each single marker separately. Despite the care taken with the analysis and verification of the analysis, there is still a chance that some subjectivity and inconsistency has occurred. According to Crismore et al. (1993, p. 54), this sort of analysis is 'messy' and it has 'a certain degree of impreciseness and subjectivity'. I agree with Crismore et al. (1993) in this regard and admit that in some case it was difficult to determine if the marker was MD or propositional and even difficult to

decide between the functions themselves (see the parameters list in Section 3.6.1.3). However, every step was taken to minimise any inconsistencies.

3.8.5 Statistical Analysis

Once the textual analysis was completed and all the data was coded. I started the statistical analysis, which was used to investigate the three corpora quantitatively. Firstly, chi-square statistical test was performed to compare the use of MD categories and subcategories across the corpora to determine if the differences in the occurrences were significant or insignificant. The significance level was established at <0.05, which is recommended by many researchers (e.g., Brezina 2018; Franke et al. 2012; Lee and Casal 2014). The chi-square test was deemed the most appropriate test for my data for the following reasons. First, it compares categorical data (Franke et al. 2012), e.g., MD markers. Second, according to Brezina (2018), it does not consider data normality and it can give accurate comparison even if the normality is violated. Third, it is commonly used to report statistical differences in corpus studies and especially in MD research (e.g., Alsharani 2015; Vasheghani Farahani and Dastjerdi 2019).

The Bonferroni correction was also applied to adjust the significance threshold for the test p-value (0.05 divided by number of tests = the new p-value), in order to account for the multiple tests that were used to compare frequencies of specific MD subcategories. According to Armstrong (2014), the Bonferroni correction is the most popular test to adjust the significance of multiple tests and to present an accurate significant result.

As it can be seen in Section 3.7, the corpora in this study vary in length as each sub-corpus has a different number of words. Therefore, due to this variation in the size of each groups' corpus, the frequency is normalised per 100,000 words when comparing the dissertation groups, as per the size of the smallest corpus, 109,000 (SIS). This normalisation is required to report accurate and reliable comparisons and because the length of the text significantly positively correlates with and influences the numbers of MD markers (r (28) = .86, p = .0001), i.e., the longer a text is, the more MD markers it has.

However, the raw frequency will also be used in calculating the proportions of using MD markers in unit place and unit type (explained in Section 3.8.1) when comparing

the dissertation groups. This is because we are looking at how a specific MD subcategory is proportionally distributed across the types of unit place (subject, predicate, complement, adjunct and parenthetical etc.) and if these proportions or distributions are significant or not. For example, the raw frequency of frame markers in SIS group is 972 (instances). The proportional distribution of this raw frequency of frame markers is 357 markers as subjects, 280 as adjuncts, 152 as complements, 151 as parentheticals, and finally 32 as predicates. In SIUK group, the frequency of frame markers is 1299 (instances) and the distribution is 486 markers as adjuncts, 366 as subjects, 270 as parentheticals, 98 as complements, and 79 as predicates. So, if we want to compare the use of frame markers as parentheticals in the two groups, we will have to use the raw frequency of 151 out of 972 for SIS and 270 out of 1299 for SIUK because we want to see how big the proportion of frame markers as parentheticals in each group. This is applied because in chi-squared test, we use a contingency table that uses rows and columns, which must always add up to the total number of observations for the particular feature investigated. Thus, we use the total number of frame markers minus the frequency of parentheticals and by default the table gives us the total number of the raw frequency of frame markers, as in Figure 3. 4 below, which shows how the calculation is established in contingency tables in Chi-square test.

	SIS	**SIUK**
Parentheticals	151	270
Other instances of Frame markers	821	1029
Marginal Column Totals	972	1299

FIGURE 3.4 A CONTINGENCY TABLE IN CHI-SQUARE TEST.

3.9 Reliability and Validity

Reliability and validity are two important features of research that ensure research is repeatable and it presents valid results. According to Cohen and Crabtree (2006), reliability is dependability; it shows the findings' consistency. It is 'the question of whether the results of a study are repeatable or replicable' (Bryman 2001, p. 29). In this way, reliability in discourse projects, according to Paltridge (2006, pp. 216–17), refers to consistency in the collection of data, analysis of data, and interpretation of

the results. To maintain reliability in this study, I first provided the description of the data collection criteria, the analysis framework, the parameters or boundaries of coding, and a list of the potential MD as clearly as I could. All of these would help another researcher to redo this study and achieve it with similar results. Second, I employed an independent rater reliability technique, which is explained in detail in the following section (3.10).

The other important feature, as mentioned earlier, is validity, which has two types: internal and external (Bryman 2001). Internal validity is 'the soundness, integrity, and credibility of findings' (Bryman 2001, p. 30), while the external is 'concerned with "generalisability" (the extent to which the findings can be generalized beyond the specific research context)' (Bryman 2001, p. 30). These two types of validity can be quite difficult to accomplish in a discourse study unless it is quantitative and looks at frequency of occurrences (Lee 2009, p. 146). Validity in qualitative research is difficult as the replications needed to test the validity can be impossible in social research (Bloor 1997, p. 49; Lee 2009, p. 146). Bloor (1997, p. 49) states that qualitative research may not validate the results but '[m]ay yield new data that throws fresh light on the investigation and provide spur for deeper and richer analysis'. However, this study did achieve internal validity in two ways. First, the data was unbiased and natural in that its contributors did not know this research, its aims and objective, or its questions. The second is the mixed methods approach of data analysis in which I first used quantitative and then qualitative analysis (see Section 3.3 for more details) to present valid and reliable results that may not be sufficiently reported using one research method.

Maxwell (1992, p. 293) suggests that internal and external validity is mainly concerned with generalisability. Internal validity involves generalising within particular groups, institutions, or communities and the latter is generalising beyond that. This study is not aiming to generalise its data to all dissertations in the field of applied linguistics as external generalisation, but it is possible to infer an application of my results to other Saudi student writers from other Saudi universities in applied linguistics. Also, the framework can be used to study other dissertations by Saudi writers in different fields. Additionally, this study does not claim to be representative of all MD usage for different reasons. First, because corpora are unrepresentative by definition as they 'cannot represent a whole language' and are 'merely a

collection of what it is convenient to collect' (Stubbs 2001, p. 223). Stubbs further states that a corpus 'can reveal only what does occur and not what cannot occur' (2001, p. 224), so no matter how large a corpus is, it is still hard to consider it representative. Second, for a written corpus to be considered large enough, it needs to be over five million words (Hunston 2002; Biber et al. 1998; O'Keeffe et al. 2007). With the difficulties faced in collecting the current number of dissertations, it was not possible to build a larger corpus, especially within the scope of this doctoral project and its timeframe. Finally, according to Leech (1991) the size of the corpus is not important, especially when the data is not available, as long as the study achieves its goals.

3.10 Independent Rater Reliability

There is a debate in the literature on whether it is appropriate to apply independent rater reliability or not (see O'Connor and Joffe 2020, p. 1). However, I believe the pros outweigh the cons in establishing independent rater reliability as it can yield benefits for research studies like improving systematicity and transparency of coding process (O'Connor and Joffe, p. 1). According to Mackey and Gass (2005, p. 242), independent rater reliability is a test conducted 'to ensure that the coding scheme can be used consistently, or reliably across multiple codes wherever possible'. They suggest that 'it is possible to establish confidence in independent rater reliability with as little as 10% of the data' (p. 243). Thus, three dissertations from the data, which comprises 10% of the whole data were checked by an independent rater. The rater was asked to check all these three dissertations and to go through them line by line. The independent rater is a PhD student at the school of Modern Languages, Cardiff University, who has a good knowledge of MD and a good experience of teaching English Language at a university level to check the coding.

I first explained the whole process to the independent rater in terms of the collected data, the framework, the parameters, etc. I then asked him to take all the materials that I used in my coding, especially the chapter on MD framework in Hyland (2005a), and study them until he felt confident in checking my work. I asked him to choose three dissertations at random, one from each group (Saudi students in Saudi, Saudi students in the UK, and UK L1 English students in the UK). After allocating the chosen dissertations, I created a corpus project with only the three selected dissertations. I removed all the codes from the dissertations and kept only the

markers highlighted without classifying them into categories (i.e., without any coding just highlighted expressions) so he can be guided and focused. I instructed him to go through the dissertations to check every marker and code them. If he agreed that a marker was MD, then he coded it and moved to another marker, but if not, then he wrote why he disagrees and his suggested coding. The independent rater was also asked to add and code any potential MD markers that I missed. It was decided to introduce the rater to the original highlighted markers for two reasons. First, it would make him focused especially as he would be coding manually over 3,000 markers based on a detailed framework as 'it is difficult for coders to familiarise themselves with lengthy coding frame' (O'Connor and Joffe 2020, p. 7). Second, this will not prevent the rater from considering any new potential markers as initially instructed. This practice is also acceptable in the independent rater reliability, as according to O'Connor and Joffe (2020, p. 8).

The independent rater reliability test was calculated by looking at the ratio of all coding agreements against the total number of coding decisions made by the rater (Mackey and Gass 2005, p. 243; O'Connor and Joffe 2020, p. 10). According to Mackey and Gass, 'anything above 75% may be considered "good"' (2005, p. 244). After following this simple percentage calculation through the formula, the rater scored 90.42% in the first thesis, 87.62% in the second thesis, and 90.92% in the third one. The agreement percentages are high, suggesting that our framework is reliable, and our analysis is consistent. Therefore, the independent rater's codes were not included in the results, and I did not recode them as the main goal of doing the independent rater technique was to make sure that our framework and analysis are robust and consistent, which was achieved. Additionally, the literature on independent rater reliability such as Mackey and Gass (2005) does not suggest recoding the data if the agreement is high. Finally, the different rater's codes are marginal in comparison to the total numbers of the identified markers, and they will not have any impact on the results.

3.11 Ethical Consideration

Every ethical consideration in terms of collecting and dealing with the data and revealing them was taken into consideration. After consultation with the Postgraduate Office at the school of English, Communication, and Philosophy at Cardiff University and the ethical approval guidelines, it transpired that consent

forms are not needed from the writers of the dissertations as long as the dissertations are publicly available and the writers' personal information (e.g., names and academic numbers) are not used. The policy is that when students submit their dissertations, they sign a form to consent that their dissertations will be publicly available and can be used for research purposes. However, the dissertations will not be shared with anyone except my supervisors, the examiners of this study, and the independent rater for this study. Additionally, only limited selected excerpts are included in my research for illustrative purposes, rather than whole sections of the dissertations.

3.12 Conclusion

This chapter started with research methods and introduced the specific research design of this mixed method study. It then moved to describe the sites of this research, the process of data collection and analysis of data procedures. In these procedures, it discussed the 30 dissertations gathered for analysis, what framework was used, and the trial and textual analysis. The chapter also described the corpus tool and which parameters it employed in order to maintain a consistent and systematic coding of data. This chapter concluded with reliability and validity measures taken and ethical considerations.

Chapter 4: Results and Discussion of Metadiscourse in the Whole Corpus

4.1 Introduction

The results and discussion in this study are divided into three chapters for clarity and each chapter is concerned with answering one main research question. This chapter, based on the textual analysis, reports the use and frequency of MD markers in the whole corpus, to show how MD markers are used in the dissertation genre in the field of applied linguistics. The other main aim of this chapter is to fill in the gaps about an under-researched area in the theoretical knowledge of MD. First, MD markers have not been investigated syntactically to show where they appear in the clause or which functions they serve. Second, there have been few reports on whether MD makers appear mostly as a single word, a group of words, letters, or numbers. Finally, the distribution of MD markers across dissertation sections has not been fully explored. Therefore, to bridge the gaps on these identified areas, this chapter seeks to present and discuss the findings to answer the following research question and sub-questions:

1. What is the overall use of MD and MD subcategories in the whole corpus?

    1-a) What is the frequency of the overall use of MD? And what are the 10 most used MD markers overall?

    1-b) What is the frequency of each MD subcategory? In each interactive and interactional MD category, what are the 10 most used MD markers?

    1-c) How is MD used as a unit place?

    1-d) How is MD used as a unit type?

    1-e) How is MD distributed across dissertation sections?

This chapter is divided into three main sections. Section 4.2 discusses the overall use of MD in the whole corpus, including the most used MD markers overall (1-a). In Section 4.3, the frequency of MD subcategories and the most used MD markers in interactive and interactional MD (1-b) are presented and discussed. Section 4.4 comprises three parts, discussing how MD is used as a unit place (1-c), as a unit

type (1-d), and how MD is distributed across dissertation sections (1-e). Section 4.5 is the conclusion, identifying how it has contributed towards this study's aims.

4.2 Overall Use of Metadiscourse in the Whole Corpus

This section specifically discusses Q 1-a (What is the frequency of the overall use of MD? And what are the 10 most used MD lexical types overall?). After manually annotating the whole corpus of this study, which consists of 30 applied linguistics dissertations (over 411,000 words in total), 29,338 MD markers have been identified: 17,339 of which are interactive and 11,999 are interactional. As per Table 4.1 below, there are differences between the two dimensions of MD in raw frequency (RF), in normalised frequency per 100,000 (NF), and in percentage. These differences are significant in both RF ($\chi 2 = 937.95$, df = 1, $p < .0001$) and NF ($\chi 2 = 208.38$, df = 1, $p < .0001$).

TABLE 4.1 THE OVERALL USE OF MD IN THE WHOLE CORPUS

Metadiscourse	Raw Frequency	Normalised Frequency	Percentage
Interactive	17339	3710	59.10
Interactional	11999	2567	40.90
Total	**29338**	**6277**	**100.00**

The significantly higher use of interactive markers over interactional suggests that in their dissertations, applied linguistics students are more concerned with the organization of their texts, to present their ideas and arguments more coherently, than about engaging and interacting with readers, and acknowledging their uncertainties. One possible explanation for this high use of interactive MD could be due to the length of the dissertations, which makes it necessary for the writers to employ more interactive markers to connect and structure discursively elaborated arguments (Hyland and Tse 2004, p. 171). However, this use is generally a feature of academic writing in different genres as established in the literature review and is in line with studies such as Hyland (2005a), Burneikaite (2008), Lee (2009) and Alkathlan (2019). In all these studies writers tend to use more interactive MD than interactional. Specifically, in Alkathlan (2019, p. 223) there are 62.74% interactive MD and 37.26% interactional MD, and in Hyland (2005a, p. 57) there are 63.02%

interactional MD and 36.98% interactional MD, which are similar to the results in Table 4.1.

The 10 most used MD markers (i.e., expressions) in the whole corpus are *can*, *also*, *will*, *however*, *could*, *some*, *may*, *such as*, *I*, and *therefore*, respectively. Six of these are interactional, and four are interactive. This could suggest that even though the students used significantly more interactive MD, they used a wider variety of differing markers to express interactional MD and used a limited variety to express interactive MD. Most of these most common markers are also frequent in studies such as Hyland (2005a) and Lee (2009).

4.3 MD Subcategories

This section will answer Q 1-b (What is the frequency of each MD subcategory? In each interactive and interactional MD category, what are the 10 most used MD makers?) by discussing the frequency of MD markers in interactive subcategories, (Section 4.3.1), and interactional subcategories (Section 4.3.2).

4.3.1 Interactive

Interactive MD markers help the reader to understand the text and guides them through it. They are used when the writer is keeping the readers in mind and is aware of their needs and expectations (Hyland 2005a, p. 52). Interactive MD is divided into five subcategories: transitions, evidentials, frame markers, code glosses, and endophoric markers. Each subcategory serves a specific function to ensure that the writer's preferred message reaches the audience (for more details see 2.8.3).

As stated earlier in this section, there are 17,339 interactive markers in the whole corpus. Evidentials, which show the sources of information, are the most used subcategory (4,923 instances), as illustrated in Figure 4.1. The prevalence of evidentials reflects Hyland's (2005a) idea that a citation is a central feature of persuasion, 'as it helps provide justification for arguments and demonstrates the novelty of the writer's position, but it also allows students to display an allegiance to a particular community and establish a credible writer identity' (Hyland 2005a, p. 56). As the masters' students are novice researchers, the high use of evidentials suggests that they might worry about presenting their arguments and thus overemphasise their sources, unlike more experienced writers of research articles

who use fewer evidentials (see Lee 2009; Alharbi 2021). This finding of high volume of evidentials in this study agrees with Hyland's (2005a) and Alkathlan's (2019) studies.

Transitions are the second most used interactive MD subcategory (4,402 instances). These function to express relations between main clauses to demonstrate internal connections, which is an academic writing feature that helps the writers to present their arguments and connect them unambiguously (Hyland 2005a, p. 55). This high use of transitions is consistent with previous research, especially those studies that looked at dissertations (e.g., Hyland 2005a; Burneikaite 2008; Alshahrani 2015). However, the distribution of transition in these previous studies is slightly different from this research, as transitions are the most used subcategory in most of the previous studies. This variation could be due to different dissertation sections investigated (Alshahrani [2015] looked only at PhD introductions and conclusions). It could also be due to the writers' different cultural backgrounds or institutional contexts in each one of these studies, which could lead them to place more emphasis on some subcategories than others.

The third and the fourth most used subcategories are frame-markers (3,722 instances) and code glosses (2,655 instances). Frame markers help sequence, order, and announce goals and text stages, and code glosses help to provide examples and explanation of arguments. The moderate use of these two subcategories suggests that the students are aware of the importance of organizing their texts and explaining them in a clear and explicit way (Hyland 2005a). These findings agree with other studies such as Hyland (2005a), Lee and Casal (2014), and Alkathlan (2019).

Finally, the least used subcategory is endophoric markers, which were used in only 1,637 instances. These function to connect different part of the texts together, therefore this low use of endophoric markers implies that the students might have failed to refer to different parts of the texts, as Hyland (2005a) suggests, or did not focus on making a connection between general parts of the text to indicate what has been said or will be said. A low use of endophoric markers is also apparent in more experienced writers (Alharbi 2021, p. 49), suggesting that it could be a feature of academic writing generally, as it is in line with the most cited studies in the literature

such as Hyland (2005a), Sultan (2011), Zakaria and Malik (2018) and Alkathlan (2019). However, because most of these studies (except Hyland 2005a) looked at shorter pieces of writing, their findings may not be comparable to this study because endophoric markers are highly influenced by the specific kinds of text that they function to connect.

The 10 most used MD markers in the interactive category in the whole corpus are *also*, *however*, *such as*, *therefore*, *this study*, *because*, *for example*, *thus*, *the study*, and *although*, respectively. Most of these markers are also among the most frequently used in the literature such as Lee (2009, pp. 195–207) and Waller (2015, p. 238).

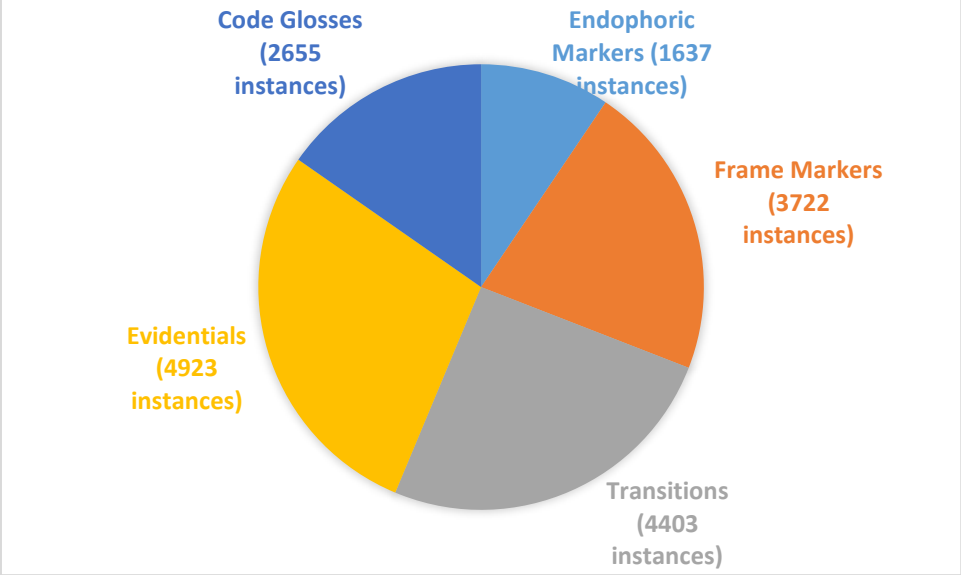

FIGURE 4.1 THE OVERALL DISTRIBUTION OF INTERACTIVE SUBCATEGORIES IN THE WHOLE CORPUS

4.3.2 Interactional

Interactional MD markers refer to 'the ways writers conduct interaction by intruding and commenting on their message' (Hyland 2005a, p. 49), which means that authors are trying to involve and engage the reader with the texts. The goal here is to show the writers' stances and views and to encourage readers to interact with them. Interactional MD is divided into five subcategories: hedges, attitude markers, boosters, self-mentions and engagement markers (for more details see 2.8.3). In total, 11,999 interactional markers were identified in the data.

As illustrated in Figure 4.2, hedges (which are used to show uncertainty) are the most frequent subcategory in interactional markers, but also the most frequent

across both main MD categories (interactive and interactional) as they were used 5,663 times (19.30%). Hedges are twice as common as any other interactional subcategories, which shows the exceptional significance of this feature in academic writing. This dominance of hedges, which is in line with Hyland (2005a; 2005b) and Alharbi (2021), indicates that the students are aware of the critical importance of separating fact from opinion, and they present their claims 'with appropriate caution and regard to colleagues' views' (Hyland 2005b, p. 186).

Attitude markers are the second most used subcategory with a frequency of 2,927 as indicated in Figure 4.2, followed by boosters (which are the opposite of hedges as they purposefully express certainty). The high use of attitude markers, according to Hyland (2005a, p. 53), suggest that students are confident in expressing their attitudes and the evaluation of their texts and stance. The participants in this current research specifically expressed significance, limitations, emotions, and assessments with significance being the most frequent feature (will be introduced in 6.3.2). The relatively high use of attitude markers in this study is not in line with previous research such as Burneikaite (2008) Wang (2015), Zakaria and Malik (2018), and Alharbi (2021) as attitude markers were among the least used subcategories in their studies. This contradiction with previous research could be due to the genre and/or cultural differences as some of these studies did not look at dissertations and looked at different learner groups. Interestingly, Hyland (2005a), who also investigated dissertations reports a similar finding as attitude markers were the third most used interactional subcategory in his study.

The second least used subcategory is self-mentions (explicit references to the writer) with only 795 instances. This low use of self-mention indicates that the students do not explicitly present themselves in their texts and may not claim the authorial stance of their arguments (Hyland 2005a, p. 53). Avoiding self-mentions use is a feature of academic writing as suggested by Al-Zubairy (2019), Burneikaite (2008) and Waller (2015). In particular, Waller (2015, p. 273) stresses that 'one of the most widely known features of academic writing is the avoidance of first-person pronouns'. This low use of self-mentions is not consistent with Hyland (2005a) and Zakaria and Malik (2018) but is in line with Alkathlan (2019), which again could be because Alkathlan also looked at Saudi participants.

Engagement markers (used to explicitly address the reader), as can be seen in Figure 4.2, are the least used subcategory in the interactional markers and in the whole corpus with only 204 instances of use. This shows that the participants in this research may not be engaging or interacting with their readers enough by addressing them, focusing their attention, or including them as discourse participants (Hyland 2005a, p. 53). This finding is not in line with some previous research like Zakaria and Malik (2018) and Alkathlan (2019) as the engagement markers were the second most frequent markers in their research, which could be attributed to the sub-genre investigated (paragraphs and students journal articles, respectively) as each genre has specific and different requirements.

The 10 most used MD markers in the interactional category in the whole corpus are *can*, *will*, *could*, *some*, *may*, *I*, *would*, *found*, *only*, and *should*, respectively. *May* and *I* are the only MD markers that are frequent in other studies such as Waller (2015, p. 241–42) and Lee (2009, p. 214–32). A limited agreement with previous research could be because Waller and Lee examined the essay sub-genre, which is a shorter sub-genre that could have hindered the use of a different variety of MD markers.

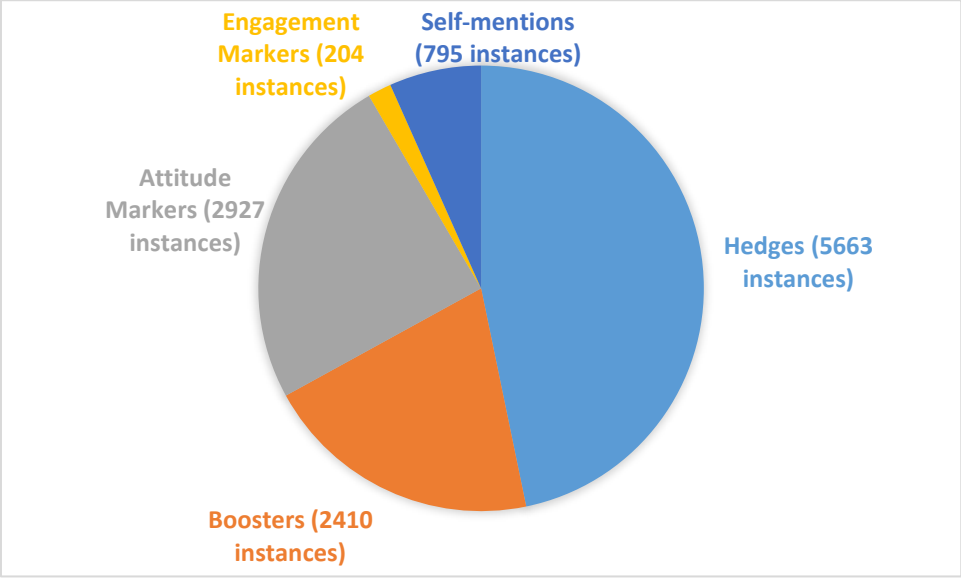

FIGURE 4.2 THE OVERALL DISTRIBUTION OF INTERACTIONAL SUBCATEGORIES IN THE WHOLE CORPUS

4.4 Metadiscourse Unit Place, Unit Type and Dissertation Sections in the Whole Corpus

4.4.1 Unit Place (Functions of MD within the Clause)

This section seeks to discuss and answer sub-research question 1-c (How is MD used as a unit place?). Unit place and how it is coded are explained in Chapter 3. However, in brief, unit place is concerned with the functions that MD markers serve in the clause (subject, predicate, complement and adjunct). MD markers do not always serve these functions themselves, but they appear as a part of a unit expressing one of the four functions. This can be seen in example (34) below where the word *significant* is an attitude marker that is a part of a unit expressing a subject and is not the whole subject itself, as it is an adjective modifying the noun *research*. Thus, markers that do not entirely serve as one of the main clause functions are classified as a part of a unit expressing the clause function that it contributes to or appears in (i.e., part of a unit expressing a subject, part of a unit expressing a predicate, part of a unit expressing a complement, and part of a unit expressing an adjunct). Additionally, MD can occur in parentheses, as in example (35). Here the MD functions as a code gloss to add extra information, so a parenthetical unit place was added for such MD instances.

(34) *Significant* research was undertaken by […]. **(UKIUK)**

(35) Those structural units were produced by ESL intermediate level learners *(native speakers of Spanish, Portuguese, and Arabic)*. **(SIUK)**

MD markers in this current study appear mostly as adjuncts or as a part of a unit expressing an adjunct with the frequency of 34.80%, which is over one third alone of the total of unit place (see Table 4.2). Table 4.2 also shows that of all the three adjunct positions (initial, middle and final), middle position is used the most, followed by initial. This is to be expected because of the nature of MD in expressing relations between main clauses, and connecting arguments, paragraphs, and dissertation sections (Hyland 2005a, p. 49). This finding of MD appearing mostly as adjuncts or a part of a unit expressing adjuncts is in line with Greenbaum and Quirk (1990) who generally classifies most of the markers used in this research as adjuncts.

TABLE 4.2 MD FUNCTIONS WITHIN THE CLAUSE (UNIT PLACE) IN THE WHOLE CORPUS

MD Unit Place	Frequency	Percentage
Adjunct + part of a unit expressing an adjunct *	**10210**	34.80%
Predicate + part of a unit expressing a predicate	6623	22.45%
Subject + part of a unit expressing a subject	4635	15.79%
Parenthetical	4177	14.24%
Complement + part of a unit expressing a complement	3692	12.58%
***Adjunct Position**		**10210**
Initial	3848	37.70%
Middle	4725	46.29%
Final	1632	16%

Table 4.2 above also illustrates that the second most used function of MD markers is predicate or a part of a unit expressing a predicate (22%) which could be a reflection of the high use of hedges and boosters, because they mostly appear as verbs. This use of hedges and boosters as mainly verbs is in line with Prasithrathsint (2015). Finally, the table shows that MD markers function with a frequency of around 15% for each of the remaining functions: subjects (or a part of a unit expressing a subject appear), parentheticals (14.24%), and complements (or part of a unit expressing a complement (12.58%).

MD use in unit place informs us that MD markers have a very important role in the functions of the clause as 85.76% of the markers serve at least one of the functions or a part of a unit expressing a clause function. The remaining 14% of MD appears as parentheticals i.e., they appear in parentheses without serving any functions in the clause.

4.4.2 Unit Type

This section is concerned with answering and discussing sub-research question 1-d (How is MD used as a unit type?). MD, as stated earlier in the methodology section, is classified as a group (more than one word), a word (a single word), letters (A, B) or numbers (1, 2), and these categories represent unit type in this study. As

shown in Table 4.3, single words make up the largest proportion of MD markers in the whole corpus (60.32%) which is significantly more than the other categories combined ($\chi 2 = 1250.4$, $df = 1$, $p < .001$). MD appears as a group with 35.53% frequency, followed by letters or numbers (4.14%). This finding indicates that MD tends to be expressed mostly by single words, less often as a group of words and rarely as letters or numbers, suggesting that using letters or numbers to show sequence or order information is not a frequent feature of MD in academic writing. The overall findings related to unit type are in line with the definition of MD in studies such as Vande Kopple (1985), Crismore et al. (1993), and Hyland (2005a; 2005b) where they refer to MD markers in general as single words.

TABLE 4.3 MD UNIT TYPE IN THE WHOLE CORPUS.

MD Unit Type	Frequency	Percent
Word	17697	60.32%
Group	10424	35.53%
Letters or numbers	1214	4.14%

4.4.3 Dissertation Section

This section discusses sub-research question (1-e) about the distribution of MD across dissertation sections. MD in this research, as can be seen from Table 4.4, appeared mostly in literature review sections, totalling one third (33.53%) of all MD across the dissertation sections. The section with the second highest number of MD markers is the combined results and discussion, closely followed by the methodology section. The results section contained the fourth highest number of MD, followed by the introduction, then discussion, with little difference between the two (8.88% and 8.25%, respectively). As shown in Table 4.4, the sections that contained a low frequency of MD markers are the implications or limitations, abstract and recommendations. Finally, the table illustrates that the fewest MD markers appeared in the combined conclusion, limitations and recommendations section (0.04%).

TABLE 4.4 MD DISTRIBUTION ACROSS DISSERTATION SECTIONS IN THE WHOLE CORPUS

Dissertation section	Frequency	% of MD in each Dissertation section	The Most Used MD Subcategory in each Section
Abstract	449	1.53%	Frame markers
Introduction	2605	8.88%	Frame markers
Literature Review	9805	33.42%	Evidentials
Methodology	4137	14.10%	Frame markers
Results	3496	11.91%	Hedges
Discussion	2422	8.25%	Hedges
Conclusion	1026	3.50%	Hedges
Combined Results & Discussion	4248	14.48%	Hedges
Implications or Limitations	685	2.33%	Frame markers
Recommendations	386	1.32%	Hedges
Conclusion, Limitations and Recommendations	11	0.04%	Transitions

This high use of MD in the literature review section in the whole corpus could be due to how long this section tends to be in comparison to other sections. MD use has been shown in this study to be sensitive to the length of the texts (which contradicts what has been reported in research such as Chang 2015). It could also be because academic writing textbooks, such as Swales and Feak (1994) and Bailey (2015), emphasise that being cautious about the strength of a claim and backing it up is necessary to make a successful piece of writing. Swales and Feak (1994, p. 185) also state that in literature reviews, good students should use a variety of patterns to vary their sentences i.e., differing reporting verbs and different ways of presenting citations. These recommendations by Swales and Feak (1994) and Bailey (2015) relate to three frequently used subcategories in this research: hedges and boosters, which are expressed mostly by a variety of reporting verbs to show and express caution and confidence in stance making and evidentials, which are mainly citations of previous research to strengthen and back up students' claims and arguments (as will be introduced in the next chapters on these specific subcategories). Hence, these could be why the students use more markers in the literature review section.

The variation in MD use across the sections in Table 4.4 is expected and can be attributed to different reasons. First, as mentioned above, the length of the sections could influence the MD frequency and to overcome this issue, this research used normalised frequency (per 100,000) and percentages of distributions (i.e., a ranking order from the most used to the least used) to have a fair and reliable comparison. Second, the rhetorical functions of each section could also have some impact on MD frequency. For example, in the results and discussion section, students used hedges the most frequently, which could be because they are acting cautiously when discussing and presenting their findings. This use of hedges might be especially relevant considering they are novice researchers. The students also used boosters most frequently in the literature review. This use could show that although the students are aware of their reader's alternative views, they presented some of their views with certainty to validate their research or stance as given in example (36) below.

> (36) From this point of view, it is *clear* that the way to help students with academic writing is by designing writing classes or workshops. **(SIUK)**

There would appear to be a lack of studies in the literature reporting on the distribution of MD across dissertation sections, so there is little known about this in the field of applied linguistics. Very few studies looked at specific sections, such as Duruk (2017) who looked at methodology, results and discussions. Duruk (2017) reported that the ranking order of MD distribution was discussion, results, and methodology, respectively. This current study is generally in line with Duruk's (2017) distribution, but the issue here is that some results and discussion sections in this current study are combined, which will give us a slightly different ranking order i.e., first results and discussion, and then methodology. The reason behind this distribution could be attributed to section length and each section's rhetorical functions.

Finally, Table 4.4 above indicates which MD subcategories are most used in each dissertation section. Hedges are more dominant in sections that are mostly about presenting and discussing findings and recommending future research. This could be because of hedges' functions in expressing the claims made by the novice researchers in these sections with cautious and careful language (Hyland 2005a).

This is also in line with Farrokhi and Emami (2008), who report that hedges are used the most in discussion sections. Another interesting finding in the table is that evidentials are the most used subcategory in the interactive MD, and the second most used in the whole corpus but is still only dominant in one dissertation section: the literature review, where they occur 58.88% of the time. This shows the exceptional importance of evidentials as a rhetorical feature in the literature review, which also is in line with studies such as Rabab'ah and Al-Marshadi (2013). Table 4.4 also shows that frame markers are dominant in four sections, mostly the typically shorter sections which require research goals to be announced, and arguments and information to be ordered and sequenced such as in the sections of limitations and implications. Students mostly in these sections prefer to use lists to clearly present their content. Finally, the table only features one subcategory of interactional MD (hedges), while there are three subcategories of interactive MD, which suggests the overall dominance of interactive MD over interactional across dissertation sections. This reflects the wider pattern, where interactive MD is more frequent across the whole corpus.

4.5 Conclusion

This chapter presented the discussion of the first main question and sub-questions about the overall use of MD markers across the whole corpus and across the different aspects of the investigation (i.e., unit place, unit type and dissertation sections) to fill the gap on these under-researched areas. This chapter reported the overall use of MD in the whole corpus as 29,338 markers: 17,339 (59.10%) interactive and 11,999 (40.90%) interactional. It showed that the high use of interactive markers is a feature of the applied linguistics dissertations evaluated in the current study, which is also consistent with other studies such as Hyland (2005a), Burneikaite (2008), and Alharbi (2021). The focus on interactive MD suggests that this research's students are more concerned with the organization of their texts than engaging and involving their readers.

This chapter further states that within the interactive subcategories, evidentials are the most used subcategory followed by transitions, frame markers, code glosses, and endophoric markers, respectively. The dominance of evidentials and transitions indicate their importance in thesis writing and is in accordance with studies in the literature, specifically Alkathlan (2019). The moderate use of frame markers and

code glosses suggests that the students are aware of the importance of organizing their texts and explaining them in a clear and explicit way (Hyland 2005a). Further, the low use of endophoric markers shows that the students did not focus on making a connection in some parts of the text as to what has been said or will be said. This use of endophoric markers as the least used subcategory could in fact be a feature of academic writing as it is in line with the most cited studies in the literature such as Hyland (2005a), Sultan (2011), Alshahrani (2015), Zakaria and Malik (2018) and Alkathlan (2019).

Within interactional MD, hedges are the most frequent subcategory, but also within the whole corpus as well, which suggests an exceptional significance of this feature. Attitude markers are the second most used interactional subcategory followed by boosters. The high use of attitude markers could suggest that the students are confident in expressing their attitudes and the evaluation of their texts and stance (Hyland 2005a, p. 53). The last two subcategories are self-mentions and engagement markers, respectively. This implies that the participants in this study are not keen on presenting themselves explicitly and taking an authorial stance and may not be engaging or interacting with their readers effectively.

This chapter addressed the research gaps related to MD unit place and unit type in the field of applied linguistics and in the genre of dissertations. First, unit place informs us that MD markers have a very important role in the functions of clause constituents as 85% of the markers serve at least one of the main functions (subject, predicate, complement, and adjunct) or a part of a unit expressing one of the main functions. The 14% left of MD appears in a parenthetical unit place. The most used unit place that MD serves is adjuncts or part of a unit expressing an adjunct as they alone form around 34.80% of the total unit place with middle adjunct being the most used. The second most used unit place clause function is predicates or a part of a unit expressing a predicate. Following that are the functions as subjects and part of a unit expressing a subject and parentheticals. The least used functions are complements and part of a unit expressing a complement. Second, in unit type, MD is mostly expressed by single words (60.32%), then less often as a group of words (35%) and rarely as letters or numbers (4.14%), which is in line with the definition of MD in studies like Vande Kopple (1985), Crismore et al. (1993), and Hyland (2005a; 2005b).

Finally, this chapter also filled in the gap of research about the distribution of MD markers across dissertation sections. MD markers appeared the most in the literature review section, which contained one third (33.42%) of all MD (with evidentials dominance). The section with the second highest number of MD is the combined results and discussion (with hedges dominance) followed by the methodology section (with frame markers dominance) with just a slight difference between them. The results were the fourth highest section, followed by the introduction, then discussion, with quite similar use between them. After that, implications or limitations, abstracts and recommendations contained the fewest MD markers, respectively. The distribution of MD across dissertation sections in this research, which could be due the varying length and rhetorical functions of each section, is in line with what has been reported in Duruk (2017). However, studies specifically looking at dissertation sections are rare, and this research is similar to studies that looked at academic writing in general like Swales and Feak (1994) in terms of writers using cautious language and backing up claims in specific dissertation sections like the literature review.

Now as we have discussed the use of MD in the whole corpus to show how it is used in the field of applied linguistics and in the genre of dissertation in general, we will move on in the next two chapters to discuss and compare the similarities and differences between the sub-corpora of this research (SIS, SIUK and UKIUK). Chapter 5 will discuss the interactive dimension of MD and Chapter 6 will discuss the interactional dimension.

Chapter 5: Results and Discussion of Interactive Metadiscourse

5.1 Introduction

The previous chapter was about the overall use of both interactive and international MD in the whole corpus. This chapter now moves on to discuss and compare the three dissertation groups: SIS, SIUK and UKIUK in their use of interactive MD, including its subcategories, as well as interactive MD across the other layers of investigation (i.e., unit type, unit place, and dissertation sections). It examines the similarities and differences between the dissertation groups to fill in the gap on the use of interactive MD by Saudi students and how they compare to UK L1 English students. This chapter also discusses the institutional contexts and cultural backgrounds as potential influences on Saudi students' use of interactive MD as other factors have been controlled e.g., genre, discipline and proficiency level. This chapter therefore discusses research questions two and three, along with the related sub-questions, as follows:

2. How do Saudi students in Saudi Arabia, Saudi students in the UK, and UK L1 English students use interactive MD and its subcategories in their writing?

    2-a) What is the overall frequency of interactive MD among the dissertation groups?

    2-b) Within each interactive subcategory, what are the similarities and differences across the dissertation groups in terms of frequency, unit place, unit type, and dissertation section?

3. How do the factors of cultural background and institutional context influence the Saudi students' use of interactive MD?

This chapter is split into five main sections. The first one is Section 5.1, which is the introduction. The second Section 5.2 discusses the overall frequency of interactive subcategories in all three dissertation groups (Q 2-a). The third Section is 5.3 and is also divided into five parts, each comparing a specific interactive MD subcategory within the dissertation groups, reporting similarities and differences in frequency, unit place and dissertation sections (Q 2-b). Section 5.3 commences with the most

used subcategory (evidentials) and ends with the least used (endophoric markers). The fourth Section (5.4) discusses the possible influence of the students' cultural background and institutional context on the use of interactive MD (Q 3). The last Section (5.5) forms the conclusion on the use of interactive MD by the three dissertation groups and what could have influenced their use.

5.2 Overall Interactive Metadiscourse in each Dissertation Group

Although this chapter is primarily about interactive MD, the overall use of both interactive and interactional MD in each dissertation group is briefly introduced to provide a background prior to discussing interactive MD in detail. The total use of interactive MD in each dissertation group is significantly different from interactional MD as shown in Table 5.1. The table shows that SIS used the fewest MD markers in both raw frequency (RF) and per 100,000 normalised frequency (NF), as well as the fewest interactive and interactional markers of all dissertation groups. This use of MD markers in SIS accounts for only 22.38% out of the total number of MD markers (29,338). SIUK's use of MD formed almost one third of the overall total use of MD markers (32.87%) and UKIUK employed the highest number of interactive and interactional MD markers, with over 44% of the overall use of MD markers. This use of both Saudi groups is consistent with claims in the literature (Burneikaite 2008; Ozdemir and Longo 2014; Kuhi and Mojood 2014; Noorian and Biria 2017), that NNSs use fewer overall MD markers than NSs.

TABLE 5.1 THE OVERALL USE OF MD BY ALL THREE DISSERTATION GROUPS IN THE WHOLE CORPUS

Metadiscourse	SIS			SIUK			UKIUK		
	RF	NF	%	RF	NF	%	RF	NF	%
Interactive	4076	3558	62.06	5795	3578	60.10	7468	3914	56.89
Interactional	2492	2175	37.94	3848	2376	39.90	5659	2966	43.11
Total	**6568**	**5733**	**100.00**	**9643**	**5953**	**100.00**	**13127**	**6880**	**100.00**

Statistically the three dissertation groups differed significantly in the overall use of interactive MD ($\chi 2 = 71.632$, $df = 8$, $p < .0001$). However, as shown in Table 5.2 below, there is only a small insignificant variation in the use of interactive MD between SIS and SIUK, with both using significantly fewer markers than UKIUK.

This suggests that both groups of Saudi students do not tend to guide their readers as closely through the unfolding text as UKIUK students.

TABLE 5.2 STATISTICAL DIFFERENCES IN INTERACTIVE MD BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Interactive MD	Raw Frequency	4076	5795	7468	p < .8164	p <.0001*	p <.0001*
	Per 100,000	3558	3578	3914			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

These findings also indicate that NSs use a writer-responsible style, while those from Arabic culture favour a reader-responsible style, which places a greater responsibility on readers to interpret the texts (Lee 2009, p. 249). Lee and Casal (2014, p. 43) also suggest that this lower use of interactive MD markers could reflect a cultural impact. For example, the lower use of MD markers could be an influence from Arabic culture as it has been reported that Arabic rhetoric pays more attention to the message and underestimates the format i.e., how the message is presented and organised (Alharbi 1997, p. 86; Alotaibi 2016, p. 187). According to Abu Rass (2011, p. 207), Arab students 'fail to consider audience in their mind when they write in English', because of this cultural transfer. Additionally, Intaraprawat and Steffensen (1995, p. 268) note that such variation in interactive MD can influence writing quality (see also Hyland 2005a and Crismore et al. 1993). Therefore, the lower use of interactive MD by SIS and SIUK might have a negative impact on their writing, while the higher use of interactive MD might have a positive impact on writing by the UKIUK group.

5.3 Interactive Metadiscourse Subcategories across Dissertation Groups

Each interactive subcategory is discussed in detail in the following sections, from the most to least used, and an overview is shown in Table 5.3 below.

TABLE 5.3 RANKING ORDER/DISTRIBUTION OF INTERACTIVE MD ACROSS THE DISSERTATION GROUPS

Rank Order	SIS	Percent	SIUK	Percent	UKIUK	Percent
1	Evidentials	28.80	Transitions	26.76	Evidentials	29.67
2	Frame-markers	23.85	Evidentials	26.45	Transitions	25.28
3	Transitions	23.63	Frame-markers	22.42	Frame-markers	19.43
4	Code-glosses	16.71	Code-glosses	15.38	Code-glosses	14.50
5	Endophoric Markers	7.02	Endophoric Markers	8.99	Endophoric Markers	11.11

As seen in Table 5.3, all the dissertation groups distributed the subcategories of interactive MD similarly in general. Evidentials were the most frequently used subcategory by SIS and UKIUK, while for SIUK it was transitions. This use of evidentials is inconsistent with most previous studies (Hyland 2005a; Burneikaite 2008; Ozdemir and Longo 2014; Alharbi 2021). However, transitions remained one of the most frequent subcategories in all three groups, supporting the findings of Hyland (2005a), Burneikaite (2008), Ozdemir and Longo (2014) and Alharbi (2021). The findings also support previous studies (Burneikaite 2008; Alkathlan 2019) in that two of the least used subcategories in all three dissertation groups were code glosses and endopohoric markers. Table 5.3 also shows a similar use of frame markers to studies such as Alshahrani (2015) and Alharbi (2021). Generally, the results indicate similarities between most interactive MD features across the groups, apart from SIS, for whom transitions is placed as the third most used subcategory and frame markers as the second, while SIUK has transitions as the most frequently used.

5.3.1 Evidentials

Evidentials are the most frequently occurring interactive subcategory and the second most frequent across all MD subcategories in the whole corpus (see Section 5.2). As shown in examples (37) to (39), evidentials indicate the source of an idea or information.

> (37) *Medgyes (1992)* refers to a non-native failing to 'be as creative and original as those whom they have learnt to copy' *(p.343).* **(SIS)**

(38) Academic writing itself is a complex process. It is not straightforward to utilise for native (L1) users, and it is further complicated for L2 users *(Ngangbam 2016)*. **(SIUK)**

(39) Tenor is described as 'the social role relationship played by interactants' by *Eggins (2004:99)*. **(UKIUK)**

In the above examples, it can be seen how different evidentials are used to present evidence and support for the claims made by the students. In the first example, the evidential *Medgyes (1992)* is used as a subject and is integrated in the clause grammar, showing rhetorically that the claim presented belongs to the source cited (Medgyes), which is strengthened by the direct quote. In the second example, the marker is not part of the clause grammar. This could indicate a different position is taken, or the focus might not be on the sources cited as much as on the idea or the claim itself. The third example is similar to the first example as the source cited is included in the clause grammar, but the rhetorical function is slightly different since the focus is less on the source and more on the claim or the message (Hyland 2007, p. 23).

There are significant differences between the three dissertation groups in their use of evidentials as shown in Table 5.4, with no great divergence identified between SIS and SIUK. However, both SIS and SIUK were seen to employ significantly fewer markers than UKIUK. This can be attributed to Arabic language influence as it uses fewer evidentials in comparison to English (Sultan 2011, p. 37).

TABLE 5.4 STATISTICAL DIFFERENCES IN EVIDENTIALS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK	SIS vs SIUK vs UKIUK
Evidentials	Raw Frequency	1174	1535	2216	p <.08	p<.003*	p<.0001*	p<.0001*
	Per 100,000	1025	946	1161				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

The dominance of evidentials suggests that all the dissertation groups (and in particular UKIUK) are aware of the significance of backing up arguments and claims.

These findings show the students' familiarity with the literature and the need to 'establish a creditable ethos' (Hyland and Tse 2004, p. 141). These contradict those of Rabab'ah and Al-Marshadi (2013), who found that Saudi students used more evidentials than native speakers of English. Yet, Rabab'ah and Al-Marshadi (2013) only examined 10 dissertations, which varied in length and whose frequencies were not normalised suggesting that their study's accuracy might have been affected. However, this study's finding in terms of the higher use of evidentials by NSs than NNSs to support their claims and establish a relationship between their own research and that of others is in line with Lee and Casal (2014, p. 46) and Alshahrani (2015, p. 1540).

5.3.1.1 Subcategories of Evidentials

Evidentials contain only two subcategories. Firstly, an integral citation form, which is integrated into the clause grammar (as in example 37) and secondly a non-integral citation form, which does not form part of the clause grammar and is usually paced in parentheses (as in example 38). The integral citation form was found to be dominant in the whole corpus (66.98%), while non-integral citation use was only 33.02%. This finding is consistent with Rabab'ah and Al-Marshadi (2013, p. 81) who reported that integral evidentials are more frequently employed than non-integral evidentials in dissertation writing. This current research based on the higher use of integral evidentials suggests that the students focused on presenting other researchers, demonstrating that the claims and arguments they employed were not their own. This may be because the students are novice writers.

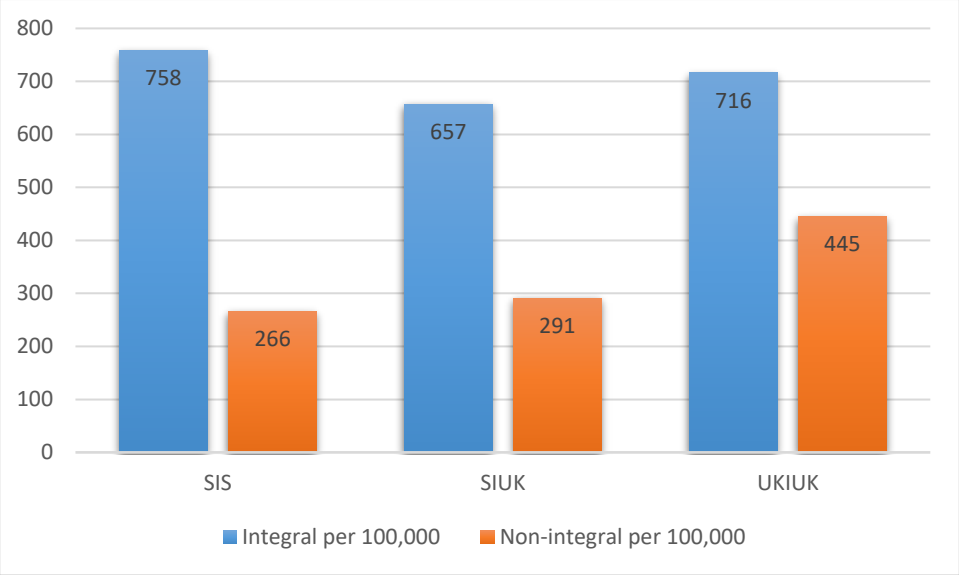

FIGURE 5.1 EVIDENTIALS IN ALL THREE GROUPS PER 100,000

In comparison between the groups in their use of integral and non-integral evidential, it was found that there are no considerable differences between the groups in integral evidentials except between SIS and SIUK, as illustrated in Table 5.5 and Figure 5.1. SIS group used the markers of this type the most, suggesting that they rely on citation that is integrated into the clause grammar to possibly emphasise that ideas and claims belong to the source cited and are not theirs. However, both SIS and SIUK employed non-integral evidentials significantly less frequently than UKIUK, which could indicate that the UKIUK group focus more on ideas and research and not researchers as will be discussed in the next section.

TABLE 5.5 STATISTICAL DIFFERENCES IN THE USE OF EVIDENTIALS SUBCATEGORIES IN ALL THREE GROUPS

		Frequency			Chi-square P-Values for Normalised Frequency (per 100,000)		
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK
Integral	Raw Frequency	869	1064	1366	p<.007*	p < .2	p < .1
	Per 100,000	758	657	716			
Non-integral	Raw frequency	305	471	850	p < .3	p<.0001*	p<.0001*
	Per 100,000	266	291	445			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 6= 0.008)

5.3.1.2 Evidentials: Unit Place, Unit Type, and Dissertation Section

This subsection examines evidentials in unit place (i.e., syntactic functions within the clause), unit type (form of MD appearance as a word or a group, etc.), and dissertation section (whether they appear in the abstract, introduction, etc.). Evidentials in this research were found to mainly serve as a subject, or a part of a unit expressing a subject, or as parentheticals in all dissertation groups.

TABLE 5.6 STATISTICAL DIFFERENCES IN UNIT PLACE OF EVIDENTIALS IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Subject +part of a unit expressing a subject	Raw Frequency	569	586	694	p<.0001*	p<.0001*	p<.0001*
	Percentage	48.64%	37.78%	31.27%			
Complement +part of a unit expressing a complement	Raw Frequency	121	133	307	p < .1	p < .003*	p<.0001*
	Percentage	10.31%	4.95%	13.85%			
Adjunct +part of a unit expressing an adjunct	Raw Frequency	178	354	354	p<.0001*	p < .5	p<.0001*
	Percentage	15.16%	21.09%	15.97%			
Parenthetical	Raw Frequency	306	460	861	p < .02	p<.0001*	p<.0001*
	Percentage	26.06%	29.90%	38.85%			
Total	**Raw Frequency**	**1174**	**1533**	**2216**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 12 = 004)

The dissertation groups in using evidentials as a unit place showed significant differences as shown in Table 5.6 above. First, as subject, or part of a unit expressing subject, there was a significant difference between all dissertation groups, being most used by SIS followed by SIUK and UKIUK. On the other hand, UKIUK used evidentials more frequently as complements and parentheticals than both Saudi groups. In other words, UKIUK avoid having evidentials in subject position. In addition, SIS and UKIUK use evidentials similarly as adjuncts and part of unit expressing adjuncts, differing significantly from SIUK.

These variations in the use of evidentials as subjects and parentheticals suggest that both Saudi groups placed greater stress than UKIUK on arguments belonging to external sources and that they focus more on researchers not ideas. According

to Rabab'ah and Al-Marshadi (2013, p. 85), one reason for this can be attributed to L2 writers having less to integrate into their research, due to their limited linguistic resources, in particular a limited confidence with 'rephrasing'. In contrast, L1 English writers may have a greater linguistic repertoire that allows them to analyse and synthesise sources and focus on ideas, which could be reflected in different citation patterns (Rabab'ah and Al-Marshadi 2013, p. 85).

TABLE 5.7 STATISTICAL DIFFERENCES IN UNIT TYPE OF EVIDENTIALS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Group	Raw Frequency	888	1344	1946	p<.0001*	p<.0001*	p <. 06
	Percentage	75.64%	87.67%	87.82%			
Word	Raw Frequency	198	175	190	p<.0001*	p<.0001*	p < .004*
	Percentage	16.87%	11.42%	8.57%			
Letters or numbers	Raw Frequency	87	14	77	p<.0001*	p<.0001*	p<.0001*
		7.42	0.91	3.48			

*Indicates a statistically significant difference after applying the Bonferroni correction (9 divided by 0.05 = 005)

When it comes to unit type, evidentials occur most frequently as a group (84.91%), secondly, as a word (11.44%), and rarely as letters or numbers (3.62%). As shown in Table 5.7, SIS were found to use significantly fewer evidentials as a group than SIUK and UKIUK, between whom there was little variation. On the other hand, SIS used significantly more evidentials as a word and as letters or numbers than SIUK and UKIUK, e.g., *Boris* in the example (40) below.

(40) *Boris* takes the view that stance is a more specific concept […] **(UKIUK)**

The groups had a similar distribution of evidentials in the dissertation sections, particularly UKIUK and SIUK which (unlike SIS) revealed an identical order and similar frequencies per 100,000. Table 5.8 below shows that the three groups generally used evidentials in the three main sections of the dissertation, i.e., the literature review (58.97%), the methodology, and the results and discussion. This is expected as the literature review is where studies are reviewed and criticised, for which students are required to read and cite sources (Rabab'ah and Al-Marshadi 2013). Similarly, the use of evidentials in the results and discussion can be attributed

to the rhetorical function of evidentials to support claims and arguments and reveal the identity of those responsible for a particular position (Hyland 2005a, p. 51). Interestingly, SIS were seen to use more evidential markers in the introduction than the results and discussion. This could be because the students want to establish a research territory and support it with frequent reference to previous studies (i.e., providing more evidentials) in their introductions (see Swales 1990). See Appendix Six for all distribution of evidentials in the three dissertation groups across dissertation sections.

TABLE 5.8 RANKING ORDER OF EVIDENTIALS IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1- Literature review	762	64.91%	665
	2-Introduction	162	13.80%	141
	3-Results and Discussion*	142	12.10%	124
	4- Other sections	108	9.19%	94
SIUK	1- Literature review	823	53.69%	508
	2- Results and Discussion*	362	23.68%	223
	3- Methodology	179	11.68%	111
	4- Other sections	171	10.95%	105
UKIUK	1-Literature review	1313	59.25%	688
	2- Results and Discussion*	391	17.65%	205
	3-Methodology	295	13.31%	155
	4- Other sections	217	9.79%	114

*Includes results, discussion and combined results and discussion.

5.3.2 Transitions

Transitions consist of markers that help the reader in understanding the connections of an argument in a text (see examples 41–43 below) and are the second most frequent subcategory in the interactive dimension (4,403 instances) and the third in all MD subcategories. A high use of transitions was expected since they are a common feature of academic writing (Burneikaite 2008; Wang 2015; Zakaria and Malik 2018).

The examples below show how transitions are used in the dissertation groups.

> (41) *Moreover*, few native speakers are outnumbered by non-native speakers who undertake a teaching career after graduating from higher learning institutions. **(SIS)**

(42) *Similarly*, like L2 learners, the use of connectors by Arab learners was anticipated to incur L1 influence. **(SIUK)**

(43) As this dissertation takes a primarily linguistic approach, there is not scope for contemplation of this 'evidence problem' (Buchanan and Middleton, 1994:72). *Therefore*, I acknowledge uncertainties surrounding the validity of reminiscence work as therapeutic care. **(UKIUK)**

Example (41) demonstrates a transition of addition, where the writer is adding an argument or statement. Example (42) shows a transition of comparison in the text, where the writer compares two similar statements or arguments, while example (43) shows the use of transitions to introduce a result or create an impact. The transitions identified in this research typically serve these functions of addition, comparison, and consequence.

Table 5.9 below shows that SIS used the fewest transitions of all three dissertation groups, differing significantly from both SIUK and UKIUK who show no significant differences between them.

TABLE 5.9 STATISTICAL DIFFERENCES IN TRANSITIONS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			**Chi-square P-Values for Normalised Frequency (per 100,000)**			
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**	**SIS vs SIUK vs UKIUK**
Transitions	Raw Frequency	963	1552	1888	p<.005*	p<.0004*	p < .4	p<.001*
	Per 100,000	841	958	989				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

This similarity between SIUK and UKIUK suggests a shared focus on directing readers through the text by adding, connecting, and comparing material, which could be attributed to both groups attending the same institutional context. The low use of transitions in SIS suggests that they might not have given explicit attention to connecting and comparing their arguments. This use of transitions by SIS could be because members of the SIS group attended a different institutional context (Saudi universities). It could also be because their writing was influenced by their reader-responsible L1 cultural background, Arabic, which focuses on the message not the

format and places the effort on readers as interpreters of the message (Alharbi 1997, p. 86), as explained earlier in this chapter.

The 10 most used markers in transitions by all three dissertation groups are similar (*also, however, therefore, because, thus, although, while, so, moreover,* and *rather*). Seven of these 10 markers are in line with Han (2018, p. 72), i.e., *however*, *because*, *therefore*, *so*, *although*, *thus*, and *while*. SIS were found to use the least variety of different transitional devices/markers (27), followed by UKIUK (32) and SIUK (37). The wider variety of transitional devices in SIUK may be due to this group attending pre-sessional courses, which tend to teach differing vocabularies and stress the importance of transitions in connecting texts. SIS, however, often relied on a core of simple high frequency types, which have been described as 'lexical teddy bears' (Hasselgren 1994, p. 237) (see Table 5.10).

TABLE 5.10 THE LEXICAL MD TYPES IN EACH TRANSITION SUBCATEGORY IN EACH GROUP

Dissertation Groups	Numbers of Addition lexical types	5 Most Frequent Markers	Numbers of Comparison lexical types	5 Most Frequent Markers	Number of Consequence lexical types	5 Most Frequent Markers
SIS	6	*also*, *in addition*, *moreover*, *furthermore*, *further*	10	*however*, *while*, *on the other hand*, *rather, similarly*	11	*therefore, because, thus, since, hence*
SIUK	11	*also*, *moreover*, *in addition*, *furthermore*, *additionally*	10	*however, while, on the other hand, whereas, similarly*	16	*therefore, thus, because, although, so*
UKIUK	7	*also*, *furthermore*, *additionally*, *moreover*, *further*	11	*However, rather, while, yet, on the other hand*	14	*therefore, because, so, although, thus*

5.3.2.1 Subcategories of Transitions

The most used transitions subcategory across the whole corpus was consequences, followed by additions, then comparisons. However, Figure 5.2 and Table 5.11 reveal some variation between the groups.

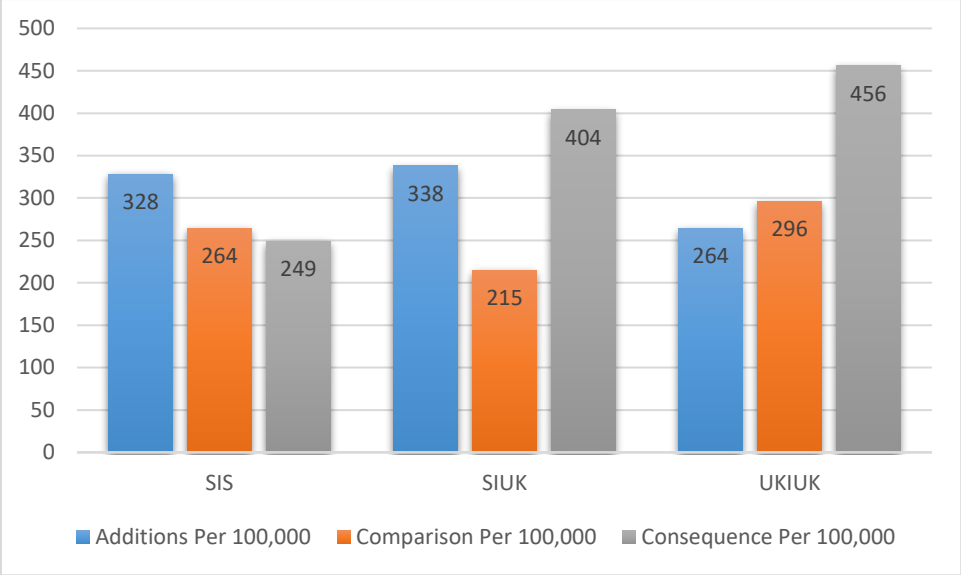

FIGURE 5.2 TRANSITIONS IN ALL THREE DISSERTATION GROUPS PER 100,000

According to Table 5.11 below, the most frequent subcategory for SIS was additions, while for SIUK and UKIUK it was consequences. On the other hand, the least used subcategory for SIS was consequences, for SIUK it was comparisons and for UKIUK additions. This shows that SIS followed a progressive style by adding more arguments than comparisons or explanations, while SIUK and UKIUK followed a retrogressive style by making a greater use of the rhetorical features of logical arguments/justifications and explanations.

TABLE 5.11 RANKING ORDER AND DISTRIBUTION OF TRANSITIONS SUBCATEGORIES IN ALL THREE GROUPS

Dissertation Groups	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1-Additions	376	39.04%	328
	2-Comparison	302	31.36%	264
	3-Consequence	285	29.60%	249
SIUK	1-Consequence	655	42.20%	404
	2-Additions	548	35.31%	338
	3-Comparison	349	22.49%	215
UKIUK	1-Consequence	871	46.13%	456
	2-Comparison	514	27.22%	269
	3-Additions	503	26.64%	264

The distribution and ranking order of the subcategories by SIS is in line with Alshahrani (2015), who reported on the subcategories of transitions in dissertations

and found additions to be the most frequent subcategory, followed by comparisons and consequences. However, this is not true for the distribution of transitions subcategories in the whole corpus of this research, as shown in Figure 5.2 and Table 5.11 above. Similarly, a study by Cao and Hu (2014) found a differing distribution of subcategories, with comparisons being the most frequently used. This dissimilarity with previous research could be because of genre differences: this study investigated whole dissertations, whereas Alshahrani (2015) looked at results and discussion sections only, and Cao and Hu (2014) studied research articles.

TABLE 5.12 STATISTICAL DIFFERENCES IN THE USE OF TRANSITIONS SUBCATEGORIES IN ALL DISSERTATION GROUPS

		Frequency			Chi-square P-Values for Normalised Frequency (per 100,000)		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Additions	Raw Frequency	376	548	503	p < .7	p < .01	p < .003*
	Per 100,000	328	338	264			
Comparison	Raw frequency	302	349	514	p < .03	p < .8	p < .01
	Per 100,000	264	215	269			
Consequence	Raw frequency	285	655	871	p<.0001*	p<.0001*	p < .08
	Per 100,000	249	404	456			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 9= 0.005)

Significant differences are found among the dissertation groups in their use of transitions subcategories, as indicated in Table 5.12. There is a significant difference between the use of additions in SIUK and UKIUK with the latter using the least, indicating that both Saudi groups tend to focus more on adding arguments than UKIUK. In contrast, SIUK and UKIUK made similar use of consequences, and both differed significantly from SIS, showing that SIS use fewer markers to express justifications and explanations in their arguments. However, Table 5.12 shows that, overall, the use of transitions (including subcategories) was more similar than different as there are clear similarities among all three dissertation groups.

5.3.2.2 Transitions: Unit place, Unit Type, and Dissertation Section

Transitions were found to appear as adjuncts and as a part of a unit expressing an adjunct 98% of the time across all dissertation groups. However, there were significant differences between the dissertation groups when using adjuncts (as in example [41] above), and as part of a unit expressing an adjunct (as in example [44] below), as shown in Table 5.13 below. Specifically, UKIUK used only 72% of transitions as adjuncts, while SIUK used 80% and SIS 86%. On the other hand, SIS and SIUK used significantly fewer transitions as part of a unit expressing an adjunct than UKIUK.

(44) Employing the GPA measure could differentiate the results as the grades of subjects other than English are included, *whereas* in this study, the comparison between males' and females' performance was specific to their grades in EFL and CLIL tests. **(SIUK)**

TABLE 5.13 STATISTICAL DIFFERENCES IN UNIT PLACE OF TRANSITIONS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK
Predicate + part of a unit expressing a predicate	Raw Frequency	8	15	40	p < .8	p < .01	p < .01
	Percentage	0.83%	0.97%	2.12%			
Part of a unit expressing an adjunct	Raw Frequency	124	281	475	p<.0001*	p<.0001*	p<.0001*
	Percentage	12.88%	18.12%	25.16%			
Adjunct*	Raw Frequency	831	1255	1373	p<.0005*	p<.0001*	p<.0001*
	Percentage	86.29%	80.29%	72.72%			
***Adjunct Positions**							
***Initial Adjunct**	Raw Frequency	540	786	568	p < .009	p<.0001*	p<.0001*
	Percentage	64.98%	62.88%	41.37%			
***Middle Adjunct**	Raw Frequency	291	428	805	p < .1	p<.0001*	p<.0001*
	Percentage	35.02%	34.24%	58.63%			
***Final Adjunct**	Raw Frequency	0	36	0	p<.0001*	p<.0001*	p<.0001*
	Percentage	0%	2.87%	0%			
Total	**Raw Frequency**	**963**	**1551**	**1888**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 18= 0.0027)

Moreover, within adjunct positions, the table shows that UKIUK made significantly greater use of middle adjuncts, alongside considerably lower use of initial adjuncts, than Saudi students in both groups. Specifically, UKIUK employed more transitions (consequences and comparisons) as adjuncts in the middle of the clause as illustrated in example (45), while Saudi students tended to use them at the beginning of the clause as given in example (46).

(45) I believe, *however*, that analysis of laughter […]. **(UKIUK)**

(46) *However*, the students indicated areas […]. **(SIS)**

This lower usage of transitions as middle adjuncts in both Saudi groups could be attributed to their L1 cultural background (see Ozeki and Shirai 2007; Alexopoulou et al. 2015). Indeed, Arabic language favours fewer subordinating conjunctions, which are mostly used in middle positions, and favours a higher use of interclausal

conjunctions that connect two clauses (i.e., conjunctions that come at the beginning of the clause) (Dickins 2017, p. 2). It could also be that the students are instructed to use the markers this way, or that they found it more straightforward to place the markers at the beginning of the clause. This low use of transitions in middle positions by Saudi students as L2 English writers is consistent with Gardner and Han (2018, pp. 876–877), who reported that Chinese students used significantly fewer transition markers in middle position than L1 English speakers.

In relation to unit type across the whole corpus, 91.16% of transitions occurs as one word (e.g., *however*) and 8.84% as a group[4] (e.g., *on the other hand*) and never as letters or numbers in the whole corpus. However, the dissertation groups showed significant differences when it came to using transitions as a word and as a group.

TABLE 5.14 STATISTICAL DIFFERENCES IN UNIT TYPE OF TRANSITIONS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK
Group	Raw Frequency	144	158	87	p<.0004*	p<.0001*	p<.0001*
	Percentage	14.95%	10.18%	4.61%			
Word	Raw Frequency	819	1392	1801	p<.0004*	p<.0001*	p<.0001*
	Percentage	85.05%	89.81%	95.39%			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 6= 0.008)

Table 5.14 (above) shows that SIS used transitions as a group significantly more than both SIUK and UKIUK, while SIUK used them as a group more frequently than UKIUK. On the other hand, both Saudi groups used transitions as a word significantly less frequently than UKIUK, and SIS used fewer transitions as a word than SIUK. After checking the concordance lines in the UAM corpus Tool to see what could influence the students' use in this way, it was found that the Saudi students repeatedly used some specific markers as a group (i.e., fixed expressions)

[4] Formulaic expressions (e.g., on the other hand), if they consist of more than one word, are considered as a group of words to distinguish them from single words in this study. This consideration was based on Wood (2020, p. 30), who defined formulaic language as a multiword unit, suggesting that formulaic language/expression can consist of a group of words. This classification was considered because formulaic language is problematic to classify or put into categories (Wood 2020, p. 30).

such as *in addition*, *as a result* and *on the other hand*, while UKIUK students used a variety of markers that are mostly one word such as *additionally*, *consequently*, and *conversely*. This could be one of the reasons behind this divergence in unit type of transitions.

When it came to the dissertation sections, transitions mainly occurred in all three dissertation groups in the combined results and discussion and in the literature reviews (see Table 5.15). Table 5.15 demonstrates that SIS employed more transitions in the introduction than the methodology section, whereas SIUK and UKIUK did the opposite. This use of transitions reveals that SIS tended to place a greater focus on connecting their arguments in the introduction section compared to their methodologies, whereas SIUK and UKIUK focused more on connecting their arguments in the methodology section. Finally, the table indicates that SIUK and UKIUK have similarities in the distribution of transitions across dissertation sections (see Appendix Seven for the distribution of all transitions in the three dissertation groups across dissertation sections).

TABLE 5.15 RANKING ORDER OF TRANSITIONS IN DISSERTATION SECTION IN ALL DISSERTATION GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1-Results and Discussion*	319	33.13%	279
	2-Literature review	315	32.71%	275
	3-Introduction	142	14.75%	138
	4- Other sections	187	19.41%	148
SIUK	1-Results and Discussion*	605	38.99%	374
	2-Literature Review	441	28.43%	272
	3-Methodology	221	14.25%	136
	4- Other sections	285	18.33%	176
UKIUK	1- Results and Discussion*	731	38.71%	383
	2-Literature Review	604	31.99%	317
	2-Methodology	286	15.15%	150
	4- Other sections	267	14.15%	140

*Includes results, discussion and combined results and discussion.

5.3.3 Frame Markers

The function of frame markers is to sequence parts of the text or the argument (example [47], announce goals (example [48]), label the stages of the text (example [49]), and express topic shifts (example [50]). This study identified frame markers as the third most frequent subcategory in the interactive dimension (3721 times) and

the fourth most frequent in all MD subcategories in the whole corpus, which is in line with Hyland (2005a) and Alshahrani (2015).

(47) *Firstly*, by using the questionnaire the research is often prevented from identifying the specific, linguistic instances of under/over-accommodation as perceived by the participants. **(UKIUK)**

(48) *The purpose of this research* is to explore the validity of an assumption that native speaking teachers are more competent. **(SIS)**

(49) *To sum up*, Appendix (D) (p.60) summarizes connectors in English, their equivalent in Arabic, along with the English transcription. **(SIUK)**

(50) *In relation to* exam orientation, the participants within this study supported the notion that NNESTs were better at preparing them for exams. **(SIUK)**

TABLE 5.16 STATISTICAL DIFFERENCES IN FRAME MARKERS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK	SIS vs SIUK vs UKIUK
Frame Markers	Raw Frequency	972	1299	1451	p < .2	p < .02	p < .2	p < .08
	Per 100,000	848	802	760				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

There are insignificant differences between the dissertation groups in relation to their use of frame markers as shown in Table 5.16 above. The considerable high use of frame markers (see Table 5.3 in Section 5.3), generally suggests that the students were aware of the importance of framing and ordering information, as well as labelling text stages and announcing goals (Hyland 2005a, p. 51). Furthermore, frame markers are the only interactive subcategory in which a slightly higher use was found in SIS than the other groups, indicating greater attention given to this subcategory than to connecting arguments, as suggested by their lower use of transitions. It could also suggest that SIUK and UKIUK focused more on connecting arguments rather than ordering or announcing text stages. The similarity in the use of frame markers between the dissertation groups may be due to the shared

discipline, in line with Lee and Casal (2014, p. 45), who stated that discipline 'overrides cultural preference' in using frame markers. Similarly, Alshahrani (2015, p. 1541), attributes the use of frame markers to disciplinary practices and notes that writers in applied linguistics and humanities use them more frequently than in other fields.

The 10 most used MD markers by all the three groups are *this study*, *the study*, *regarding*, *the present study*, *in terms of*, *then*, *finally*, *the current study*, *focus*, and *first*. This reveals that the students in all dissertation groups employed similar markers to announce goals, despite these not forming the most frequent subcategory in frame markers. SIS again used the least variety of different frame markers (41), while SIUK and UKIUK used 68 and 70 different markers, respectively.

5.3.3.1 Subcategories of Frame Markers

The subcategories of frame markers consist of sequence, announcing goals, attention to writer's work, topic shifters, and stage labelling. Table 5.17 (below) shows that the most frequent subcategory in SIS was announcing goals, while in SIUK and UKIUK it was sequence. The least frequent subcategory in all the groups was stage labelling followed by topic shifters.

TABLE 5.17 RANKING ORDER/DISTRIBUTION OF FRAME MARKERS SUBCATEGORIES IN ALL THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1-Announceing Goals	303	31.17%	264
	2-Sequence	302	31.07%	264
	3-Attention to Writer's Work	238	24.49%	208
	4-Topic Shifters	95	9.77%	83
	5- Stage Labelling	34	3.50%	30
SIUK	1- Sequence	543	41.80%	335
	2-Announcing Goals	339	26.10%	209
	3-Attention to Writer's Work	187	14.40%	115
	4-Topic Shifters	176	13.55%	109
	5- Stage Labelling	54	4.16%	33
UKIUK	1-Sequence	515	35.49%	270
	2- Announcing Goals	451	31.08%	236
	3-Attention to Writer's Work	211	14.54%	111
	4-Topic Shifters	185	12.75%	97
	5- Stage Labelling	89	6.13%	47

TABLE 5.18 STATISTICAL DIFFERENCES IN THE USE OF FRAME MARKERS SUBCATEGORIES IN ALL THREE GROUPS

		Frequency			Chi-square P-Values for Normalised Frequency (per 100,000)		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Sequence	Raw Frequency	302	543	515	p < .004	p < .8	p < .009
	Per 100,000	264	335	270			
Announcing Goals	Raw frequency	303	339	451	p < .01	p < .2	p < .2
	Per 100,000	264	209	236			
Stage Labelling	Raw frequency	34	54	89	p < .8	p < .06	p < .1
	Per 100,000	30	33	47			
Topic Shifters	Raw frequency	95	176	185	p < .07	p < .4	p < .3
	Per 100,000	83	109	97			
Attention to Writer's Work	Raw frequency	238	186	211	p<.0001*	p<.0001*	p < .8
	Per 100,000	208	115	111			

*Indicates a statistically significant difference after applying the Bonferroni correction (15 divided by 0.05 = 003)

This study did not find any significant differences between the dissertation groups following the application of the Bonferroni correction, except in the subcategory 'attention to writer's work' as displayed in Table 5.18 above. SIS used a much higher number of these type of frame markers, possibly to direct attention to their own research rather than explicitly expressing their goals like SIUK and UKIUK (see Table 5.18). This higher use of 'attention to writer's work' subcategory is also reflected in the 10 most frequently used markers in this subcategory, such as *this study* and *this research*. Furthermore, SIUK and UKIUK used a slightly higher number of topic shifters than SIS, suggesting that SIS focus less on explicitly indicating shifts between arguments. The distribution of frame markers' subcategories was generally inconsistent with Alshahrani (2015), who reported topic shifters as the second most frequent category and announcing goals as the least frequent. This inconsistency could be because of the different focuses as Alshahrani looked at PhD introductions and conclusions only instead of the whole disseration. However, my research and Alshahrani are similar in reporting sequence, as it was

the most used subcategory in both his study and the SIUK and UKIUK groups in my study. This indicates a significance of sequencing in dissertation writing.

5.3.3.2 Frame Markers: Unit Place, Unit Type, and Dissertation Section

In all three dissertation groups, frame markers were found to primarily serve as subjects, or a part of a unit expressing subjects, and adjuncts, or a part of a unit expressing adjuncts.

TABLE 5.19 STATISTICAL DIFFERENCES IN UNIT PLACE OF FRAME MARKERS IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Subject + part of a unit expressing a subject	Raw Frequency	357	366	369	p<.0001*	p <.0001*	p < .1
	Percentage	36.73%	28.17%	25.52%			
Predicate +part of unit expressing a predicate	Raw Frequency	32	79	90	p < .003	p < .001*	p < .9
	Percentage	3.29%	6.08%	6.20%			
Complement +part of part of a unit expressing a complement	Raw Frequency	152	98	206	p<.0001*	p < .3	p<.0001*
	Percentage	15.63%	7.55%	14.20%			
Adjunct + part of a unit expressing an adjunct	Raw Frequency	280	486	536	p<.0001*	p<.0001*	p < .8
	Percentage	28.82%	37.41%	36.94%			
Parenthetical	Raw Frequency	151	270	250	p < .001*	p < .2	p < .01
	Percentage	15.53%	20.79%	17.23%			
Total	**Raw Frequency**	**972**	**1299**	**1451**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 15 = 0033)

When comparing the groups in their use of frame markers as a unit place, Table 5.19 shows that SIS made greater use of frame markers as subject and as part of a unit expressing a subject than the other two groups, and significantly less as a predicate (and a part of a unit expressing a predicate). On the other hand, the table shows that both SIUK and UKIUK used significantly more markers than SIS in adjuncts and part of a unit expressing adjuncts. All groups made similar use of parentheticals, although SIS had a lower frequency. This finding of unit place shows

that frame markers are mostly used as either a subject (particularly SIS) or an adjunct (mostly SIUK and UKIUK), as given in examples (48) and (49), respectively.

All the dissertation groups used frame markers 51.79% as a group, then 28% as a word, followed by letters or numbers (17.33%). Unlike any other subcategory, this high frequency of letters and numbers is expected in frame markers because they focus on sequencing and ordering information as *1* and *2* in example (51) below.

(51) However, within the adjunct there are six clauses: *1)* we went *2)* and I said 'Grandad I'm bored […] **(UKIUK)**

Indeed, Table 5.20 below shows there are no significant differences in the use of letters or numbers across the three groups.

TABLE 5.20 STATISTICAL DIFFERENCES IN UNIT TYPE OF FRAME MARKERS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Group	Raw Frequency	613	643	672	p<.0001*	p<.0001*	p < .1
	Percentage	63.07%	49.50%	46.31%			
Word	Raw Frequency	195	349	498	p<.0002*	p<.0001*	p<.0001*
	Percentage	20.06%	26.87%	34.32%			
Letters or Numbers	Raw Frequency	150	252	243	p < .01	p < .4	p < .07
	Percentage	15.43%	19.40%	16.75%			

*Indicates a statistically significant difference after applying the Bonferroni correction (9 divided by 0.05 = 005)

However, SIS used significantly more frame markers as a group than SIUK and UKIUK, but fewer as a word, as shown in the above table. This use by SIS could be due to their focus on frame marker subcategories that are mostly expressed by a group of words (e.g., attention to writer's work) or because they relied on a limited set of markers and used them repeatedly.

Frame markers were employed by the three dissertation groups primarily in four main sections of the dissertation: the literature review, the methodology, the results and discussion, and the introduction, as illustrated in Table 5.21 (below). This distribution can be attributed to how these markers function rhetorically; sequencing and framing arguments and findings, announcing goals, stage labelling discussions and drawing attention to the writer's own study and results. As shown in Table 5.21

below, SIS used significantly more frame markers in the introduction than both SIUK and UKIUK, showing that SIS placed greater emphasis on ordering their arguments and information in the introduction than other groups. In contrast, UKIUK and SIUK made greater use of frame markers in the literature review. A pattern can be seen here in SIS, as they award more attention to the introduction section when using MD markers than either other group. They have so far used more evidentials, transitions and now frame markers in introductions than both SIUK and UKIUK. This focus by SIS on the introduction section could be due to how important they consider this section to be, because it provides a general overview of their research (what they would do and how would they do it), and thus the students want to establish a research domain, as argued by Swales (1990). See Appendix Eight for the distribution of frame markers in the three dissertation groups across all dissertation sections.

TABLE 5.21 RANKING ORDER/DISTRIBUTION OF FRAME MARKERS SUBCATEGORIES IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1-Results and Discussion*	232	23.87%	203
	2-Methodology	226	23.25%	197
	3-Introduction	190	19.55%	166
	4- Other sections	324	33.33%	282
SIUK	1- Results and Discussion*	410	31.57%	253
	2- Methodology	259	19.94%	159
	3-Literature review	247	19.01%	152
	4- Other sections	383	29.48%	238
UKIUK	1-Literature review	457	31.50%	240
	2- Results and Discussion*	409	28.19%	215
	3-Methodology	253	17.44%	133
	4- Other sections	332	22.87%	172

*Includes results, discussion and combined results and discussion.

5.3.4 Code Glosses

Code glosses form the second least used frequent subcategory in the interactive MD and the fifth least used in all MD subcategories. They provide further information to an argument or statement to elaborate the meaning and answer anticipated queries about the propositional content, as given in examples (52) to (54).

(52) *For example*, native teachers were credited with better spoken English, were more lenient, offered more cultural insights and encouraged greater motivation. **(SIS)**

(53) Researchers attributed learners' cohesion-related issues to Arabic discourse transfer *(literal translation in particular)*. **(SIUK)**

(54) His study was not purely focused on the linguistic elements of the discourse, but also the paralinguistic features, *such as* sound quality. **(UKIUK)**

In example (52), *for example* is used to introduce a new sentence to explain the preceding argument. In example (53), the parentheses are used to focus attention on a specific aspect and are not used as part of the clause grammar. Finally, in (54), *such as* is used to give an instance of a paralinguistic feature in which the marker *such as* forms part of the clause grammar. Code glosses were generally used in a similar manner in all three dissertation groups, as shown in Table 5.22 and Figure 5.3 below, showing that students in all groups paid similar attention to explaining their content to guide the readers to a preferred conclusion (Hyland 2005a, p. 52).

TABLE 5.22 STATISTICAL DIFFERENCES IN CODE GLOSSES BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**	**SIS vs SIUK vs UKIUK**
Code Glosses	Raw Frequency	681	891	1083	p < .2	p < .4	p < .6	p < .4
	Per 100,000	594	550	568				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

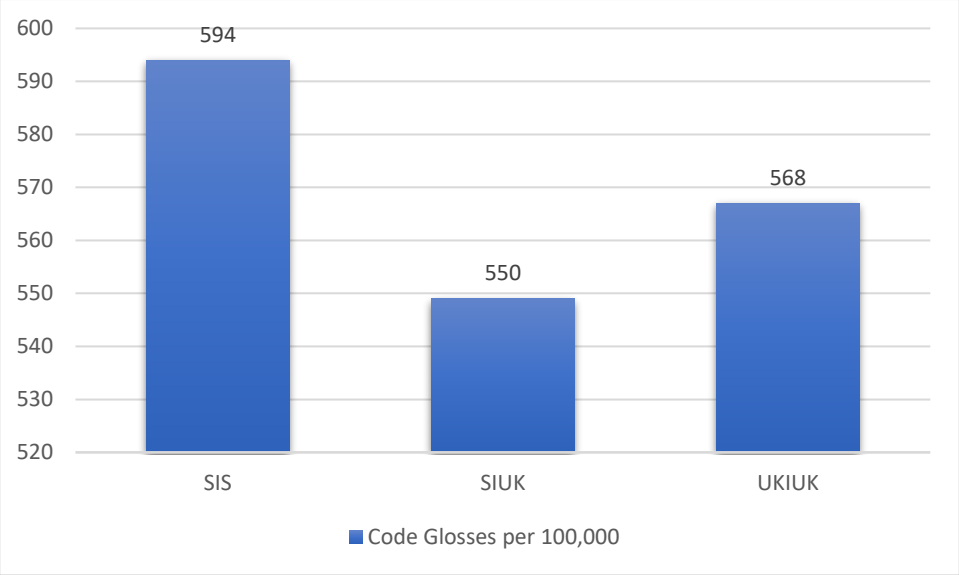

FIGURE 5.3 CODE GLOSSES IN ALL THREE GROUPS PER 100,000

The similarity in code glosses between NSs and NNSs is in line with Lee and Casal (2014, p. 46), who suggest that the similar use of code glosses in their data is due to the influence of the discipline or the genre. For instance, in hard science such as engineering and biology, code glosses are less frequent than in soft science (Hyland 2005b). The findings concerning this subcategory in this current study do not quite agree with Burneikaite (2008), Alshahrani (2015), Hyland (2005a) and Alkathlan (2019), who identified code glosses as the third most frequent subcategory, while in this research it is the fourth. This difference from previous research can show that the students in this study provided fewer explanations and elaborations of their arguments (i.e., by giving examples), or that the students paid more attention to framing their arguments than providing explanations in comparison to previous research.

The 10 most used MD markers in this subcategory by all three dissertation groups were *such as*, *for example*, *specifically*, *defined*, *for instance*, *means*, *e.g.*, *in other words*, *i.e.*, and *namely*. Apart from *specifically,* most of these markers were also frequently used and discussed in a number of studies, such as Lee (2009, p. 356). Similar to frame markers, SIS used only a limited variety of code glosses markers (13 different expressions), whereas SIUK and UKIUK used 20 and 19, respectively. This indicates that SIS tended to use the same markers repeatedly (lexical teddy

bears). Again, as discussed in the transitions section, the institutional context could be the reason SIUK and UKIUK employed a wider variety of code glosses markers.

5.3.4.1 Code glosses: Unit Place, Unit Type, and Dissertation Section

In all three dissertation groups, code glosses were found to appear most frequently as parenthetical items (approximately 50%) followed by part of a unit expressing an adjunct, and initial adjuncts (over 65%). This high prevalence of initial adjuncts is because the most common markers in this subcategory are *for example*, *for instance*, and *in other words* (see example [52] above), which typically occur at the beginning of a clause or sentence. Furthermore, code glosses were identified as the most frequently appearing subcategory in parentheses of all MD subcategories. This could because students find it easy to just explain, elaborate and add new information in parentheses instead of integrating it into the clause or sentence grammar as illustrated in example (53).

TABLE 5.23 STATISTICAL DIFFERENCES IN UNIT PLACE OF CODE GLOSSES IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Parenthetical	Raw Frequency	404	434	585	p<.0001*	p < .03	p < .02
	Percentage	59.32%	48.71%	54.07%			
Adjunct + part of a unit expressing an adjunct	Raw Frequency	236	368	381	p < .008	p < .8	p < .006
	Percentage	34.66%	41.30%	35.18%			
Predicate + part of a unit expressing a predicate	Raw Frequency	28	47	110	p < .3	p<.0001*	p<.0001*
	Percentage	4.11%	5.27%	10.16%			
Subject + part of a unit expressing a subject	Raw Frequency	13	42	7	p < .0042	p < .02	p<.0001*
	Percentage	1.91%	4.72%	0.64%			
Total	**Raw Frequency**	**681**	**891**	**1083**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 12 = 0041)

In a specific comparison between the groups in their use of code glosses as a unit place, Table 5.23 shows us that SIUK made slightly less use of parentheticals than the other two groups, using them more within the clause. SIUK used code glosses mostly as an adjunct and a part of a unit expressing an adjunct. The table also

illustrates that SIS and SIUK are similar when it comes to predicates and part of a unit expressing a predicate, while both differ from UKIUK, who used them significantly more as given in example (55) below.

(55) In the wider literature, semantics is *defined* as the study of meaning (Stubbs 2001). **(UKIUK)**

In all three dissertation groups, code glosses occurred mostly as a group, then as a word, followed by letters or numbers. Table 5.24 (below) shows a similarity in the dissertation groups use as a group and a word, apart from SIUK and UKIUK. In addition, the table shows that only SIUK made significant use of code glosses as letters or numbers. This use of code glosses indicates that the dissertation groups generally prefer using code glosses as a group (e.g., *for example*, *for instance*) than words (e.g., *namely*, *means*) and then letters or numbers, which are mainly used in parentheses to show percentages or a number of participants, as shown below (example 56).

(56) The number of participants met the minimum number of *(30)* needed to reduce the standard error […]. **(SIS)**

TABLE 5.24 STATISTICAL DIFFERENCES IN UNIT TYPE OF CODE GLOSSES IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Group	Raw Frequency	460	665	715	p < .007	p < .5	p<.0002*
	Percentage	67.55%	74.64%	66.02%			
Word	Raw Frequency	85	141	198	p < .07	p < .001*	p < .1
	Percentage	12.48%	15.82%	18.28%			
Letters or Numbers	Raw Frequency	123	44	168	p<.0001*	p < .1	p<.0001*
	Percentage	18.06%	4.94%	15.51%			

*Indicates a statistically significant difference after applying the Bonferroni correction (9 divided by 0.05 = 005)

In relation to dissertation section, Table 5.25 (below) shows that the three groups used the same ranking order of code glosses in dissertation sections (for further details on the distribution of all code glosses across the thesis sections in the three groups, see Appendix Nine). The three groups mainly used code glosses in the results and discussion section, literature review and methodology, possibly due to

the rhetorical functions of code glosses to facilitate comprehension of the findings and provide examples of the data. The distribution shown in the Table 5.25 indicates that SIS focused more significantly per 100,000 ($\chi 2 = 12.508$, df = 2, $p < .001$) on using code glosses in results and discussion than SIUK and UKIUK. On the other hand, UKIUK and SIUK placed a greater emphasis on using code glosses in the literature review than SIS, suggesting that SIUK and UKIUK award similar attention to the importance of expanding their arguments and explaining them in the literature review. Interestingly, this is the only subcategory the three groups used in the same ranking order.

TABLE 5.25 RANKING ORDER/DISTRIBUTION OF CODE GLOSSES IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1-Results and Discussion*	330	48.47%	288
	2- Literature review	161	23.64%	141
	3- Methodology	91	13.36%	79
	4- Other sections	99	14.53%	86
SIUK	1-Results and Discussion*	343	38.50%	211
	2- Literature review	293	32.88%	181
	3- Methodology	115	12.91%	71
	4- Other sections	140	15.71%	87
UKIUK	1-Results and Discussion*	453	41.82%	237
	2- Literature review	373	34.44%	195
	3- Methodology	144	13.30%	75
	4- Other sections	113	10.44%	61

*Includes results, discussion and combined results and discussion.

5.3.5 Endophoric Markers

Endophoric markers are the least frequently used subcategory overall in the interactive dimension and the third least used in all MD subcategories. Endophoric markers provide guidance for the reader's understanding by referring to specific parts of the text that have been previously (or will be) mentioned, as given in examples (57) to (59).

(57) *As shown in the table below*, the reliability coefficient for the study axes is very high. **(SIS)**

(58) It appeared as But 26 times, and as but 228 times *(see Figure 3, p.27)*. **(SIUK)**

(59) However, *as mentioned above*, whether a disclosure is painful or not is difficult to determine from the point view of a viewer. **(UKIUK)**

TABLE 5.26 STATISTICAL DIFFERENCES IN ENDOPHORIC MARKERS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK	SIS vs SIUK vs UKIUK
Endophoric Markers	Raw Frequency	268	521	830	p<.003*	p<.0001*	p<.0001*	p<.0001*
	Per 100,000	250	322	435				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

The use of endophoric markers varies significantly between the three dissertation groups as illustrated in Table 5.26 and Figure 5.4. Table 5.26 shows that UKIUK used significantly more endophoric markers than both SIS and SIUK, and that SIUK used significantly more markers than SIS. The considerable use of this subcategory by UKIUK shows that the group focused on connecting parts of the texts, referring to graphs, charts, tables, or sections, and anticipating that a specific discussion would take place in upcoming sections or chapters (Alharbi 2021, p. 49). Interestingly, the anticipation of future developments (see example [60] below) was rarely used in SIS, with students mainly employing the markers to refer to other parts of the texts (see example [61]).

(60) In-depth discussion about the findings will feature *in the next Chapter*. **(UKIUK)**

(61) *Table 7* indicated that negative orientation received the high mean score […] **(SIS)**

The findings of this subcategory are in line with studies such as Hyland (2005a) and Alkathlan (2019), which suggests that the general low use of endophoric markers is quite common in MD. Importantly, these findings also specifically support Alkathlan's (2019) conclusion that Saudi students use few endophoric markers and have little focus on connecting other parts of their texts.

The 10 most used MD markers in endophoric markers by all the three groups are *will*, *above*, *below*, *aforementioned*, *in chapter*, *( )*, *see appendix*, *in this section*, *in*

the next section, and *the following table*, respectively. However, UKIUK and SIUK employed over 20 different lexical types to express endophoric markers and SIS used only 11, again suggesting that while they use few endophoric markers, they also used the same markers repeatedly.

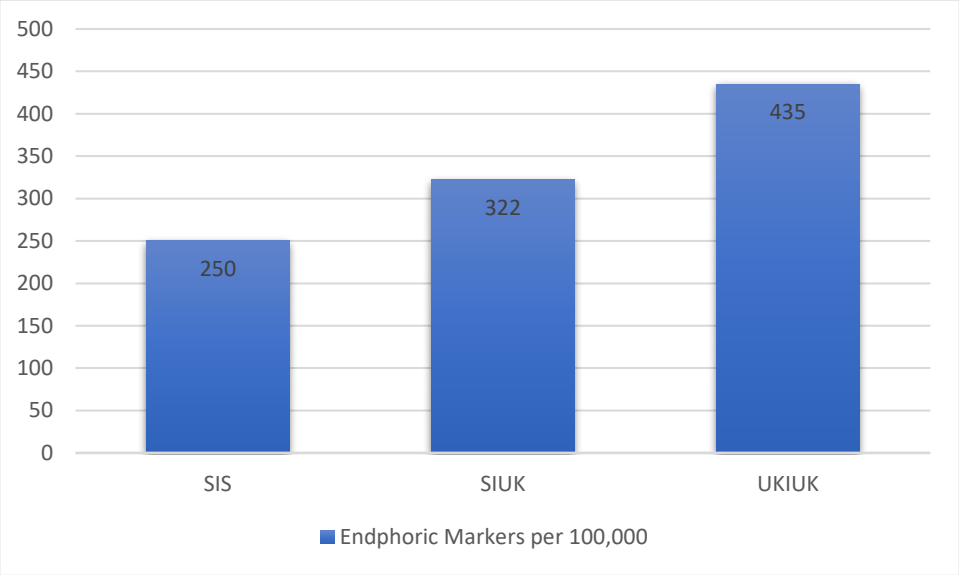

FIGURE 5.4 ENDOPHORIC MARKERS IN ALL THREE GROUPS PER 100,000

5.3.5.1 Endophoric Markers: Unit Place, Unit Type, and Dissertation Section

Endophoric markers appeared in all of dissertation groups most commonly as subjects and part of a unit expressing subjects, as well as adjuncts and part of a unit expressing adjuncts, then as parentheticals. Within adjuncts, they appear mostly in the final position. Interestingly, endophoric markers appear as final adjuncts more frequently than any other subcategory in both dimensions (interactive and interactional). This is demonstrated by example (62) below. This frequent use of final adjuncts is rarely a characteristic of MD as it usually favours middle and initial positions. In addition, endophoric markers are one of the few subcategories (like evidentials and code glosses) that are used as parentheticals.

(62) This study shows a significant difference between the mispronunciation of vowels and consonants *as shown on Table 6 (page 51)*. **(SIS)**

TABLE 5.27 STATISTICAL DIFFERENCES IN UNIT PLACE OF ENDOPHORIC MARKERS IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Subject + part of a unit expressing subject	Raw Frequency	112	117	89	p<.0001*	p<.0001*	p<.0001*
	Percentage	39.16%	22.45%	10.72%			
Adjunct + part of a unit expressing adjunct	Raw Frequency	91	224	379	p<.0001*	p<.0001*	p < .3
	Percentage	31.82%	42.99%	45.66%			
Parenthetical	Raw Frequency	72	140	210	p < .6	p < .1	p <. 5
	Percentage	25.17%	26.87%	25.30%			
Complement +part of a unit expressing complement	Raw Frequency	9	25	41	p < .3	p < .2	p < .1
	Percentage	3.15%	4.81%	4.94%			
Predicate +part of a unit expressing predicate	Raw Frequency	2	15	111	p < .07	p<.0001*	p<.0001*
	Percentage	0.70%	2.88%	13.37%			
Total	**Raw Frequency**	**286**	**521**	**830**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (15 divided by 0.05 = 0033)

In unit place, the dissertation groups demonstrated significant differences in the use of endophoric markers as shown in Table 5.27 above. SIS used endophoric markers as subjects and part of a unit expressing subjects as given in example (61) above more significantly than both SIUK and UKIUK. There is also a significant difference between SIS and SIUK/UKIUK in the use of adjuncts and part of a unit expressing adjuncts as in example (57) above. Furthermore, the table shows that both Saudi groups differed significantly from UKIUK in using endophoric markers as predicates, which is generally uncommon in the dissertation groups. The results also show a very similar use of endophoric markers as parentheticals, complements and as part of a unit expressing complements in all dissertation groups.

In relation to unit type, endophoric markers mostly occur as a group, then as a word but rarely as letters or numbers. Table 5.28 below shows that SIS made more frequent use of endophoric markers as a group than SIUK and UKIUK, with the latter employing them the least. On the other hand, UKIUK used word-level endophoric

markers significantly more than both Saudi groups, as in the following examples (63) to (64).

(63) *Below* is a list of all instances […]. **(UKIUK)**

(64) *Above*, the present study discusses the concept […]. **(UKIUK)**

Interestingly, this result is not in line with Hyland (2005a, pp. 218–19), who found that endophoric markers were mostly expressed by a group of words, as in examples (57) to (59) mentioned earlier in this section.

TABLE 5.28 STATISTICAL DIFFERENCES IN UNIT TYPE OF ENDOPHORIC MARKERS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK
Group	Raw Frequency	262	418	564	p<.0001*	p<.0001*	p<.0002*
	Percentage	91.61%	80.23%	67.95%			
Word	Raw Frequency	18	49	253	p < .1	p<.0001*	p<.0001*
	Percentage	6.29%	9.40%	30.48%			

*Indicates a statistically significant difference after applying the Bonferroni correction (6 divided by 0.05 = 008)

The dissertation groups were similar in their use of endophoric markers across dissertation sections as illustrated in Table 5.29 below. Particularly, SIS and SIUK distributed primarily most endophoric markers in the three main sections of the dissertation (i.e., literature review, methodology, and results and discussion) with majority of the markers in the results and discussion section. This is in line with Lee and Casal (2014) and can be attributed to these markers functioning rhetorically to steer readers to a preferred interpretation, mainly when referring to tables, figures, and charts (Hyland 2005a, p. 51; Lee and Casal 2014, p. 46). However, the distributions of the markers in the literature review and the methodology sections in the table indicate that UKIUK placed additional focus on directing their readers' attention to material discussed previously or subsequently than both SIS and SIUK in the two sections. See Appendix 10 for the distribution of all endophoric markers in the three dissertation groups across the dissertation sections.

TABLE 5.29 RANKING ORDER/DISTRIBUTION OF ENDOPHORIC MARKERS IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1- Results and Discussion*	189	66.09%	165
	2- Methodology	56	19.58%	49
	3- Literature review	29	10.14%	25
	4- Other sections	6	3.38%	11
SIUK	1- Results and Discussion*	366	70.25%	226
	2- Methodology	70	13.44%	43
	3- Literature review	60	11.52%	37
	4- Other sections	25	4.79%	61
UKIUK	1- Results and Discussion*	441	53.14%	231
	2- Literature review	145	17.47%	76
	3- Methodology	143	17.23%	75
	4- Other sections	101	12.16%	53

*Includes results, discussion and combined results and discussion.

5.4 Cultural Background and Institutional Context

This section examines how factors of cultural background and institutional context could influence the Saudi students' use of interactive MD. These two factors, along with language proficiency, genre, and discipline, are possibly the most influential when it comes to the use and distribution of MD markers (Mauranen 1993; Hyland 2005a; 2005b; Lee 2009; Lee and Casal 2014; Amiryousefi and Rasekh 2010; Alshaharni 2015; Noorian and Biria 2017). Therefore, this study controlled a minimum proficiency level (6 in ELITS or its equivalent, see Section 3.6), genre (dissertation) and discipline (applied linguistics) to assess the influence of cultural background and institutional context. This section will start with the influence of these factors on the *overall* interactive MD and then on each interactive MD subcategory.

5.4.1 Influence of Cultural Background and Institutional Context on the Overall Use of Interactive MD

The findings presented in this chapter suggest that, as both Saudi groups did not differ significantly in the overall frequency of interactive MD, cultural background may exert a greater influence on the overall use of interactive MD markers. This finding echoes Kaplan's (1987) contrastive rhetoric hypothesis that differences between L1 and L2 English writers are mainly caused by transfer from the EFL students' L1(for more, see Section 2.6.3). As mentioned above, one possible explanation of this cultural background is that Arabic is a reader-responsible culture (Sultan 2011), and thus Arab writers use fewer markers to guide readers explicitly

in their texts (Alotaibi 2016; Al-Zubeiry 2019). Specifically, it is asserted by Alotaibi that Arabic uses less MD than English (Alotaibi 2016, p. 187) and by Abu Rass that it often abandons readers (Abu Rass 2011, p. 207). Additionally, the rhetorical protocol of Arabic culture focuses more on the message than the format and uses limited structural features, while English uses a 'wider variety of structural devices' to 'provide technical assistance' for their readers (Alharbi 1997, p. 92). The importance of Arabic culture's overall influence is supported by Al-Qahtani (2011, p. 8), who states that Saudi students arrive in the UK with a different culture and language which can limit their academic writing achievement in western countries.

However, based on the similarity in the *overall* distribution and ranking order of interactive MD, genre and discipline may also have a great impact on how the markers are ranked, and may explain similarities across cultural lines (Hyland 2005a; Burneikaite 2008). This is supported by other studies, for instance, the high use of evidentials in applied linguistics but not in other disciplines, such as computer science, and the lower use of endophoric markers in applied linguistics and their higher use in engineering (Hyland 2005a, p. 57). Additionally, in some genres such as RA and essays, endophoric markers are less frequent than in dissertations because they function mostly to connect lengthy texts (Alharbi 2021, 49).

5.4.2 Influence of Cultural Background and Institutional Context on the Use of Interactive MD Subcategories

Within the subcategories of interactive MD, cultural background might have impacted the use of evidentials, as both Saudi groups used this subcategory in a similar manner. Evidentials are not frequent in Arabic academic writing in comparison to English writing, as reported by Sultan (2011, p. 37), which might explain why the Saudi students used them less than UKIUK in this study. This also accords with Alshahrani (2015, p. 1541) who states that cultural background is reflected in the use of a limited number of evidentials.

On the other hand, the UK institutional context could have influenced the higher use of transitions and endophoric markers, because SIUK and UKIUK used them significantly more than SIS. Alshahrani (2015, p. 1540) similarly argues that institutional context influences the frequency of transitions. This could be because L2 students attending UK institutions undertook pre-sessional courses and training as part of their degree (Lee 2009, p. 249). Specifically, according to Al-Qahtani

(2011, p. 8) Saudi students who are pursuing studies in UK universities often enrol in EAP courses first, to provide them with the required academic English language skills. These courses emphasise the importance of adapting a writer-responsible style and teaches academic writing instructions. In particular, textbooks taught in pre-sessional courses such as Swales and Feak (2012) and Bailey (2015), highlight the importance of a text's internal connections for successful academic writing, i.e., how to connect ideas and paragraphs and how to connect different parts of a lengthy text. The institutional context might have also influenced the variety of lexical types used to express MD and the distribution of MD markers across the dissertation sections as SIUK and UKUK are more similar than SIS. This similarity between SIUK and UKIUK could again be due to training or courses the SIUK students undertook as part of their degrees in UK universities.

The similarities between all dissertation groups in frame markers and code glosses could be due to all the data arising from the same genre (dissertations) and discipline (applied linguistics). This similarity, according to Burneikaite (2008, pp. 42–43), is a requirement of the genre and the discipline, which might be 'more important than the mother-tongue/culture specificity'. Burneikaite accordingly reports that students writing dissertations in Linguistics, no matter where they come from, will use code glosses and frame markers similarly (discourse labels in her study). This claim is also supported by Lee and Casal (2014, p. 50), who argued that discipline and genre influence the use of code glosses more than other factors such as culture. This finding suggests that the students in this field are required to frame their texts and provide more explanations than in other genres or fields e.g., hard science (Hyland 2005a, p. 57).

The general findings of this section indicated that cultural background exerts a greater impact on Saudi students' overall use of interactive MD. Also, factors such as institutional contexts and discipline and genre appear to interact in complex ways with culture and therefore their influence cannot be ruled out. This finding of cultural background as an influential factor accords with studies suggesting that cultural background has a major impact on MD (Burneikaite 2008; Lee and Casal 2014; Ozdemir and Longo 2014; Kuhi and Mojood 2014). Specifically, Lee and Casal (2014, p. 50) claimed that, even within the same discipline and genre, MD is 'inexorably linked to cultural ways of organising arguments and interacting with

readers'. As for the subcategories of interactive MD, this research shows that use of different MD subcategories can be influenced by different factors such as discipline, genre, cultural background, and institutional contexts as discussed above and shown in the literature (Burneikaite 2008; Lee and Casal 2014; Alshahrani 2015). However, this study differed from previous research when it came to assessing the influence of certain factors on the use of the interactive MD subcategories (e.g., the influence of cultural background on the use of evidentials), as some previous studies just attributed the differences in all MD subcategories in general to cultural background rather than assessing the subcategories individually (e.g., Lee and Casal 2014; Alshahrani 2015).

5.5 Conclusion

This chapter presented the results and discussion of the second research question concerning the overall use of interactive MD and the third research question about the influence of cultural background and institutional contexts on the students' use of interactive MD. The chapter has shown that the three dissertation groups differed significantly in their overall use of interactive MD, with SIS using the least markers and UKIUK using the most. It also revealed that the Saudi groups are not significantly different from one another but are both significantly different from the UKIUK group. Both Saudi groups focused less than UKIUK on organising their propositional content and presenting it in a convincing manner, assuming their readers' comprehension and understanding. Essentially, Saudi groups followed a reader-responsible style, while UKIUK followed a writer-responsible style.

Within the interactive MD subcategories, the dissertation groups differed in evidentials, transitions and endophoric markers. Both SIUK and UKIUK made more use than SIS of transitions and endophoric markers to connect their text, using more additions, comparisons and consequences and referring to other parts of the text to help the readers connect their arguments and meaning. All the dissertation groups (in particular UKIUK) were seen to be aware of the significance of evidentials in providing support and justifications for arguments, in order to show their knowledge and familiarity with the literature.

The three dissertation groups made similar use of code glosses and frame markers, although usage of code glosses was low across all groups. This indicates that all

students involved in the study placed little importance on providing explanations, examples, and elaborations of their arguments. This could be because the students believe that there is no need to provide a lot of extra information for their readers who are likely to be experts in the field (i.e., examiners).

In unit place, SIS and SIUK were seen to be more similar to each other than to UKIUK. These findings indicate that both Saudi groups preferred the use of certain syntactic functions, in line with previous studies (Ozeki and Shirai 2007; Alexopoulou et al. 2015). For instance, middle adjuncts in transitions were rarely employed by both Saudi groups, but frequently used by UKIUK (see Section 5.3.2.3 for more details). This could be a possible transfer of Arabic language which favours a higher use of interclausal conjunctions that are mostly used at the beginning of a clause (Dickins 2017, p. 2).

However, when it comes to unit type, dissertation section and the variety of lexical types, SIUK and UKIUK were seen as more similar than with SIS. Both SIUK and UKIUK focussed on specific unit types and distributed MD markers in specific dissertation sections to achieve each section's rhetorical functions, whereas MD markers mainly appeared in the introduction section of SIS. SIUK and UKIUK used similar numbers of lexical types to express interactive MD, and significantly more than SIS, who relied on limited lexical types. This similarity between SIUK and UKIUK could be due to instructions they received during their study in the UK.

The above discussion leads to the conclusion that, when it came to the overall use of interactive MD, cultural background could have exerted a greater influence on both Saudi groups. This is in line with Alshahrani (2015) who stated that cultural background has a major impact on Arab students' use of interactive MD. Although cultural background may have resulted in a lower use of evidentials as they are less frequent in Arabic, and institutional context might have influenced the use of additional transitions and endophoric markers. The genre and discipline may also be responsible for the similarity in some subcategories e.g., code glosses and frame markers.

Chapter 6: Results and Discussion of Interactional Metadiscourse

6.1 Introduction

The previous chapters have contributed towards the aims of this current study in various ways. Chapter 4 discussed the use of MD in the whole corpus to show how MD is used in the field of applied linguistics and in the genre of dissertation in general. Chapter 5 investigated the specific use of each dissertation group and how they are compared in their use of interactive MD. This current chapter is concerned with interactional MD use in all the three dissertation groups. It examines and compares the dissertation groups in the use of interactional MD and its subcategories, as well as the presence of interactional MD in unit place, unit type, and dissertation sections. The chief aim of this chapter is to address the gaps in knowledge about interactional MD use by Saudi students in particular and Arab students in general and how they compare to UK L1 English students. This chapter also aims to assess the possible influences of institutional and cultural contexts on the students' use of interactional MD. To fulfil these aims, this chapter answers and discusses research questions and sub-questions four and five:

4. How do Saudi students in Saudi Arabia, Saudi students in the UK, and UK L1 English students use interactional MD and its subcategories in their writing?

    4-a) What is the overall frequency of interactional MD among the dissertation groups?

    4-b) Within each interactional subcategory, what are the similarities and differences across the dissertation groups in terms of frequency, unit place, unit type, and dissertation section?

5. How do the factors of cultural background and institutional context influence Saudi students' use of interactional MD?

The first part of this chapter (Section 6.2) discusses the overall frequency of interactional subcategories for all three dissertation groups (Q 4-a). Section 6.3 discusses each interactional MD subcategory in the dissertation groups reporting similarities and differences in frequency, unit place, unit type and dissertation

section (Q 4-b). It begins with the most used subcategory (hedges) and continues to the least used (engagement markers). Finally, Section 6.4 discusses the influences of the students' cultural backgrounds and the institutional context on the use of interactional MD (Q 3) and Section 6.5 is the conclusion on the use of interactional MD by all the dissertation groups and what possible factors could have influenced their use of interactional MD.

6.2 Overall interactional Metadiscourse in each Dissertation Group

The three dissertation groups differed significantly in their overall use of interactional MD. The UKIUK group used the highest number of markers followed by SIUK, and SIS used the lowest as evidenced in Table 6.1 below.

TABLE 6.1 STATISTICAL DIFFERENCES IN INTERACTIONAL MD BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Interactional MD	Raw Frequency	2492	3848	5659	p <.002*	p<.0001*	p<.0001*
	Per 100,000	2175	2376	2966			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

This finding shows varying attention is given by each dissertation group to interacting with and involving the readers and showing personal authoritative identity and stance. Specifically, this shows that SIS focus less on interacting and engaging with their readers, potentially demonstrating less involvement in their texts. Additionally, the lower use of interactional MD markers by both Saudi groups than UKIUK can reflect varying cultural expectations. The L1 English authors preferred a more reader-involved style, often associated with Anglophone cultures (Lee and Casal 2014, p. 13), while the Arab students followed a less reader-involved approach as an influence of their culture and language (Sultan 2011, p. 38). Indeed, Sultan (2011, p. 38) states that Arabic academic writing 'puts a premium on textuality at the expense of reader[s]' being less concerned with involving and interacting with the audience than English academic writing. The rhetorical protocol of Arabic culture, according to Alharbi (1997, p. 86), pays more attention to the content and ideas than to the ways of presenting these ideas to the readers. This claim was also supported by Abu Rass (2011, p. 207), who argued that Arabic writers often

abandon readers and focus on the message. Certainly, this relatively low use of interactional MD by SIS and SIUK as NNSs is consistent with the literature (Burneikaite 2008; Lee and Casal 2014; Ozdemir and Longo 2014; Kuhi and Mojood 2014; Noorian and Biria 2017).

6.3 Interactional Metadiscourse Subcategories across Dissertation Group

The interactional subcategories will be discussed separately in this section, however, they first will be introduced generally to display the overall distribution. As seen in Table 6.2, all three dissertation groups used a similar ranking order and distribution for all interactional MD, with the most attention given to hedges and the least given to engagement markers. The exceptions to this similarity are boosters in UKIUK, and attitude markers in both SIS and SIUK. This overall similarity shows that the dissertation groups award similar attention to interactional subcategories, which could be due to the data being from the same discipline and genre. For example, in soft disciplines, hedges and self-mentions are given considerable attention and are more frequently used than in hard disciplines because they reflect the greater role of personal interpretations in establishing proof, which are less reliable in hard disciplines (Hyland 2019, p. 57). In soft disciplines and the genre of dissertation, hedges 'imply a statement is based on plausible reasoning rather than certain knowledge' (Hyland 2005b, p. 179). Therefore, genre and discipline could explain why these subcategories of interactional MD are distributed similarly among the groups regardless of their different L1s and institutional contexts.

TABLE 6.2 RANKING ORDER/DISTRIBUTION OF INTERACTIVE MD ACROSS DISSERTATION GROUPS

Rank Order	SIS	Percent	SIUK	Percent	UKIUK	Percent
1	Hedges	45.18	Hedges	50.10	Hedges	46.10
2	Attitude Markers	29.98	Attitude Markers	25.03	Boosters	21.70
3	Boosters	19.74	Boosters	17.93	Attitude Markers	21.52
4	Self-mentions	4.65	Self-mentions	5.15	Self-mentions	8.19
5	Engagement Markers	0.44	Engagement Markers	1.79	Engagement Markers	2.19

The overall distribution of interactional markers and the ranking order in Table 6.2 above aligns with findings reported by Hyland (2005a) and Burneikaite (2008). However, in this study Saudi students make more use of attitude markers to show their opinions and express their emotions, contrary to most of the advice on academic writing (see Swales and Feak 1994), as will be discussed later in the section on attitude markers. The high use of attitude markers by SIS and SIUK distinguishes the data reported here from previous studies (Hyland 2005a; Alharbi 2021), which reported significantly lower use of attitude markers.

6.3.1 Hedges

Hedges convey uncertainty when adopting a position, denoting scope for negotiation, as in examples (65) and (66). Hedges are the most frequently used subcategory in the whole corpus for all three dissertation groups, accounting for 5,662 instances out of 29,342, which is almost 20% of all the markers collated for this research. Furthermore, hedges alone formed around 49% of the interactional markers used by all three dissertation groups. This high use of hedges and their dominance over all other MD markers suggest that all three groups are aware of the importance of hedges and the need to present claims carefully and with caution if their academic writing is to be successful (Vande Kopple 1985; Crismore et al. 1993, Hyland 2005a). This use could be attributed to the genre and discipline requirements, Hyland for example has stated that in soft science, arguments and claims are based on plausible reasoning and opinions rather than certain knowledge or facts (Hyland 2019, pp 56-57). Indeed, hedges are considered an important feature of academic writing in general (Alkhathlan 2019; Al-Zubeiry 2019) and in dissertations in particular (Hyland 2005a; Alharbi 2021), which may explain the students' focus and frequent use of hedges.

(65) The data analyzed *indicated* that students exhibited preference for NESTs. **(SIS)**

(66) Consequently, research into PSDs has *mostly* centred on the elderly and their specific troubles. **(UKIUK)**

Despite hedges being the most used subcategory for every dissertation group, their use varies significantly among the dissertation groups as shown in Table 6.3 and Figure 6.1 below. Specifically, Table 6.3 shows that SIS used significantly fewer

hedges than both SIUK and UKIUK, and SIUK used them significantly fewer than UKIUK. This finding shows that both Saudi groups tended to be more assertive and less tentative than UKIUK. This tentativeness by UKIUK could suggest more humility and respect for alternative views (Hyland 1998b, p. 351). The use of hedges by both Saudi groups could be influenced by their cultural background, as Arabic generally utilises fewer hedges (Alharbi and Swales 2011, p. 82).

TABLE 6.3 STATISTICAL DIFFERENCES IN HEDGES BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK	SIS vs SIUK vs UKIUK
Hedges	Raw Frequency	1126	1928	2608	p<.0001*	p<.0001*	p<.0004*	p<.0001*
	Per 100,000	983	1190	1367				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

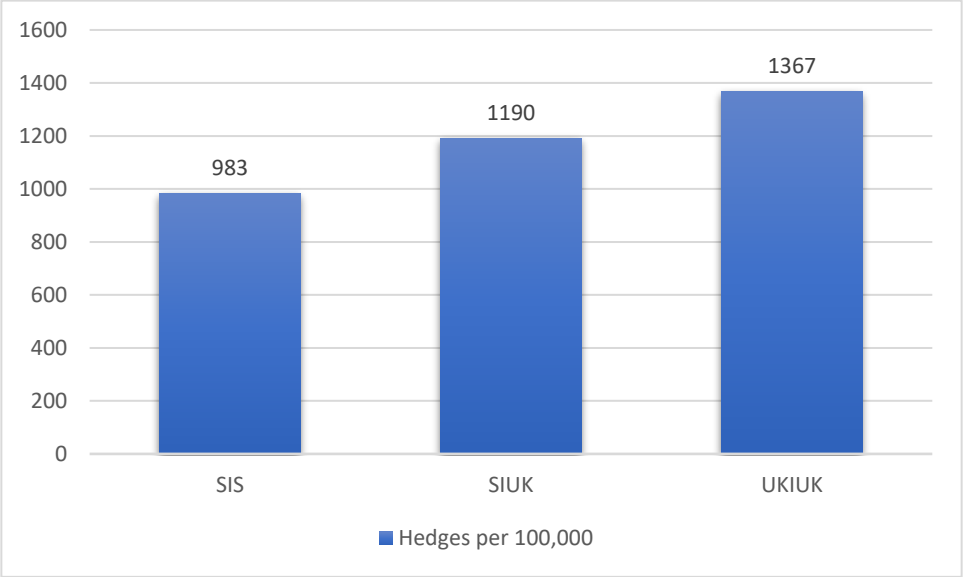

FIGURE 6.1 HEDGES IN ALL THREE GROUPS PER 100,000

The 10 most used MD markers by all three dissertation groups in the hedges subcategory are *can, could, some, may, would, should, might*, *suggested*, *seem*, and *possible*, in order of frequency. These markers are also reported among the 10 most common hedges in studies such as Hyland (1998a) and Prasithrathsint (2015). UKIUK used 57 different hedging markers, followed by SIUK with 49 and SIS with

48. This makes hedges the first subcategory in which the three dissertation groups used a similar number of markers.

6.3.1.1 Hedges: Unit Place, Unit Type, and Dissertation Section

In this study, hedges function chiefly as predicates or as part of a unit expressing a predicate (70%), a finding that corresponds to the study by Prasithrathsint (2015). This high dominance of predicates is a characteristic unique to hedges (and boosters, as will be seen later in this section) as MD typically favours adjuncts or a part of a unit expressing adjuncts according to this research data. Unlike other MD subcategories, hedges never appeared in a parenthetical position in this study.

When comparing the dissertation groups in the use of hedges in unit place, it was found that SIS and SIUK groups used hedges similarly in all the functions and parts of a unit expressing a function, and they differed from UKIUK, as shown in Table 6.4 (below). Specifically, SIS and SIUK students used hedges as predicates or part of a unit expressing a predicate to a greater extent than UKIUK. On the other hand, SIS and SIUK used hedges as an adjuncts and part of a unit expressing an adjunct significantly less frequently than UKIUK. This could show that both Saudi groups favour the use of hedges as verbs more often than adverbs, unlike the UKIUK group who use adverbs more frequently in their writing. This is apparent in the examples above in which hedges are used as predicates (example [65]) and adjuncts (example [66]). The lower use of adverbs by Saudi groups can be explained by L1 transfer as the Arabic language does not use adverbs frequently (El-Khalaf 2016, p. 47). In contrast, the use of adjuncts by UKIUK can be explained by Hyland and Milton (1997, p. 192), who state that adverbs in English offer a simple means for writers to ‘adjust the strength of their claims without such grammatical and lexical complications’

TABLE 6.4 STATISTICAL DIFFERENCES IN UNIT PLACE OF HEDGES IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Predicate +part of a unit expressing predicate	Raw Frequency	853	1437	1830	p < .4	p<.0005*	p < .001*
	Percentage	75.75%	74.53%	70.14%			
Adjunct +part of a unit expressing an adjunct	Raw Frequency	144	268	487	p < .4	p<.0001*	p<.0002*
	Percentage	12.80%	13.90%	18.70%			
Complement +part of a unit expressing complement	Raw Frequency	73	113	211	p < .5	p < .1	p <.0047
	Percentage	6.48%	5.86%	8.09%			
Part of a unit expressing subject	Raw Frequency	56	110	80	p < .4	p < .005	p<.0001*
	Percentage	4.97%	5.71%	3.07%			
Total	**Raw** Frequency	**1126**	**1928**	**2608**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 12 = 0041)

It was also found, as illustrated in Table 6.4, that both Saudi groups used hedges more as part of a unit expressing a subject than UKIUK, although the difference between SIS and UKIUK is not significant. This could show that it is infrequent for NSs to use hedges in the beginning of a clause, and they are more likely to use middle or final positions. Finally, the table shows that the dissertation groups do not frequently express their uncertainty with hedges as complements or subjects, which is expected as most hedges in the literature are expressed by verbs (predicates) and adverbs (adjuncts) (Hyland 2005a; Prasithrathsint 2015).

Regarding unit type, hedges occur in 97.47% of cases as a word, then as a group only in 2.49%, which aligns with Hyland's framework (2005a, p. 223). The dissertation groups reveal a very similar distribution in terms of their use of hedges as a word and as a group, with no significant differences between them, as depicted in Table 6.5 below. Hedges did not appear as letters or numbers, which is expected for all interactional subcategories, therefore, this category of letters or numbers in the unit type will not be discussed for the rest of the interactional subcategories.

TABLE 6.5 STATISTICAL DIFFERENCES IN UNIT TYPE OF HEDGES IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK
Group	Raw Frequency	32	50	61	p < .7	p < .4	p <. 6
	Percentage	2.84%	2.59%	2.34%			
Word	Raw Frequency	1094	1877	2547	p <. 7	p <. 4	p < .6
	Percentage	97.16%	97.35%	97.62%			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 6 = 008)

The dissertation groups are similar in terms of the ranking order of hedges across the dissertation sections, especially SIUK and UKIUK, as shown in Table 6.6. The three groups mostly used hedges in three main sections of the thesis: literature review, methodology, and results and discussion. Most of the hedges appeared in the results and discussion, except for SIS, who used the majority of the markers in the literature review. The high number of hedges in the results and discussion sections corresponds to Farrokhi and Emami (2008) and could be attributed to how these markers function rhetorically, i.e., to soften claims and make them more appealing and acceptable (Farrokhi and Emami 2008, p. 79; Hyland 2005b). Additionally, according to Hyland (1996, p. 275), writers may try to enhance their academic credibility in this section by 'going beyond the data to offer more general interpretations', which requires the use of cautious language to convince readers.

This distribution in Table 6.6 also shows that SIS used more hedges in the introduction than both SIUK and UKIUK. This could indicate that the SIS group sought to mitigate and speculate on the importance of their research more in the introduction sections than SIUK and UKIUK. This particular use of SIS is in line with Farrokhi and Emami (2008), who state that one of the rhetorical functions of introductions is to carefully establish a niche by reviewing the shortcoming of previous research (i.e., highlight research gaps) and mitigating different views (Swales 1990). See Appendix Eleven for the use and distribution of all hedges in the three dissertation groups across dissertation sections.

TABLE 6.6 RANKING ORDER OF HEDGES IN DISSERTATION SECTION IN THE THREE DISSERTATION GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1- Literature review	381	33.84%	333
	2- Results and Discussion*	302	27.47%	259
	3- Introduction	183	16.25%	160
	4- Other sections	260	22.44%	231
SIUK	1- Results and Discussion*	848	44.34%	424
	2- Literature review	534	27.70%	330
	3- Methodology	178	9.23%	110
	4- Other sections	368	18.73%	326
UKIUK	1- Results and Discussion*	1056	40.52%	554
	2- Literature review	753	28.86%	395
	3-Methodology	351	13.45%	184
	4- Other sections	449	17.17%	234

*Includes results, discussion and combined results and discussion for better comparison

6.3.1.2 Further Analysis of Hedges

Hedges were the most frequently used MD markers in all three dissertation groups, and due to this importance, they require further examination. Additionally, there is little known about hedges in Saudi students writing in general and in contrast to UK L1 English students. Hedges appear mostly in the results and discussion section, and thus the decision was made to examine hedges more closely in these sections to identify any differentiation or patterns between the dissertation groups. More importantly, there is a debate in the literature that NNSs use differently fewer hedges in English writing than NSs (Burneikaite 2008; Ozdemir and Longo 2014) so this further investigation will show us how differently hedges are used.

As Hyland (2005a) is the main framework for this study, I chose to work with his classification to further examine hedges. He classified hedges into three categories as (a) content-oriented: accuracy-oriented, (b) content-oriented: writer-oriented, and (c) reader-oriented. According to Hyland (1998b, pp. 162–164), categories (a) and (b) are concerned with the relationship to the propositional element as 'they hedge the correspondence between what writers say about the world and what the world is thought to be like' (1998b, p. 162). The accuracy-oriented hedges reveal the precision and degree of certainty with which the writer wants to express their proposition, while the writer-oriented hedges reveal the steps the writer takes to avoid any possible falsification of their proposition by retaining distance. The third category refers to the relationship between the writer and their readers by

acknowledging the readers' expectations and views and allowing them to participate in a dialogue (Hyland 1998b, p. 164). These functions can be expressed with different hedging markers, and generally depend on the co-occurring context.

The data was assessed systematically, considering the first 10 hedges in the results and discussion section in each dissertation, identifying a total of 300 hedging markers. Some dissertations did not have combined results and discussion sections. In these cases, the first 5 markers in the results section and the first 5 markers in the discussion sections were analysed. The results and discussion sections were selected as the focus of further investigation because of the relatively high prevalence of hedges in these sections.

In the 300 markers checked, it was discovered that the three functions were used by all three groups: (a) content-oriented: accuracy-oriented as in examples (67) to (69), (b) content-oriented: writer-oriented as in examples (70) to (72) and (c) reader-oriented as in examples (72) to (74).

(67) Another elaboration *might* be that the tendency to 'passive contact'. **(SIS)**

(68) This *might* be attributed to a limited knowledge of the semantic classification. **(SIUK)**

(69) Some view of CMC *might* doubt that any type of reciprocity is likely between individuals who have never met in real life […]. **(UKIUK)**

In the three accuracy-oriented examples above, the writers express their uncertainty using *might* to indicate limited commitment to the stance or position stated. The writers use the markers of uncertainty in this way to limit the scope of the accompanying statement and restrict generalisation (Hyland 1998b; Lee 2009).

Writer-oriented hedges can be expressed by markers like *suggest* and *indicate* as given in the examples (70) to (72) below. These are used to withhold a full commitment but also used to avoid a possible attack from the reader (Hyland 1998b). The writers choose to distance themselves from their stance, suggesting that the data or results are responsible for the position taken, rather than the writers' opinions.

(70) The given data *suggests* that semantic factors, such as i idiomaticity, play a key factor in students' preference for one-word verbs. **(SIS)**

(71) This *indicates* that the text discusses new issues that reflect the students' lives in their contemporary environment. **(SIUK)**

(72) The results *suggest* that GP-GC dyads use tags and monitoring shared discourse markers than E-NE dyads […] **(UKIUK)**

Finally, the reader-oriented hedges, shown in the below examples (73) to (75), are present in markers like *should* and *believe*. The reader-oriented hedges function to acknowledge the readers' views and include them in the dialogue as participants, by allowing for alternative ideas outside of what the author describes. Specifically, example (75) shows how the writer claims the authority of their position by use of *I*, and then shows modified certainty with the use of *believe*, indicating they are not completely sure about what they have found, and as such accept their reader's views (examiner) who could be an expert.

(73) Similarly, Yi-Fen Wu and Shao Chin (2009) stressed that what is taught *should* stimulate the tasks that professional need to undertake in work context […] **(SIS)**

(74) Textbooks *should* introduce a large amount of vocabulary […] **(SIUK)**

(75) Through the three parts of analysis, I *believe* I have identified certain themes. **(UKIUK)**

I was unable to detect any major differences between the groups in terms of their use of hedges, which could be attributed to the data being from the same genre and discipline, or because of the importance of hedging and how frequent it is in academic writing in general. However, there were variations in the frequency and distribution of the three classifications of hedges, and minor differences in how the markers appeared in the text. As shown in Table 6.7 below, the most used function was accuracy-oriented, followed by writer-oriented, with the least used being reader-oriented. Accuracy-oriented expressions were used most by SIUK, followed by SIS and UKIUK. The writer-oriented markers were used most by SIS followed by UKIUK

and then SIUK. Reader-oriented markers were mostly used by UKIUK, then by SIS and SIUK.

TABLE 6.7 FREQUENCY OF THE FUNCTIONS OF HEDGES IN RESULTS AND DISCUSSION SECTIONS

Hedges Classification	SIS	SIUK	UKIUK
Accuracy-oriented	54%	70%	54%
Writer-oriented	29%	14%	27%
Reader-oriented	17%	16%	19%

This distribution of the three functions shows that SIUK are most concerned with accuracy, in their results and discussion section more than SIS and UKIUK students. Conversely, SIS and UKIUK focus significantly more on writer-oriented functions than the SIUK group. In this way, SIS and UKIUK try to avoid attacks from their readers by acknowledging the potential for reader's views more than the SIUK students. However, both Saudi groups focus less on the readers than UKIUK by using fewer reader-oriented hedges, which could be, as explained earlier, an influence of their cultural background.

In relation to the co-occurrence of the 300 hedges in the text, SIS combined two hedges together four times as given example (76) below, used *it* before hedging markers five times and used the pronoun *we* once. Similarly, UKIUK used combined hedges three times, used *it* before hedges twice, included the personal pronoun *I* three times and *we* once. Lastly, SIUK used combined hedges three times, used *it* before hedges eight times, and never used personal pronouns.

(76) Depending on the TED speech in question, it *can broadly* be seen that the majority of the three speakers' attitude or stance expressed among the three evaluation categories of affect, judgement, and appreciation is explicitly produced. **(SIUK)**

Some similarities and differences can be noted in this co-occurrence finding. First, the three groups used a similar number of combined hedges but differed in their use of personal pronouns and *it*, as SIUK used zero personal pronouns and SIS used only one *we*. They both also used *it* more than UKIUK. This indicates that both Saudi groups may have deliberately avoided showing their presence and claiming

authority in their arguments, perhaps in the hopes that their readers would be more likely to accept their arguments if presented objectively by a distanced writer. This aligns with studies claiming that NNSs use fewer self-mentions in their writing than NSs (Al-Zubeiry 2019, p. 56) (more details in 6.3.4)

The groups also used similar hedging markers. Modal auxiliary verbs were dominant in all three dissertation groups with *can*, *could*, *should*, *would* and *may* appearing most frequently, comprising around 50% of all hedges. *Can* alone accounted for 15% of all hedges followed by the lexical verbs *suggest, seem, indicate,* and *believe*, respectively, the adverbs: *often, likely*, *some* and *mainly*, and lastly the adjective *possible*. This use of hedges in general is in agreement with Farrokhi and Emami (2008) and Prasithrathsint (2015).

6.3.2 Attitude Markers

Attitude markers express writers' opinion about the content they are presenting, evaluating the relevance, importance and truth of the information as indicated in examples (77) to (79) below. Attitude markers are the second most frequent subcategory in the interactional dimension and the fifth most used of all MD subcategories in the entire corpus. The high use of attitude markers shows that the dissertation groups frequently relate to their readers and signal their points of view and what they think about their contents and readers (see Lee 2009). This finding is in line with Burneikaite's (2008).

(77) *Surprisingly*, he recorded 47% of Belgian children, 32% of English children, and 25% of Polish children preferred NNESTs. **(SIS)**

(78) The financial outcome of internationalization plays a *crucial* part in the growth of the economy. **(SIUK)**

(79) This is because the criteria can be *difficult* to apply and often leads to ambiguous results. **(UKIUK)**

The use of attitude markers did not differ significantly across the three dissertation groups as illustrated in Table 6.8 below. However, the results, despite not being significantly different, show that SIS reported slightly more attitudes in their writing than SIUK and UKIUK. The general similarity between the dissertation groups in their use of attitude markers could be due to the research data being from the same

genre and discipline. Burneikaite (2008, p. 42), for example, claims that attitude markers are frequently used in linguistics MA dissertations because of the genre and discipline requirements, which overrides culture influence as she claims.

TABLE 6.8 STATISTICAL DIFFERENCES IN ATTITUDE MARKERS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK	SIS vs SIUK vs UKIUK
Attitude Markers	Raw Frequency	747	963	1217	p < .1	p < .7	p < .2	p < .2
	Per 100,000	652	595	638				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

The 10 most used attitude markers in each dissertation group appeared to be similar across the corpus and they are *important*, *only*, *main*, *new*, *significant*, *importance*, *lack*, *difficult*, *limited*, and *interesting*, respectively. Most of these common markers appear in research by Azar and Hashim (2019), except for *new*, *lack* and *limited*. As in other MD subcategories, the number of the different markers the students used were different, as SIS used only 36 different attitude markers, while SIUK and UKIUK used many more (e.g., 48 and 43, respectively).

6.3.2.1 Subcategories of Attitude Markers

Attitude markers have four subcategories: (1) significance e.g., *important*, (2) limitation e.g., *limited*, (3) emotion e.g., *surprisingly*, and (4) assessment (show how students assess an idea, or a position) e.g., *easy*. Emotion and assessment are further classified as either positive or negative. The most used of these subcategories of attitude markers by all the three dissertation groups are significance and limitations. These two subcategories cover almost 69% of the attitude markers used, as also reported by Azar and Hashim (2019). Assessment and emotion are the least used subcategories, with emotions only comprising 5% of the overall number of attitude markers used. This finding of the high use of significance and limitations is expected, as in academic writing students need to show the significance of their research, and their findings, while also discussing the limitations of their research or other studies. It was also anticipated that they would not show emotions in academic writing, as this genre (dissertations) has been well-

documented as representing an impersonal rhetorical face of science (Swales 1990; Al-Zubeiry 2019).

The three dissertation groups report a greater similarity than difference with the overall use of the subcategories of attitude markers, as can be seen in Table 6.9 below. For instance, SIS and SIUK are similar in all subcategories, with no significant difference reported between them. However, both SIS and SIUK used notably more significance markers and fewer limitation and emotion markers than UKIUK. Interestingly, UKIUK students focus on more limitations, showing that they are able to acknowledge the gaps in research, or the potential limits of their own research, unlike both Saudi groups who rely more on significance markers to highlight importance in their writing.

TABLE 6.9 STATISTICAL DIFFERENCES IN THE USE OF ATTITUDE MARKERS SUBCATEGORIES IN ALL THREE GROUPS

		Frequency			Chi-square P-Values for Normalised Frequency (per 100,000)		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Significance	Raw Frequency	312	379	313	p < .1	p<.0001*	p < .0005*
	Per 100,000	272	234	164			
Limitations	Raw frequency	245	286	465	p < .06	p < .1	p < .001*
	Per 100,000	214	177	244			
Assessment	Raw frequency	172	245	340	p < .1	p < .1	p < .1
	Per 100,000	150	151	178			
Emotion	Raw frequency	18	53	100	p < .02	p <.0002*	p < .05
	Per 100,000	16	33	52			

*Indicates a statistically significant difference after applying the Bonferroni correction (12 divided by 0.05 = 004)

All the dissertation groups used more positive than negative emotions and assessment markers, as in examples (80) to (83) below. In particular, SIS used 100% positive emotional markers, SIUK 75% positive, and finally, UKIUK 91% positive. This shows that SIS only expressed positive emotional attitudes in this study, while SIUK and UKIUK were more willing to show more negative emotions. The dissertation groups also used more positive than negative assessment markers

with a minimum of 86% frequency. This could be because the students think that showing positive attitudes is important to ensure successful interaction with their audiences, so as to gain their approval and agreement.

(80) […] as it could be seen as *inappropriate* towards the individual. (Negative assessment) **(UKIUK)**

(81) It plays a *remarkable* role in learning and teaching English […]. (Positive assessment) **(SIS)**

(82) *Unfortunately*, I have been unable to identify studies that fill these criteria. (Negative emotions) **(UKIUK)**

(83) *Interestingly*, in 2000 and 2001, Gardner updated his perception of instrumental motivation to be parallel to […]. (Positive emotions) **(SIUK)**

6.3.2.2 Attitude Markers: Unit Place, Unit Type, and Dissertation Section

In all three dissertation groups, attitude markers mainly appear as a complement (60% of instances), and as part of a unit expressing a complement, as in examples (84) and (85) below, followed by adjuncts and parts of a unit expressing an adjunct (with middle adjuncts dominance). The unit place of attitudes aligns with the findings of Azar and Hashim (2019), who reported that attitudes are typically expressed by adjectives, which are mostly complements (and part of a unit expressing a complement in this study), and adverbs (which appear as adjuncts in this research).

In the examples below, the markers *significant* and *interesting* are adjectives, and appear as part of a unit expressing a complement.

(84) ACTFL guidelines and standards have undergone *significant* criticism […] **(SIS)**

(85) The results showed some *interesting* patterns […] **(UKIUK)**

When comparing the dissertation groups, we can see in Table 6.10 that SIS and SIUK used attitudes markers similarly in all unit places. However, UKIUK used adjuncts and parts of adjuncts more frequently than either Saudi group, whereas the Saudi groups used significantly more predicates than UKIUK. This can show that UKIUK use more adverbs to reveal their attitudes, unlike the Saudi groups who prefer to use verbs like *agree* and *prefer*.

TABLE 6.10 STATISTICAL DIFFERENCES IN UNIT PLACE OF ATTITUDE MARKERS IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Complement +part of a unit expressing a complement	Raw Frequency	467	575	715	p < .2	p < .1	p < .6
	Percentage	62.52%	59.71%	58.75%			
Adjunct +part of a unit expressing an adjunct	Raw Frequency	124	181	315	p < .2	p<.0001*	p<.0001*
	Percentage	16.60%	18.79%	25.89%			
Predicate +part of a unit expressing a predicate	Raw Frequency	91	104	85	p < .4	p<.0001*	p < .002*
	Percentage	12.18%	10.80%	6.98%			
Part of a unit expressing a subject	Raw Frequency	65	103	102	p < .1	p < .8	p < .07
	Percentage	8.70%	10.70%	8.38%			
Total	**Raw Frequency**	**747**	**963**	**1217**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 12 = 0041)

Unlike any other interactional subcategory, attitude markers in unit type occur 99% in a word form for all the dissertation groups in the whole corpus, and as a group in fewer than 1%. This corresponds to Hyland (2005a) and Azar and Hashim (2019), who noted that attitudes are mainly expressed by single words. Table 6.11 below shows no significant differences between the dissertation groups in terms of unit type for attitude markers.

TABLE 6.11 STATISTICAL DIFFERENCES IN UNIT TYPE OF ATTITUDE MARKERS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Group	Raw Frequency	3	17	7	p < .01	p < .8	p <. 01
	Percentage	0.40%	1.77%	0.58%			
Word	Raw Frequency	743	945	1210	p <. 01	p <. 8	p < .01
	Percentage	99.46%	98.13%	99.43%			

*Indicates a statistically significant difference after applying the Bonferroni correction (.0.5 divided by 6 = 008)

The dissertation groups are somehow similar in the distribution of attitude markers in the dissertation sections. As can be seen from Table 6.12 below, the three groups distribute attitude markers chiefly in the main sections of the thesis: literature review, results and discussion, and methodology. Most of the markers appeared in results and discussion, except for SIS who used more markers in the literature review. This high distribution of attitude markers in the results and discussion sections could be because these markers show the significance and limitations of the students' results and findings and are used to assess and evaluate their data (Hyland 2005a; see also Crosthwaite et al. 2017; Azar and Hashim 2019). However, the lower use of attitude markers in the SIS results and discussion sections could indicate that SIS report their actual data without fully evaluating or expressing how they feel about them. However, SIS use more attitude markers in the literature review and introduction than either SIUK or UKIUK. The prevalence of attitude markers in the literature review could be because writers (particularly SIS) use this section to review and critique previous studies, i.e., to report significance or limitations. In addition, the higher use of attitude markers in SIS introduction sections echoes Azar and Hashim (2019, p. 154), who stress that researchers should emphasise the significance and the justification of their own work in the introduction, and thus utilise more attitude markers in it. For the distribution of all attitude markers in the three dissertation groups across the dissertation sections, see Appendix Twelve.

TABLE 6.12 RANKING ORDER OF ATTITUDE MARKERS SUBCATEGORIES IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1- Literature review	258	34.54%	225
	2- Results and Discussion*	229	30.74%	200
	3- Introduction	130	17.40%	113
	4- Other sections	130	17.32%	114
SIUK	1- Results and Discussion*	382	39.75%	236
	2- Literature review	258	26.79%	159
	3- Methodology	122	12.67%	75
	4- Other sections	201	20.79%	125
UKIUK	1- Results and Discussion*	461	37.92%	242
	2- Literature review	403	33.11%	211
	3-Methodology	159	13.06%	83
	4- Other sections	195	15.91%	102

*Includes results, discussion and combined results and discussion for better comparison.

6.3.3 Boosters

Boosters are the opposite of hedges. They express certainty regarding a position, and reject other opposing voices and views, as in examples (86) to (88).

(86) The findings *showed* no tangible preference for native over non-native within national university. **(SIS)**

(87) *Of course*, all programmes require international students to read, write, listen, and speak effectively. **(SIUK)**

(88) It is *certainly* not suited to the needs of the present study, which analyses the discourse itself at a lexico-grammatical level. **(UKIUK)**

Boosters are the third least used MD subcategory overall in the whole corpus, and the third least used in the interactional subcategories, accounting for 20% of all interactional markers used. This finding agreed with Hyland (2005a) and Alkathlan (2019), who identify boosters as the third least frequently used subcategory in their studies. The use of boosters in all the three dissertation groups varies significantly, as shown in Table 6.13 below and illustrated in Figure 6.2.

TABLE 6.13 STATISTICAL DIFFERENCES IN BOOSTERS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK	SIS vs SIUK vs UKIUK
Boosters	Raw Frequency	492	690	1228	p < .9	p<.0001*	p<.0001*	p<.0001*
	Per 100,000	429	427	644				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

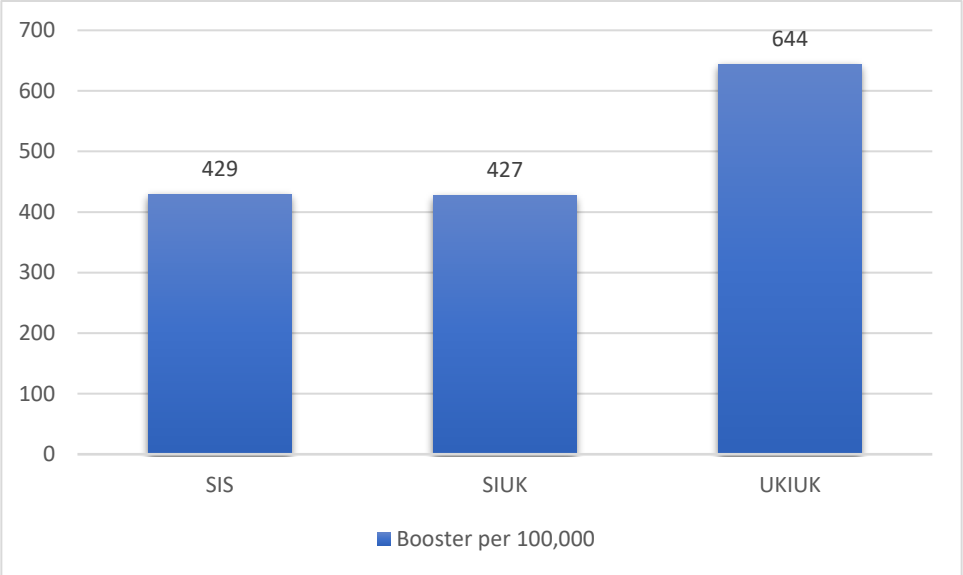

FIGURE 6.2 BOOSTERS IN ALL THREE GROUPS PER 100,000

When comparing the dissertation groups in their use of boosters, the table shows that only UKIUK differed significantly, using more boosters than either Saudi group. This result differs from the literature (see Kuhi and Mojood 2014; Lee and Casal 2014; Al-Zubeiry 2019), which shows that NNSs used significantly more boosters than their NS counterparts in English academic writing. There seems to be a view of EFL learners in the literature as being more assertive and definite in their writing than NSs. However, this view may not be applicable for the Saudi groups in this research as they used significantly fewer boosters than NSs, which could because that they are aware of the importance of allowing for alternative views in successful academic writing or they could be less confident in showing commitment to their stance and arguments.

The 10 most used MD markers in this subcategory by all three groups are *will*, *found*, *show*, *clear*, *in fact*, *must*, *clearly*, *again*, *indeed* and *always*, respectively. The majority of these boosters are common in academic writing and are observed in studies like Farrokhi and Emami (2008) and Takimoto (2015). In terms of employing different booster markers, UKIUK used 34 different boosters, whereas SIUK and SIS only used 21 and 23 markers, respectively. This is in line with reports in the literature that NSs use more lexical varieties than NNSs (Hyland and Milton 1997, p. 186).

6.3.3.1 Boosters: Unit place, Unit Type, and Dissertation Section

Boosters in unit place function most frequently as predicates and part of a unit expressing a predicate for all three dissertation groups (around 63%), and then as adjuncts (15%), and thus behave similarly to hedges. Within adjuncts, they appear mainly in the middle position. It is evident that the high use of verbs and specifically modal verbs in both hedges and boosters influences the dominance of predicates, and the part of a unit expressing a predicate as a syntactic function. In addition, like hedges, boosters never appeared in this study in a parenthetical position and rarely appeared as part of a unit expressing a subject. This use of boosters in unit place corresponds to Farrokhi and Emami (2008, p. 80), as in their study boosters were mostly expressed by verbs (predicates) and then adverbs (adjuncts).

The dissertation groups use boosters similarly in unit place with no significant differences between them as shown in Table 6.14. This finding makes boosters the only subcategory in both interactive and interactional dimensions that is used in similar unit places by all the dissertation groups. However, as is the case with hedges, both Saudi groups favour using slightly more boosters as predicates rather than adjuncts, meaning that more verbs are used than adverbs, while UKIUK use more adverbs. In the above examples (86) and (88), boosters are used as a predicate and adjunct, respectively.

TABLE 6.14 STATISTICAL DIFFERENCES IN UNIT PLACE OF BOOSTERS IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Predicate +part of a unit expressing a predicate	Raw Frequency	331	484	785	p < .3	p < .1	p < .06
	Percentage	67.28%	70.14%	63.93%			
Adjunct +part of a unit expressing an adjunct	Raw Frequency	96	108	254	p < .09	p < .6	p <.008
	Percentage	19.51%	15.65%	20.69%			
Complement +part of a unit expressing a complement	Raw Frequency	58	92	158	p < .4	p < .5	p < .8
	Percentage	11.79%	13.34%	12.86%			
Part of a unit expressing a subject	Raw Frequency	7	6	31	p < .5	p < .2	p < .01
	Percentage	1.42%	0.87%	2.52%			
Total	**Raw Frequency**	**492**	**690**	**1228**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 12 = 0041)

Regarding unit type, since boosters mainly function as predicate and part of a unit expressing a predicate, they occur in 92% of cases as a word, and then as a group in only 7.85% of cases, which is in line with Hyland's (2005a) framework. In addition, like hedges and attitude markers, Table 6.15 shows no significant differences between the dissertation groups in unit type.

TABLE 6.15 STATISTICAL DIFFERENCES IN UNIT TYPE OF BOOSTERS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK
Group	Raw Frequency	41	41	107	p < .1	p < .8	p <. 03
	Percentage	8.33%	5.94%	8.71%			
Word	Raw Frequency	451	649	1121	p <. 1	p <. 8	p < .03
	Percentage	91.67%	94.06%	91.29%			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 6 = 008)

In relation to the dissertation sections, SIUK and UKIUK were found to have the same ranking order, and a similar distribution of boosters, as illustrated in Table 6.16 below. The dissertation groups primarily use boosters in three main sections of their dissertations: literature review, results and discussion, and methodology (except for SIS who used more in introduction sections than methodology sections). As with other subcategories, the most frequent use of these markers is in the results and discussion sections. The high use of boosters in the results and discussion sections can be attributed to how they express the writer's confidence in their presentation and discussion of the data (Hyland 2005a, pp. 52–53). This finding is in line with Farrokhi and Emami (2008), who report that most boosters appear in the discussion section. The use of more boosters by SIS in the introduction than both SIUK and UKIUK also aligns with results reported by Farrokhi and Emami (2008). It could indicate that they focus more than other groups on establishing a research territory and niche in their introductions i.e., show how confident they are in doing their research and in their research significance. However, the use of fewer boosters in the methodology by SIS could indicate less confidence and certainty when expressing their methodological procedures than both SIUK and UKIUK. See Appendix Thirteen for use and distribution of all boosters in the three dissertation groups across the dissertation sections.

TABLE 6.16 RANKING ORDER OF BOOSTERS IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1- Literature review	178	36.18%	155
	2- Results and Discussion*	173	35,97%	151
	3- Introduction	57	11.59%	50
	4- Other sections	84	16.26%	74
SIUK	1-Results and Discussion *	260	37.85%	161
	2- Literature review	240	34.78%	148
	3- Methodology	80	11.59%	49
	4- Other sections	110	15.78%	69
UKIUK	1-Results and Discussion *	458	37.33%	240
	2- Literature review	396	32.25%	208
	3- Methodology	197	16.04%	103
	4- Other sections	177	14.38%	92

*Includes results, discussion and combined results and discussion for better comparison

6.3.4 Self-mentions

Self-mentions are markers used to reference the author or writer explicitly, as in the examples below (89) to (91).

(89) Additionally, the learners in *our* study seemed to transfer the continuative function of and into English written texts. **(SIUK)**

(90) In order to address the first research question, *I* will use questionnaire data collected from 100 students and interview data collected from 10 students. **(SIS)**

(91) The notable realisations of slope were identified solely by *me*, which brings a certain amount of subjectivity to the method. **(UKIUK)**

Self-mentions are the second least used MD subcategory in the entire corpus as well as in the interactional subcategories with a frequency of just 6.62% of all interactional markers, suggesting that the dissertation groups avoid self-mentions in general. They might not want to show their presence and claim authorship, as explicit author referencing is a conscious choice according to Hyland (2005b, p. 53). This means the writer could choose whether to show their presence or absence based on what stance they want to take. The lack of self-mentions could also be attributed to academic writing conventions, which recommend avoiding the use of first-person pronouns, to ensure the focus is on the research not the researcher (Waller 2015, p. 273; Al-Zubeiry, 2019, p. 56). This convention of avoiding self-

mentions may have influenced authors in applied linguistics in general as Hyland and Jiang (2017) reported a significant fall in the number of self-mentions in applied linguistics (6.7 per 1000 words in 2015 vs 8.8 per 1000 words in 1985). They 'stated that applied linguistics authors are now taking a more objective, less personal stance towards their material' (Hyland and Jiang 2017, p. 26).

In specific comparison between the dissertation groups, as shown in Table 6.17 and illustrated in Figure 6.3 below, UKIUK used significantly more self-mentions than both SIS and SIUK. The UKIUK group shows their presence and claim authority a lot more than both Saudi groups combined. This finding is in agreement with previous research claiming that NSs use more self-mentions than NNSs (Sultan 2011; Zhang 2016; Noorian and Biria 2017). Particularly, Sultan (2011, p. 38) claims that Arab writers use fewer self-mentions than their English NSs counterparts and attributed this difference to cultural background as in Arabic academic writing self-mentions are less frequent in comparison to English. This could be the reason behind the lower use of self-mentions in both Saudi groups. Alternatively, it could be because they want to take a particular stance and as novice writers, they do not want to take an authorial responsibility. Self-mentions in all dissertation groups were frequently expressed with the following markers, *I*, *the researcher*, *me* and *we*, respectively, except for the SIS group who only used *the researcher* and *I* (*I* was just used 2 times).

TABLE 6.17 STATISTICAL DIFFERENCES IN SELF-MENTIONS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			**Chi-square P-Values for Normalised Frequency (per 100,000)**			
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**	**SIS vs SIUK vs UKIUK**
Self-mentions	Raw Frequency	116	198	481	p<.0168	p<.0001*	p<.0001*	p<.0001*
	Per 100,000	101	139	252				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

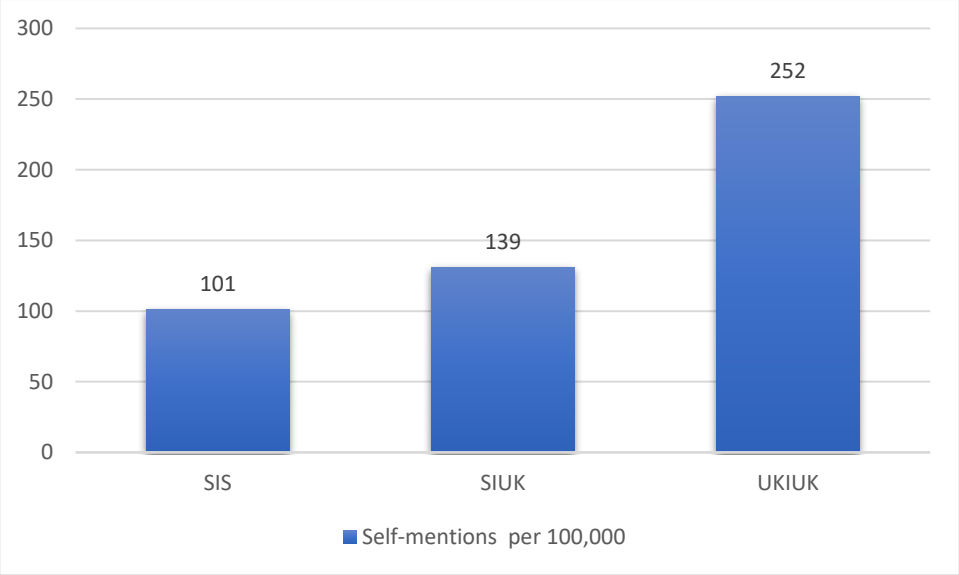

FIGURE 6.3 SELF-MENTIONS IN ALL THREE GROUPS PER 100,000

The findings of this subcategory (i.e., self-mentions being the second least used subcategory) differs from the findings of Hyland (2005a) and Burneikaite (2008), but aligns with those of Alkathlan (2019), who interestingly also researched texts produced by Saudi students. This disagreement with Hyland and Burnekaite could be because they investigated students from other cultures, Chinese and Finnish, respectively. This also supports the claim that self-mentions are influenced greatly by cultural background as Saudi students from this study and Alkathlan's used them similarly despite writing in two different genres (essays and dissertations).

6.3.4.1 Self-Mentions: Unit Place, Unit Type, and Dissertation Section

Self-mentions function mainly as a subject in the three dissertation groups (minimum frequency of 70%) and around 12% as complements or part of a unit expressing a complement. Self-mentions in this study appear less frequently as adjuncts or parts of adjuncts.

In comparing the dissertation groups in using self-mentions within the clause, Table 6.18 shows that both Saudi groups did not differ significantly in any of the clause functions. The table also shows that UKIUK used self-mentions as subjects or part of a unit expressing subject significantly more than either Saudi group. On the other hand, SIUK used significantly more self-mentions as a complement. The similarity between both Saudi groups in terms of using self-mentions as complements (and part of a unit expressing a complement) indicates that they, unlike UKIUK, avoided

the use of subjects like *I*, replacing them with complements (and part of a unit expressing a complement) such as *researcher*, as in example (92) below.

(92) This helped *the researcher* to focus on the […] **(SIUK)**

TABLE 6.18 STATISTICAL DIFFERENCES IN UNIT PLACE OF SELF-MENTIONS IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Subject +part of subject	Raw Frequency	83	139	418	p < .9	p<.0001*	p<.0001*
	Percentage	71.55%	70.20%	86.90%			
Complement +part of Complement	Raw Frequency	23	50	55	p < .3	p < .02	p<.0001*
	Percentage	19.83%	25.25%	11.44%			
Adjunct +part of Adjunct	Raw Frequency	10	9	8	p < .2	p<.0002*	p < .05
	Percentage	8.62%	4.55%	1.66%			
Total	**Raw Frequency**	**116**	**198**	**481**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 6 = 008)

Concerning unit type, self-mentions in the whole corpus occurred mostly as a word (68.81%) and then as a group (31%). Interestingly, this is the only interactional subcategory in which there were significant differences between the dissertation groups in the use of markers as a word or as a group. Table 6.19 below shows that UKIUK used significantly more markers as a word than both Saudi groups, who used them more significantly as a group.

TABLE 6.19 STATISTICAL DIFFERENCES IN UNIT TYPE OF SELF-MENTIONS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Group	Raw Frequency	110	130	8	p<.0001*	p<.0001*	p<.0001*
	Percentage	94.83%	65.66%	1.66%			
Word	Raw Frequency	6	68	473	p<.0001*	p<.0001*	p<.0001*
	Percentage	5.17%	34.34%	98.34%			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 6 = 008)

After examining this interesting finding of unit type further, it was found that UKIUK use more first-person pronouns (e.g., *I*) to express their presence in their writing. In

contrast, SIS and SIUK prefer to use group of words like *the researcher* or *the author* (to avoid the use of pronouns like *I* and *me*), as in the following examples (93) and (94).

(93) *The researcher* also gave consideration to […] **(SIS)**

(94) *I* hope that by outlining […] **(UKIUK)**

Specifically, UKIUK used the first-person pronoun *I* 388 times out of a total of 481 self-mentions, while SIUK used it 51 times out of 198, and SIS used it only two times out of 116. This indicates that SIS and SIUK are either adhering to the conventions that recommend avoiding first-person pronouns in academic writing (Waller 2015, p. 273; Al-Zubeiry, 2019, p. 56), or following Arabic cultural norms of avoiding self-mentions (Sultan 2011, p. 38).

The three dissertation groups use self-mentions mainly in the literature review, methodology, results and discussion, and introduction (only SIS) with most of the markers in methodology, as shown in Table 6.20 below. This high use of self-mentions in the methodology section could be attributed to how self-mentions function rhetorically to claim an individual's own methodological procedures in their studies (Lee 2009, p. 233). Self-mentions also reveal a specific stance by showing how the students want to present or distance themselves from a particular point (Hyland 2005a, p. 53). Thus, students may use self-mentions in the methodology to take authorial claim over how they investigated their own research, as in examples (89) to (93) above. Finally, self-mentions are the only subcategory that is mostly used in the methodology section by all groups. The clustering of self-mentions in the methodology sections contradicts Gosden (1993 as cited in Hyland 2005b, p. 21), who associated self-mentions more with introduction and discussion sections, as they are used to emphasise and justify arguments, decisions, and claims.

The dissertation groups also distributed self-mentions considerably in results and discussion section. The justification for this is similar to that for methodology, as the dissertation groups may want to claim authorship of their data and findings and explain how they understand them (Lee 2009). Additionally, as per the table, UKIUK and SIUK used more self-mentions in the literature review than SIS. The focus on the literature review might indicate a willingness to take responsibility for critically reviewing and evaluating previous studies. For the distribution of all self-mentions in

the three dissertation groups across the dissertation sections, see Appendix Fourteen.

TABLE 6.20 RANKING ORDER OF SELF-MENTIONS IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1- Methodology	69	59.48%	60
	2- Introduction	16	13.79%	14
	3- Results and Discussion*	15	12.92%	13
	4- Other sections	16	13.81%	14
SIUK	1-Methodolody	95	47.98%	67
	2- Results and Discussion*	57	28.96%	40
	3- Literature review	15	7.58%	11
	4- Other sections	31	15.48%	21
UKIUK	1- Methodology	168	34.93%	88
	2- Literature review	112	23.28%	59
	3- Results and Discussion*	108	22.47%	57
	4- Other sections	93	19.32%	48

*Includes results, discussion and combined results and discussion for better comparison

6.3.5 Engagement Markers

Engagement markers are used to engage with readers and involve them in the writing, as in examples (95) to (97) below.

(95) *We* should also note that authentic materials […]. **(SIS)**

(96) *Consider* the following example. **(SIUK)**

(97) *We* could summarise that […]. **(UKIUK)**

Engagement markers are the least frequent MD subcategory in the whole corpus, accounting for less than 1%, and are also the least used marker in the interactional subcategories, at 1.70% of all interactional markers used. This lower use by all the dissertation groups could show that they rarely communicate with their readers by engaging with them in the text or addressing them overtly. The three dissertation groups, especially SIS used a limited number of different markers to express engagement markers. These markers include *we*, *let us*, *you*, *us*, *see*, *remember*, and *consult*, as in the examples (95) to (97) above.

However, even though engagement markers are the least used subcategory, their use was significantly different among the three dissertation groups, as in Table 6.21 and Figure 6.4 below. Table 6.21 shows that only one significant difference was

found between SIS, who used significantly fewer marker, and both UKIUK and SIUK, with SIUK and UKIUK being similar. This finding shows that UKIUK engage with and involve their readers the most, followed by SIUK. In contrast, SIS, who used only eleven engagement markers, show almost no anticipation of their readers, nor any inclusion of them in the text, which could be an influenced of their cultural background. This was suggested by Sultan (2011, p. 38), who stated that Arab writers follow a less reader-involved approach as an influence of their L1 culture and language. The use of engagement markers is in line with Wang and Zhang (2016) and Noorian and Biria (2017), who claim that NSs of English use more engagement markers than NNSs. However, this study only partially agrees with the previous research as SIUK are NNSs but have a similar use of engagement markers to UKIUK. The reason between this similarity could be due to the institutional context, and the courses that the students may have taken before enrolling into their academic degrees in the UK, as suggested by Lee (2009).

TABLE 6.21 STATISTICAL DIFFERENCES IN ENGAGEMENT MARKERS BETWEEN DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values for Normalised Frequency (per 100,000)			
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK	SIS vs SIUK vs UKIUK
Engagement Markers	Raw Frequency	11	69	124	p<.0001*	p<.0001*	p < .09	p <.0001*
	Per 100,000	10	62	83				

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 3= 0.0166)

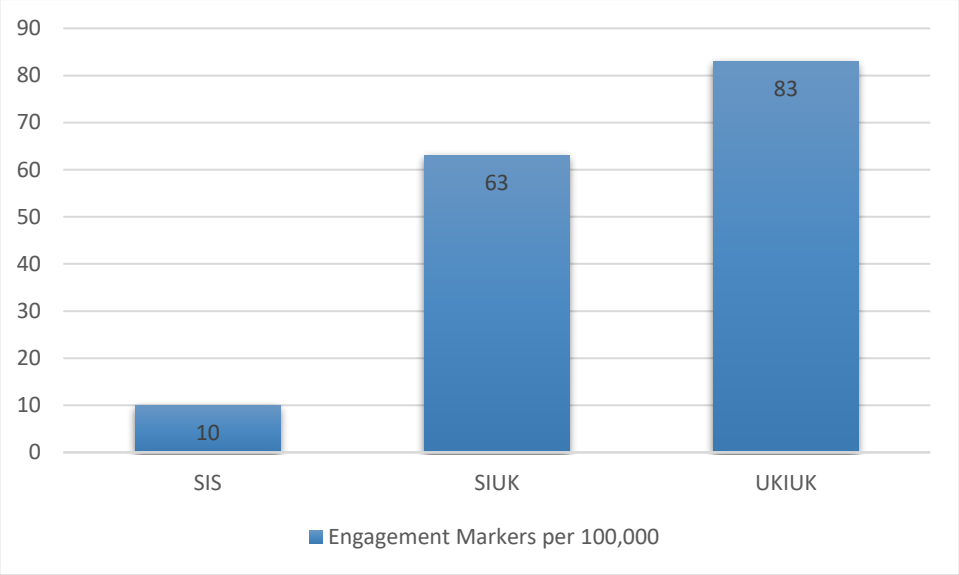

FIGURE 6.4 ENGAGEMENT MARKERS IN ALL THREE GROUPS PER 100,000

6.3.5.1 Engagement Markers: Unit Place, Unit Type, and Dissertation Section

Engagement markers function chiefly as a subject and part of a unit expressing a subject, and then as a predicate and part of a unit expressing a predicate for all three dissertation groups.

In unit place of engagement markers, the dissertation groups show more similarities than differences, as displayed in Table 6.22 below. The table shows that SIS and SIUK did not differ in all clause functions. Additionally, UKIUK is only significantly different in predicates (or part of a unit expressing a predicate) from SIUK and different from both Saudi groups in parentheticals. The use of predicates and subjects in Table 6.22 shows that SIS and UKIUK both favour using engagement markers in the subject position rather than the predicate, meaning that more reader pronouns are used, as in examples (95) and (97), whereas SIUK favour using more predicates, as in example (96). In fact, reader pronouns were the most common engagement markers used in the whole corpus, especially *we* with 85 cases out of 204, which is the total number of engagement markers. Additionally, the finding on parentheticals shows that UKIUK is the only group to engage with their readers and direct them using parenthesis (i.e., do not include their engagement markers in the clause grammar), while both Saudi groups never use engagement markers in this way.

TABLE 6.22 STATISTICAL DIFFERENCES IN UNIT PLACE OF ENGAGEMENT MARKERS IN ALL DISSERTATION GROUPS

		Dissertation Groups			Chi-square P-Values		
		SIS	**SIUK**	**UKIUK**	**SIS vs SIUK**	**SIS vs UKUK**	**SIUK vs UKIUK**
Subject +part of a unit expressing a subject	Raw Frequency	9	30	79	p < .04	p < .3	p < .01
	Percentage	81.82%	43.48%	63.71%			
Predicate +part of a unit expressing a predicate	Raw Frequency	1	37	8	p < .01	p < .1	p<.0001*
	Percentage	9.09%	53.62%	6.45%			
Parenthetical	Raw Frequency	0	0	34	p < .NA	p<.0001 *	p<.0001*
	Percentage	0%	0%	27.42%			
Complement +part of a unit expressing a complement	Raw Frequency	1	2	3	p < .6	p < .7	p < .1
	Percentage	9.09%	2.90%	2.42%			
Total	**Raw Frequency**	**11**	**69**	**124**			
	Percentage	**100.00**	**100.00**	**100.00**			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 12 = 0041)

In unit type, engagement markers in the whole corpus occur in 74.51% of cases as a word, and in 20.59% as a group, which is in line with Hyland's (2005a, pp. 222–223) framework. However, with the dissertation groups, Table 6.23 below shows that UKIUK used significantly more engagement markers as a group. The table shows that both Saudi groups favour engagement markers that are single words to engage with their readers (mostly the inclusive *we*), whereas UKIUK use both single words and group of words to engage with readers.

TABLE 6.23 STATISTICAL DIFFERENCES IN UNIT TYPE OF ENGAGEMENT MARKERS IN ALL DISSERTATION GROUPS.

		Dissertation Groups			Chi-square P-Values		
		SIS	SIUK	UKIUK	SIS vs SIUK	SIS vs UKUK	SIUK vs UKIUK
Group	Raw Frequency	1	3	38	p < .1	p <. 2	p<.0001*
	Percentage	9.09%	4.35%	30.65%			
Word	Raw Frequency	10	62	80	p <. 1	p <. 1	p<.0004*
	Percentage	90.91%	89.86%	64.52%			

*Indicates a statistically significant difference after applying the Bonferroni correction (0.05 divided by 6 = 008)

In relation to the dissertation section, the dissertation groups are relatively similar in the distribution of engagement markers. As apparent from Table 6.24 below, the sections where most engagement markers are used are the literature review, results and discussion, and introduction. Most markers occur in the results and discussion except for UKIUK, who used most markers in the literature review. This high use of engagement markers in results and discussion sections could be attributed to the rhetorical functions of these markers to involve and engage readers in discussion, leading them to a preferred conclusion or interpretation. Engagement markers also directs readers' attention to examples and graphs to help them understand the writers' viewpoint (Hyland 2005a, pp. 53–54).

TABLE 6.24 RANKING ORDER OF ENGAGEMENT MARKERS IN DISSERTATION SECTION IN THE THREE GROUPS

Group	Ranking Order	Raw Frequency	Percent	Per 100,000
SIS	1- Results and Discussion*	5	45.45%	5
	2- Literature review	4	36.36%	4
	3- Introduction & Methodology	1&1	9.09% & 9.09%	1&1
SIUK	1-Results and Discussion *	51	73.91%	46
	2- Recommendation & conclusion	4&4	5.80& 5.80%	4&4
	3- Literature review & Introduction	3&3	4.35% &4.35%	3&3
	4- Other sections	4	5.79%	2
UKIUK	1- Literature review	55	44.35%	37
	2- Results and Discussion*	36	29.00%	24
	3- Introduction	13	10.48%	9
	4- Other sections	20	16.17%	13

*Includes results, discussion and combined results and discussion for better comparison

Engagement markers are the only subcategory in the interactional MD that UKIUK used the most in the literature review (elsewhere they focus on the results and discussion). For this reason, along with the high use of engagement markers by UKIUK in comparison to the other groups, further investigation of the UKIUK literature review sections was conducted and it was found that the markers were similarly split between pronouns (*we*) and directives (*consider*), as in examples (95) to (97) mentioned earlier in this section. The UKIUK group used directives to engage in rhetorical involvement with readers, attracting them to certain arguments and anticipating the opposition. This includes directing the readers to a preferable interpretation, especially when there are different studies discussed, each one potentially having a different position. The purpose of reader pronouns is to meet the readers' expectations of inclusion and achieve disciplinary solidarity when taking a stance, based on what writers had reviewed in the literature (Hyland 2005, p. 54).

Additionally, in the results and discussion, UKIUK focused on reader pronouns with over 70% use to meet the expectations of readers with regards to inclusion. However, UKIUK did not focus on directives to refer to graphs, tables etc. despite the results and discussion being the section in which most visual data is expected to be found (Evans et al. 2014, p. 101). This finding could indicate that UKIUK focus on directing readers to a preferred interpretation in literature reviews, but in the results and discussion, they simply meet the expectation for the inclusion of readers without trying to direct them towards a specific interpretation or data point (Hyland 2005, p. 54). To see the distribution of all engagement markers in the three dissertation groups across the dissertation sections, see Appendix Fifteen.

6.4 Cultural Background and Institutional Context

This section addresses the factors of cultural background and institutional contexts possible influence on the Saudi students' use of interactional MD. As introduced in Section 2.9 the use and distribution of MD markers are greatly influenced by these two factors as well as the genre and discipline (Mauranen 1993; Hyland 2005a; 2005b; Lee 2009; Lee and Casal 2014; Alshaharni 2015; Noorian and Biria 2017). This section will start with the influence of these factors on the *overall* interactional MD and then on the subcategories of interactional MD.

6.4.1 Influence of Cultural Background and Institutional Context on the Overall Use of Interactional MD

Based on the findings presented in this chapter, it could be suggested that the institutional context has influenced the *overall* frequency of use of interactional MD, as SIUK used significantly more markers than SIS. However, UKIUK used significantly more markers than SIUK, which could also mean that the institutional context and cultural background have a similar influence, as the SIUK group is midway between SIS and UKIUK in terms of frequency of use. SIUK may have improved their knowledge of interactional MD by attending UK universities, as suggested by Lee (2009, p. 251). However, the cultural background could have affected both Saudi groups' lower use of the markers in general as the Arabic language appears to be a reader-responsible and less reader-involved (Sultan 2011, p. 38). Arabic also uses less MD in comparison to English (Alotaibi 2016, p. 187), as explained in the previous chapter (see Section 5.4). One conclusion that could be drawn is that institutional context impacted SIUK's higher use of interactional markers more than SIS, and cultural background had an impact on their use of these markers which were lower than UKIUK.

When examining the *overall* distribution and ranking order of interactional MD subcategories, genre and discipline are thought to have had some impact (e.g., on the higher use of hedges, similar use of attitude markers), as the three dissertation groups used the subcategories in a similar manner. This finding echoes studies that looked at dissertations in applied linguistics such as Hyland (2005a) and Burneikaite (2008). For example, disciplines in hard science, such as computer science, use significantly fewer self-mentions in comparison to applied linguistics (Hyland 2005a, p. 57). Also, engagement markers are the second most used subcategory in different genres like RA, whereas they are used the second least in dissertations (Alharbi 2021, p. 49) or the least as in this current study.

6.4.2 Influence of Cultural Background and Institutional Context on the Use of Interactional MD Subcategories

This study suggests that cultural background could have influenced the low use of boosters and self-mentions, as both Saudi groups used these subcategories similarly and both are significantly lower than UKIUK. Particularly, the lower use of self-mentions might be an influence of the rhetorical protocols of Arabic, as in Arabic, self-mentions are not frequent and considered to be a negative indicator in academic

writing (Al-Zubeiry 2019, p. 56). As claimed by Sultan (2011, pp. 37–38), Arab writers do not mostly project an authorial identify in their writing because of their cultural protocols as being impersonal, which is also 'consistent with positivist portrayal of science'.

On the other hand, the institutional context might have influenced the use of more hedges and engagement markers as SIUK and UKIUK used them more and they differed significantly from SIS. This could be due to pre/in-sessional courses or training SIUK students undertook before (or during) their degrees in the UK, as suggested by Lee (2009, p. 251), who also claims that students attending UK universities follow a more writer-responsible style and thus use more MD. As part of these pre/in-sessional courses or the UK universities, the importance of cautious language is stressed when making claims to allow for alternative viewpoints, which is a rule emphasised in English academic writing in general (see Swales and Feak 2012, p. 139; Bailey 2015, p. 143). Similarly, Swales and Feak (2012, p. 23) (a textbook mostly taught in pre-sessional courses) emphasise the effectiveness of engaging with readers and explicitly recommend the use of engagement markers in academic writing to have a successful communication (2012, p. 240). This leads to what is said by Crompton (2012) that writing instructions can enhance EFL writers' use of hedges and hedging forms. This influence of institutional context is also supported by Menkabu (2017, p. 255) when she stated that by attending UK universities, students' writing has developed and 'they have become more confident about their opinions'. Additionally, institutional contexts could also have influenced the similar variety of the markers used by SIUK and UKIUK and their distributions of the markers across the dissertation sections. Again, this influence could be due to being a part of the UK educational context.

Finally, genre and discipline could be one of the main reasons behind the similarities between all the dissertation groups in their use of attitude markers as all the data is from the same genre (dissertations) and discipline (applied linguistics). This could be because applied linguistics students share the importance of showing some certain level of attitudes in writing to relate and involve their readers, which is also claimed by Burneikaite (2008, p. 42).

6.5 Conclusion

This chapter has shown that all the dissertation groups differed significantly in terms of their use of interactional MD. Both Saudi groups used significantly fewer markers than UKIUK, and SIS used significantly fewer markers than SIUK. The differences could suggest that the Saudi groups do not focus on interacting and engaging with their readers and showing their involvement in their texts as explicitly as UKIUK. The lower level of concern about readers in both Saudi groups could be due to the influence of cultural background as Arabic writers generally, do not focus on readers, or involve them (Abo Rass 2011, p. 210). Within each interactional subcategory, all the dissertation groups used attitude markers similarly, with no significant differences between them. However, in terms of hedges, all the dissertation groups differed significantly, as again both Saudi groups used fewer markers than UKIUK, and SIS used fewer markers than SIUK. SIUK and UKIUK used engagement markers similarly and more significantly than SIS. Finally, SIS and SIUK used self-mentions and boosters similarly, and they both differed significantly from UKIUK.

This chapter demonstrated the findings of each of the interactional subcategories. First, the high use of hedges in all dissertation groups suggests that the students are aware of the importance of expressing uncertainty and caution in their academic writing which corresponds to prior studies (see 6.3.1), while the variation in the frequency between the groups indicates different awareness and focus of each group regarding hedging. Second, the similarity in attitude markers indicates that the students award similar attention to expressing their opinion, and in fact this research found that the dissertation groups used more attitude markers than previous studies (Hyland 2005a; Alkathlan 2019). Conversely, both Saudi groups showed less certainty and confidence in their writing, distancing themselves from their viewpoints by avoiding showing their presence through self-mentions and boosters, unlike the UKIUK group. Finally, the use of engagement markers as the least used subcategory in all the dissertation groups indicates that the dissertation groups did not anticipate or address their readers, nor engage with them often (although UKIUK and SIUK engage more often than SIS).

In the other layers of this study (unit place, unit type, dissertation section, and the variety of the markers) this chapter showed us that the groups demonstrated some similarities and differences. First, in unit place and type, both Saudi groups showed

a lot more similarities than differences than with UKIUK. This could be because students from the same culture use certain syntactic structures as suggested by Ozeki and Shirai (2007) and Alexopoulou et al. (2015). For example, the use of adjuncts (adverbs) in both Saudi groups in different MD subcategories such as hedges and boosters can be tracked to L1 transfer as Arabic language do not use adverbs frequently (El-Khalaf 2016, p. 47). However, in the case of the distribution of MD across the dissertation sections and the variety of the markers used, institutional context could have influenced the similarity between SIUK and UKIUK as they shared more similarities than with SIS. This could be due to attending some training or course as a part of UK universities.

In relation to what has influenced the Saudi students' use of interactional markers, it can be said that cultural background might have affected lower use of boosters and self-mentions due to influence of Arabic cultural background (see Sultan 2011, p. 38). Institutional context might have affected the use of more hedges and engagement markers in SIUK, which might be due to attending UK universities (see Lee 2009, p. 249). The genre and discipline account for the overall distribution of the subcategories e.g., the higher focus on hedges, and attitude markers, and the lower use of self-mentions and engagement markers (see also Burneikaite 2008, p. 42).

Chapter 7: Conclusion

7.1 Introduction

This study explored how three specific communities of postgraduate writers use metadiscourse (MD) markers to organise their texts and engage with their readers. The study identified significant differences in the use of MD markers across the cohorts of Saudi students studying in Saudi Arabia (SIS) and in the UK (SIUK) and British students studying in the UK (UKIUK). Notably, however, despite the differences, all three groups employed harmonious combinations of MD markers. In other words, all the subcategories of MD were present in every dissertation group, although they differed in terms of the proportion of each subcategory used. The differing patterns can be interpreted as indicating the tendencies and preferences of all three groups in their use of MD subcategories and styles (i.e., writer- or reader-responsible style).

One significant finding from this thesis is that upon examining the results presented in Chapters 5 and 6, it emerged that cultural background plays an important role in shaping the patterns and tendencies of MD marker usage in Saudi students' writing. This conclusion is supported by the similarities observed between both Saudi groups, despite their different institutional contexts. For example, the underuse of interactive MD markers in Saudi students' writing and their tendency to adopt a reader-responsible style can be attributable to their shared L1 and cultural protocols, which, according to Sultan (2011), underestimate the value of organising and formatting the text. Additionally, institutional context may also inform MD usage, as students from the same institution (SIUK and UKIUK) used more interactional MD markers than the SIS group. Typically, in western academic settings, conventions encourage interaction with readers and emphasise their presence during the writing process.

This final chapter will begin by highlighting the major patterns identified in relation to the use of MD in the three dissertation groups investigated in this thesis, and by suggesting the potential influences on their use of MD. Then, in 7.3, it will discuss the modifications that I made to Hyland's (2005a) model, which have informed the contribution this research makes to methods of researching MD. In Section 7.4, I

present some implications and recommendations for teaching MD markers to EFL students in general, and to Saudi students in particular to enable them to develop their writing and make informed decisions regarding use of MD markers. Finally, in Sections 7.5, and 7.6, I respectively discuss the limitations of this study and set out some proposals for further research.

7.2 Metadiscourse, Culture and Institutional Context

Interestingly, my analysis of the of MD markers that were used by the participants showed that not only did British students use significantly more MD markers overall relative to Saudi students (both SIS and SIUK), but they also produced more writer-responsible texts. The increased use of MD markers allowed the UKIUK students to organise their texts by structuring their arguments to include more interactive markers. Additionally, the UKIUK students explicitly engaged and involved their readers by forging a relationship with them, reinforcing writer-reader interaction by using more interactional markers. They also used more personal forms than the Saudi students, and introduced themselves and their views in their writing, thereby taking responsibility for their content.

By contrast, the Saudi students used significantly fewer MD markers than the British students, revealing less willingness to engage with their readers, suggesting they were not deliberately organising their text with readers in mind. Overall, the use of MD markers in Saudi students' writing may reflect an assumption that their reader would be able to readily follow the writing and the reasoning of the writer without difficulty, and so adopted a reader-responsible style, which requires the reader to interpret the text. The students seemed to believe they were addressing specialist knowledgeable readers who required no guidance from them. Additionally, the Saudi students paid limited attention to interacting with and involving their readers, which aligns with Abu Rass's (2011, p. 207) claim that 'Arab writers fail to consider the reader'. This approach potentially makes their writing less reader-friendly (Sultan 2011, p. 38) and less effective, as 'MD is synonymous with effective academic writing' (Farrokhi and Emami 2008, p. 215). Use of MD in Saudi students' writing as reported in this thesis correlates with other evidence suggesting that Arab L2 writers of other nationalities (e.g., Iranian and Turkish students) use fewer MD than L1 writers of English (Ozdemir and Longo 2014; Alotaibi 2016).

Following examination of MD marker usage among Saudi and British students, two distinct perceptions underlying their use were identified. First, Saudi student writers are disinclined to explicitly engage in use of MD. They tend to perceive the use of MD markers as distinct from content (see Levels of Discourse in Section 2.3) and overly demanding for L2 learners. To use MD, the students need to first construct their ideas using different language, which is challenging and requires additional effort. They may perceive that doing so distracts them from the main objective of writing, which is to communicate content effectively and accurately from a lexical and grammatical perspective. Consequently, they take a more informative stance relative to their audience when writing than British students do. For their part, British students, seem less concerned with linguistic features and invest greater effort in sculpting the form and clarity of their message, going beyond the content by crafting textual and interpersonal elements. Thus, they complement and augment their content with MD markers that facilitate reading, engage the audience, and improve persuasiveness, with the aim of selling the messages conveyed in their work. As such, they take on a double role; being both informative and directive.

Based on the above, it is apparent that both groups of writers are writing with different aims, based on their perceptions of the reader and the conventions of communicating common to their cultural backgrounds; e.g., Arabic as reader-responsible and Anglophone as writer-responsible. Another possibility to consider in this research is that the Saudi students' linguistic abilities may have impeded their use of MD. However, while I made a great effort in this research to reduce any negative impact from language proficiency by controlling for a minimum level of proficiency (a score of 6 in IELTS), proficiency as a variable cannot be ruled out, and nor can other factors such as the writer's own preference and gender, which were not addressed here. These factors were not expected to override the more influential factors that were accounted for in this research (such as genre, discipline, and culture) that are known to inform MD use (Amiryousefi and Rasekh 2010, pp. 161–162) (for more details see Section 3.7).

Having described the overall use of MDs by the groups of participants above, I now turn to discussing and comparing the main noteworthy patterns in the use of specific MD subcategories by Saudi students and British students. My analysis revealed that Saudi students tend to show limited commitment and confidence when writing,

usually distancing themselves from their arguments by abstaining from self-referencing or expressing their authorial identity and stance. This finding marks a departure from the existing literature (see Kuhi and Mojood 2014; Lee and Casal 2014; Al-Zubeiry 2019), which has demonstrated that L2 writers generally show more commitment and confidence than their L1 counterparts in English academic writing by being present, active, assertive, and definite (see Lee and Casal 2014; Al-Zubeiry 2019). Thus, I have shown that this finding is not applicable to the Saudi students in this research, as they were less assertive than their British counterparts. One reason for this may be because Saudi students are aware of the importance of allowing for alternative views in successful academic writing, or it may denote a lack of confidence in committing to a particular stance or argument. It may also be the case that Saudi students' relatively more limited use of MD markers stems from the tone and character of their L1 writing, as this tends to be less expressive and confident that English writing, as claimed by Alotaibi (2016). Expressions of assertiveness are relatively uncommon traits in Arabic academic writing.

However, with regard to Saudi students' limited self-mentions or presence in their writing, this study affirms previous research that finds that L1 writers are more likely to present themselves in their writing than L2 writers (Sultan 2011; Zhang 2016; Noorian and Biria 2017). In particular, Sultan (2011, p. 38) claims that Arab writers use fewer self-mentions than their English L1 counterparts, attributing this difference to cultural background, as in Arabic academic writing self-projection is used less frequently than in English, and is usually considered a negative form in writing. Sultan's explanation may account for the limited use of self-mentions in Saudi student's writing. An alternative reason may be that they wish to take a particular stance, and as novice writers do not have the confidence to take on authorial responsibility. Finally, perhaps Saudi students have simply been taught previously to adopt one of the most well-known conventions of English academic writing, the use of the passive form as a method of avoidance of self-mentions (Waller 2015, p. 273; Al-Zubeiry, 2019, p. 56); a strategy that is frequently communicated during formal instruction in academic writing. Irrespective of the reasons above, a question remains here concerning whether, if the use of self-mentions is not endorsed in English academic writing, should students be using them (see Section 7.4).

At this point, based on the evidence collected here, it may be reasonable to infer that the specific discrepancies in MD patterns between Saudi students and British students can be attributed to their cultural backgrounds, as evidenced in Chapters 5 and 6 of this thesis. Notably, the idea that native culture influences the rhetorical choices made by writers from different cultures is supported by Kaplan's (1987) theory of contrastive rhetoric, and widely accepted assumptions about contrastive rhetoric (Toumi, 2012). According to this theory, writers commonly adopt the rhetorical patterns of their native cultures, rather than those of the target language culture. While this claim is more of an assumption, we do find some evidence to support it in the findings presented here, as the Saudi students tend to neglect the format and the reader, adhering to Arabic rhetorical protocols that focus on the message and place lower value on the format and the audience (Sultan 2011; Alotaibi 2016). However, this does not necessarily mean that Saudi students reject what they have learned during instruction or self-development in the target language, as writing style is often a consequence of unconscious rhetorical choices. Nevertheless, it should be noted that interference from cultural background rhetorical practices might not always be straightforward, as noted by Stalker and Stalker (1986). Such interference can occur because it can be sometimes challenging to infer a culture directly from texts (Hyland 2005a, p. 137). Therefore, as suggested by similar contrastive studies (e.g., Crismore et al. 1993; Mauranen 1993), I do agree that such findings can usefully augment our understanding of how cultures play an important role in influencing the characteristics of different writing groups, provided that the patterns identified can be found in or linked to the native language or culture. However, it should also be acknowledged that other factors, such as those mentioned above, may also impact students' use of MD markers.

In addition to culture, this research demonstrates that institutional context also appears to have had some influence on the use of MD subcategories, such as transitions and engagement markers, as SIUK deviated from their culturally-tied peers (SIS) and matched the UKIUK students. For example, SIUK and UKIUK used transitions similarly, with no significant differences to demonstrate explicit connections and relationships between their arguments. They also used the same style when comparing arguments and showing causative relationships between them; i.e., comparison and consequence markers, whereas SIS focused mostly on

adding arguments, as discussed in Section 5.3.2. SIUK and UKIUK students also used engagement markers similarly and to a more significant level than SIS, which shows the latter had a low level of engagement with readers, and only minimally anticipated their readers' expectations of inclusion. The low use of engagement markers by SIS students corresponds to findings by Wang and Zhang (2016) and Noorian and Biria (2017), who claimed that L1 English speakers use them more frequently than L2 speakers. However, this finding only partially confirms previous research findings, as SIUK students are still using their L2 but use engagement markers in a similar way to the UKIUK group.

The explanation for the above could be due to previous instruction received by SIUK students before enrolling (in pre-sessional courses) or during their academic studies in the UK, or their own personal growth and development, as suggested by Lee (2009) and Akbas (2014), allowing them to adopt the target language conventions similar to those of UKIUK students. However, a possible reason for the general scarcity of engagement markers in SIS students' writing is that they could be perceived as a face threatening and risky practice, as readers might object to being guided to accept the writer's preferred interpretations (Menkabu 2017, p. 261). Finally, this similarity between SIUK and UKIUK contributes to our knowledge that even students from different cultures can share some subcategories of MD if attended the same institutional context (explained in detail in 6.4), confirming a weaker version of Kaplan's (1987) theory of contrastive rhetoric, which attributes all the differences between culturally different writing groups to culture alone. However, the claim that institutional context is responsible for the similarities between students from the same institution should be approached with caution, as it can be difficult to disentangle the effects of the institutional context from other confounding factors, such as the students' own preferences. I believe future research is required to reinforce this claim further by conducting interviews with the students to determine its degree of accuracy.

A further concern here is that the variations or different patterns in Saudi students' writing should ideally not disadvantage them or be evaluated as a deviation from standard English, but rather their writing should be acknowledged as a separate style pluralizing academic writing (Canagarajah 2006), especially in Saudi contexts. Pluralizing English is a strategy that can refer to the norms and standards of

particular and localized varieties of English that are culturally determined and emerge in national and social contexts (Canagarajah 2006; Mauranen 2010; House 2012). Hence, the current use of MD in Saudi students' writing can be considered to simply reflect the different rhetorical strategies and writing etiquettes deemed acceptable in Saudi institutional contexts, as they are evident in dissertations that have been accepted and graded as successful. Certainly, the writing of members of an EFL community typically 'differs to some extent in various ways from those norms of North American or British' (Ingvarsdottir and Arnbornsdottir 2013, p. 141). The situation does however differ, if the students themselves are aspiring to enhance their writing to align it with that of native English speakers (as representing the standard [Toumi 2012]) as they seek success in international publications or pursue their studies in western countries. In such cases, they may need to adopt and acquire the conventions of English academic writers, which are primarily linked to the norms and expectations that prevail in Anglophone cultures (Akbas, 2014, p. 321).

In conclusion, this research has helped fill a gap in understanding regarding the use of MD markers among Saudi and British students. It reported significant variations between the students, indicating their distinct tendencies and preferences in MD styles. The research further supports the notion that there are intercultural variations that distinguish the preferences and usage of writers from different L1 cultural backgrounds with regard to MD markers. Additionally, it adds that these variations can be influenced by the writers' L1 cultural background, even in terms of the uniformity of academic writing within a specific genre, discipline, language (English), minimum proficiency level, and institutional context. The effects of culture and institutional contexts on MD rhetorical choices were found to be highly relevant in the current research. The tendencies and preferences of both Saudi groups with regard to their use of MD markers could indicate a tendency towards a more culture-specific discourse. Nevertheless, there was some evidence indicating that SIUK students had local/L1 cultural background rhetorical tendencies mixed with Anglophone rhetorical practices, which emerged when examining their texts in conjunction with British students' texts. These research findings highlighted some implications that will be revisited as recommendations for students in Section 7.4, to create further awareness of linguistic strategies that can improve and enhance

academic writing. First, however, Section 7.3 summarises the modifications to Hyland's model made as a result of this research, and which offer a novel contribution to methods of researching MD.

7.3 Modifications of Hyland's Model

A major contribution of this thesis lies in the modifications that I made to Hyland's (2005a) model, which also now pave the way for further important findings with regard to MD theory. By expanding the model, it has been possible to make it more comprehensive in the sense that the expansion covers functions and categories of MD that had not been investigated before. It now encompasses both the communicative and syntactic functions of MD. The modifications developed were based on known gaps in previous research and the shortcomings in Hyland's model that were addressed in the literature reviewed in Sections 2.8 and 2.9 of this thesis. For example, in Hyland's model, attitude markers were vague and did not reflect actual attitudes expressed in writing (i.e., positive or negative) and the types of evaluation (e.g., significance, limitation, assessment, or emotion) that students engage in regarding their content and readers (Lee 2009; Azar and Hashim 2019). Therefore, to better understand the students' use of attitude markers, I complemented Hyland's model with that of Azar and Hashim (2019), which offers a further, more comprehensive, classification of attitude markers (see Section 3.8.1 for full details). An additional shortcoming of Hyland's work is that it did not address the syntactic functions and the grammatical forms of the markers. In the MD field, there are a lack of studies focused on how MD is used in the clause, what functional elements of the clause the markers serve or appear in, what grammatical forms the markers favour, and how they are distributed in different dissertation sections to perform different rhetorical functions. Thus, I made the following modifications to Hyland's' model to ensure a holistic picture of MD use in the students writing and address the gaps in MD theory.

The first modification was to unit place, which is concerned with the syntactic functions of MD markers. Following Fontaine's (2013) and Thompson's (2014) definitions, I added four main clause elements: subject, predicate, complement and adjunct, to determine MD occurrence and function in the clause, as discussed in detail in Section 3.8.1. This modification contributed to closing the research gap

related to the clause functions of MD, by showing that 85.76% of the time MD markers serve a main syntactic clause function and the remaining 14.24% appear as parenthetical. This signifies the important role MD markers play in the clause and shows that they are integrated in the clause grammar most of the time. Additionally, since the study identified the most frequent clause functions for MD markers, such as adjuncts and predicates, and the least used ones as complements, I was able to provide useful information for those teaching and researching in this field. See Section 7.4 for further information and the implications arising from this finding.

The second modification to the criteria was unit type. This modification concerned the grammatical forms the MD markers in the text take; e.g., whether as a single word, a group of words or even as numbers or letters. Through introducing this modification, it was possible to add to and extend our knowledge of MD in relation to the grammatical forms of MD markers in academic writing. It is now understood that MD markers are used most frequently as a single word 60.32% of the time, 35.53% as a group of words (mostly formulaic expressions) and the remining 4.14% as letters or numbers (that is, infrequently). The findings relating to unit type largely align with Hyland's (2005a) definition and list of MD markers, and can be used when teaching MD, to explain that usually the term refers to a single word, or a group of words that comprise a formulaic phrase (e.g., on the other hand). However, despite the insights this finding offers, I do not believe it is especially beneficial in terms of enabling us to compare MD markers across the three groups investigated in this research, other than what is reviewed above, as the students used them similarly. Despite the limited use of this modification for comparing groups, it does contribute to a better understanding of overall use of MD in the whole corpus.

The third modification concerns the dissertation/rhetorical sections in which the markers occurred, and includes all the chapters of the dissertation (e.g., abstract, introduction, etc.). By developing the framework in this way, I was able to address another important gap not previously investigated in the literature. The results show MD markers cluster most frequently in the long sections, such as the literature review sections (33.42%), with evidentials as the dominant subcategory, and then combined results and discussion, with hedges being dominant. The dissertation sections with the fewest MD markers were the shortest sections used as recommendations (1.32%), with hedges being employed the most. This shows that

it is important to take note of the rhetorical sections of text rather than considering the text as a whole. Additionally, the distribution of MD markers across the dissertation sections was generally influenced by the length and the rhetorical functions of each section. For example, evidentials are expected to appear in the literature review section most frequently because of the section's rhetorical aims, which require the students to demonstrate their familiarity with, evaluation and critical understanding of previous studies. The findings related to this modification are particularly important when training novice student researchers to write dissertations. They can usefully be introduced to how the different rhetorical aims of the sections can influence the distribution and function of the MD subcategories. As well, the findings can be used when designing materials to teach MD in specific sections. I think such modification is vital, as it can help students when writing one of the longest academic texts they will have to produce. In addition, the finding regarding the higher distribution of MD markers in the long sections, reveals that MD is sensitive to text length (this is further validated by the statistical correlation test that I conducted), which opposes claims made by authors such as Chang (2015), who argues that MD is not significantly affected by text length. This finding is also essential for MD researchers who wish to consider normalising their data to produce reliable results.

The final modification I made to Hyland's model was to update the list of MD markers provided by Hyland in 2005. Despite assertions from Hyland (2005a), Alshahrani (2015) and others that the list is comprehensive, I identified MD markers in my data that had not previously been included in such lists. While I did not set out to consider changes in MD over time, Hyland's list was created almost 18 years ago and writing conventions may well have changed since then. By updating the list, I was able to capture more MD markers, which can be used when teaching or researching MD (see Appendix Five for full list). However, despite the inclusiveness of this new list, it is possible that it may not have covered all MD markers in the data. Additionally, the list was produced to negotiate issues of reliability and validity, and to maintain objectivity. However, it may be impossible to attempt a complete list and a focus on the communication function of MD may be a better perspective for those taking up such research.

In summary, I made extensive modifications to the framework to broaden our knowledge and incorporate new findings related to MD. Doing so also facilitated a comprehensive process of comparison between the three dissertation groups. Crucially, the framework covered both communicative and syntactic functions of MD. However, even though these modifications were fruitful and presented a holistic picture of MD markers of different levels, the unit type modification proved less effective. The groups used similar markers as unit types, and thus I found no significance when comparing the groups. However, the modifications did prove advantageous when introducing important contributions to the field and theory of MD.

The modifications to Hyland's framework can be used when teaching and learning MD, and when developing materials relating to MD markers (discussed in Section 7.4). Teachers and students can use these findings to focus on the most used clause functions and make informed decisions about them. They can also work on the least used functions to improve their use. For example, typically the use of adjuncts is neglected in Saudi students' writing, while it is common in UKIUK students' writing. Knowing about clause functions and determining which ones to use and when will help the students vary their use of the markers and express their stance, evaluation, and engagement in a different and more varied way. This is supported by Bailey (2015), who stresses that successful students use different patterns in their writing. Additionally, researchers in the field of MD can also use these findings to understand general patterns of syntactic functions, grammatical forms, and the distribution of MD in writing.

However, it is important to note that this study's corpus is relatively small (over 411,000 words), and therefore the findings reviewed above, as a way to further our knowledge of MD theory, might not be generalisable to all MD markers in academic writing, and so should be treated with caution. Furthermore, as this study is the first work to report on such research gaps (syntactic functions, grammatical forms etc.), I propose they be further evaluated to confirm that they recur across different disciplines and within other sub-genres of academic writing, such as journal articles and essays.

7.4 Implications and Recommendations for Teaching Metadiscourse

The findings of this research have implications for both researchers and EFL students. First, students would benefit from instruction and training in the use of MD in general and should also be introduced to specific MD functions e.g., shifting how they view the relationship between writer and reader. This training will boost their knowledge and use of MD markers in their writing, thereby improving their writing quality and argumentation (Intaraprawat and Steffensen 1995, p. 268; Farrokhi and Emami 2008, p. 251). Instruction could also assist academic institutions (either in Saudi Arabia or the UK) by highlighting the general patterns or tendencies of Saudi students when using MD markers. Teachers can improve their students' use of MD markers by introducing them to the most common MD markers (expressions), as identified in Chapters 4, 5, and 6, and to the full updated list of MD markers (attached in Appendix Five). Additionally, this research provided over 110 authentic examples from among all the subcategories of MD (including modals, different lexical bundles, metadiscoursal signals etc.), and reviewed specific examples across different rhetorical sections. These are accessible to both students and teachers, and could be used when teaching MD.

After discussing general recommendations for teaching MD, I will now provide specific targets for Saudi students based on their use of MD. Saudi students would benefit from training in the MD subcategories they underused: evidentials, transitions, self-mentions, and engagement markers in general (specific use by the students in each of these subcategories is discussed in detail below). The low use of these subcategories of MD could create challenges for readers because it places more responsibility on them as interpreters of the text, and makes the writing appear less effective, ambiguous or incoherent (Al-Owayid 2018). Additionally, EFL students who receive MD instruction typically achieve better marks in their writing tasks (Taghizadeh and Tajabadi 2013).

Saudi students heavily depended on using references (evidentials) as subjects to demonstrate that the positions taken and claims expressed are not their own but derive from sources. This use shifts the focus from the research (i.e., ideas) to the researcher, revealing the cited sources are often listed without any critical engagement. Saudi student writer could be taught to vary their use of evidentials, to

use them as parentheticals or adjuncts to show greater engagement with the sources and to express their voice as writer.

Additionally, Saudi students could be introduced to how certain transition markers can occur in different positions within a clause (not just initial positions) to help them connect and organise ideas differently, to improve textual coherence. Saudi students adopt a progressive style in transitions, by focusing mostly on the addition of arguments in their texts. To algin more with the writing habits of British students, Saudi students could be trained in using a retrogressive style, which involves comparing arguments and explaining consequences in their writing. This would help readers understand the relationships and connections between different arguments more clearly, making their writing more comprehensible and persuasive (Hyland 2005a).

Saudi students tend to avoid the use of first-person pronouns. The students could be made aware of the debate and the conflicting opinions concerning the use of self-mentions. Some L1 expert writers argue that academic writing should be objective and faceless, and thus passive phrasing is preferred (Toumi 2012). Meanwhile, others (e.g., Darwish 2019) argue that using self-mentions may be effective, depending on the context. As such, Saudi students could be introduced to the functions of self-mentions in academic writing, and familiarised with ways to demonstrate authorial stance and identity (Hyland 2005a, p. 53). Even though it is still mostly recommended that self-mentions be avoided in academic writing, things are changing (as evident in the data from the UKIUK students), and so students should discuss preferences with their teachers/supervisors. Additionally, Saudi writers could be encouraged to take note when reviewing research articles and dissertations in their field to learn when and how first-person pronouns are used. For instance, this research found that self-mentions are used with the frequency of 2.77% of total MD markers (805 out of 29,338 with an average of 26 self-mentions per dissertation and specifically 19 first-person pronouns per dissertation), and were mostly distributed in methodology sections to claim authority over the research and explain the practical components of the methodological procedures involved.

Saudi students make almost no explicit attempt to engage with their readers or involve them in the text. The students should be made aware of how it is sometimes

acceptable in academic genres to address readers directly, and even to explicitly include them as discourse participants or draw their attention to a preferred interpretation or conclusion to increase readership (Hyland 2005a, p. 53). Focus on the functions of engagement markers will assist Saudi students in building relationships with readers, and acknowledging them and anticipating their needs and possible reactions to the text.

Additionally, Saudi students would also benefit from varying their use of different clause functions, to help them present their stance in a wider variety of ways. Saudi students tend to rely on certain syntactic functions. For example, in interactional MD, Saudi students use predicates (verbs) more often, while abandoning other functions like adjuncts (adverbs), whereas British students use adjuncts more frequently in their writing. The less frequent use of adverbs by Saudi students can be explained by L1 transfer, as Arabic language does not use adverbs frequently (El-Khalaf 2016, p. 47). In contrast, British students' use of adjuncts by is explained by Hyland and Milton's (1997, p. 192) statement that adverbs in English help writers modify their stance without grammatical and lexical complications. Thus, this is also something that would be beneficial and advantageous for L2 students to be aware of.

If students are given balanced instruction on each MD subcategory, this would facilitate a growing awareness and knowledge of the pragmatic and rhetorical effects of these features and their audience. It has the potential to make their writing more reader-friendly and help them express their arguments in varied and convincing ways. If it is not possible to implement MD classification into course structures, then it would be beneficial for the students to receive classes not only concerning the use of MD, but also about the conventions of their specific discipline and genre to develop their academic writing (Tavakoli and Amirian 2012).

7.5 Limitations

Despite every attempt having been made to produce a study that is thorough and principled, as with any research there remain some limitations. However, these limitations present possible opportunities for further research. The first limitation is related to the corpus size, which is bigger than that of most other MD studies reviewed (e.g., Khabbazi Oskouei 2011; Lee and Casal 2014; Ozdemir and Longo 2014; Kuhi and Mojood 2014; Chang 2015; Alshahrani 2015; Noorian and Biria

2017; Alkathlan 2019; Alharbi 2021), but may not be large enough to generalise the findings to all dissertations in the field of applied linguistics. Indeed, according to Baker (2010, p. 95), there are no clear rules regarding how large a corpus needs to be. However, the findings can still inform us about the specific groups investigated and how likely it is for MD markers to appear within a clause, unit type and dissertation sections.

Secondly, this research did not match the topics of the dissertations investigated, although it did ensure that they were all in the field of applied linguistics. However, potential mismatches of topics could have influenced some of the variations in MD frequencies or distributions in the final data set.

Thirdly, it is important to note that the coding of MD markers is not a wholly objective process. Differentiating between various subcategories of MD can be challenging and may involve the researcher's discretion based on context, as discussed in section 2.3. To minimize subjectivity and ensure consistency, this study employed both independent rating techniques and Hyland's list of MD markers, assigning each new marker a specific function. Additionally, the list was regularly updated, and new markers included once identified. However, despite these efforts, there is a possibility that subjectivity was not completely eliminated.

Finally, while this study controlled for key factors affecting MD use in student writing, it is important to note that there may be other potential influencing factors, such as participant characteristics like age, gender, academic experience, and how much tuition they have had in English. Therefore, the conclusions reached in relation to the influence of cultural background and institutional context, should be accepted with caution.

7.6 Further Research

Based on the limitations and the findings reported here, I propose the following recommendations for further research.

First, further research could use the modified framework and list introduced in this study to analyse and research MD markers. Hyland’s’ model was limited to rhetorical functions alone. It did not investigate the syntactic functions of the markers, their grammatical forms, their distributions across different sections, or offer any further

classification of attitude markers. However, researchers should employ caution when relying on a predetermined list of MD markers, as the ideal choice of linguistic resources is likely to depend on participants' context, as well as other factors, such as discipline and genre. Thus, it is recommended that future researchers avoid relying solely on predetermined lists, and instead, supplement these with lists compiled using their own data.

Second, future researchers could use a larger corpus to investigate MD markers to generalise their findings. As this study focused on one discipline and one genre for comparability, future research could explore the cross-disciplinary and genre-specific features of MD markers. This could also have pedagogical implications for MD in specific disciplines and genres and reveal conventions and expectations within those fields.

Third, it would be valuable for future researchers to conduct interviews with examiners and/or dissertation supervisors using the data presented in this study, to gain a deeper understanding of readers' explicit expectations. Interviews could also be conducted with student writers to gain insight into their motivations and reasons for using MD markers. Such interviews could gather further suggestions and advice with regard to MD learning and teaching. Overall, these recommendations, if implemented, would advance our knowledge of MD use in academic discourse more broadly.

In conclusion, my research has studied three student groups in different contexts, enhancing our understanding of MD, and expanding the literature on the topic. This thesis has set the stage for future exploration in this field, and areas that were beyond its scope can be further explored using the model developed herein. These areas provide exciting opportunities for future researchers to build on the work presented here.

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Appendix One: Saudi University Admission Requirements

Program	Masters in Applied Linguistics

Source	Admission Requirements
Postgraduate Studies Unified Regulations	Postgraduate Studies Unified Regulations
University Addmission Regulations	Humanities Postgraduate Programs Regulations
Department Admission Requirements	Applicant must have a bachelor's degree in English Language and Literature or related disciplines from King Saud University or any other university recommended by the Ministry of Education with a grade of no less than (very good).
	Obtain a score of no less than (6.5) in the academic IELTS test or its equivalent.
	Pass the written test conducted by the department.

Appendix Two: Saudi MA programme Description

Description of Courses:

Eng 500	**Structure of English**	**3 (3 + 0)**
The first part of this course provides a general introduction to English phonetics and phonology. The second part of this course provides introduction to the fundamentals of morphological and syntactic analysis, the structure of English morphology and English syntax (word formation, sentence, clause and phrase types and structures).		

Eng 508	**Semantics**	**3 (3 + 0)**
This course provides a general introduction to the issues of meaning and logical interpretation in natural language. It deals with both lexical and sentential aspects. It concentrates on the issue of reference in natural language, and it presents some analytical approaches to it.		

Eng 501	**Trends in Applied Linguistics**	**3 (3 + 0)**
This course explores applied linguistics in a broad sense. It introduces students to different interdisciplinary areas of applied linguistics, such as sociolinguistics, psycholinguistics and educational linguistics. Educational linguistics, however, is given a special attention, and students will be introduced to various approaches and methods of foreign language teaching in use today.		

Eng 528	**Language Teaching Materials**	**3 (3 + 0)**
The first part of this course aims at introducing students to the principles and practices involved in the preparation of language teaching materials: design, selection, gradation, presentation and evaluation. The second part will be focusing on how to apply what has been taught in the first part in evaluating different types of language teaching materials.		

Eng 502	Language Assessment	3 (3 + 0)
This course takes a look at types of language tests, such as achievement, proficiency and aptitude tests. It also covers the main theoretical and practical characteristics of a good test, such as reliability, validity, discrimination and practicality. Students will be involved in designing tests of language skills and sub-skills. Alternative assessments will also be discussed; so will be the use of computers in language assessment.		

Eng 520	Technology & Language Teaching	3 (3 + 0)
This course introduces students to the new media technological aids used in language teaching and learning, including computers, interactive smart boards, the internet, smartphone apps, and different educational software programs. Methods of using these aids will be taught, and their potentials and limitations will be discussed.		

Eng 524	Language Acquisition	3 (3 + 0)
This course surveys the major theories and research in first and second-language acquisition and their applications in language teaching and learning. Behaviorist, cognitive and innate language capacity theories and their proponents will be introduced and compared. The role of language universals, language aptitude, learning strategies, and other factors will be discussed.		

Eng 503	Research in Applied Linguistics	3 (3 + 0)
This course gives students the necessary knowledge and skills for conducting research in applied linguistics. It examines epistemological paradigm, various research designs (experimental, quasi-experimental, qualitative, quantitative designs), research instruments, types of data, and sampling techniques. The course also explores the use of computer software in research and in analyzing both quantitative and qualitative data.		

Eng 504	Discourse Analysis	3 (3 + 0)
This course introduces students to the fast growing research in the field of Discourse Analysis. Terms like discourse, language metafunctions, text, register, genre, and speech acts will be presented. The course includes pragmatics and speech act theory, lexicogrammar, text linguistics, and ethnomethodology. Methods of analyzing spoken and written discourse will be explored.		

Eng 505	Language Policy & Planning	3 (3 + 0)
Students are introduced to the concepts and functions of language policy and planning. Issues like multilingualism, diglossia and polyglossia and other circumstances requiring policy and planning. Language planning as an instrument of language policy is discussed in terms of types of planning and phases. Issues related to the why, who and how planning is carried out will also be dealt with.		

Eng 506	Lexicography	3 (3 + 0)
The course familiarizes students with different types of mono and bilingual dictionaries (conventional and digitized). Monolingual dictionaries will be considered in terms of types and content: lexical based, semantic based and thematic based dictionaries and subtypes of each. Bilingual dictionaries will be primarily considered in terms of content and purpose: comprehension, production and translation. The students will be trained to use computer programs such as concordancers and database management software in dictionary making.		

Eng 597	Seminar in Applied Linguistics	3 (3 + 0)
In the seminar various topics in applied linguistics are chosen by the class and /or assigned by the professor, researched by the students and discussed in class. 90% of the marks will be given for the research, presentation and discussion and 10% will be allotted for the final examination, which deals with the topics covered during the semester.		

Eng 532	Learner Language	3 (3 + 0)
The course introduces students to the two categories of research related to the language of a learner: error analysis and its procedures and techniques, and interactional and conversation analysis. This includes procedures for data collection, error recognition, classification, explanation and evaluation, both for theoretical and pedagogical purposes.		

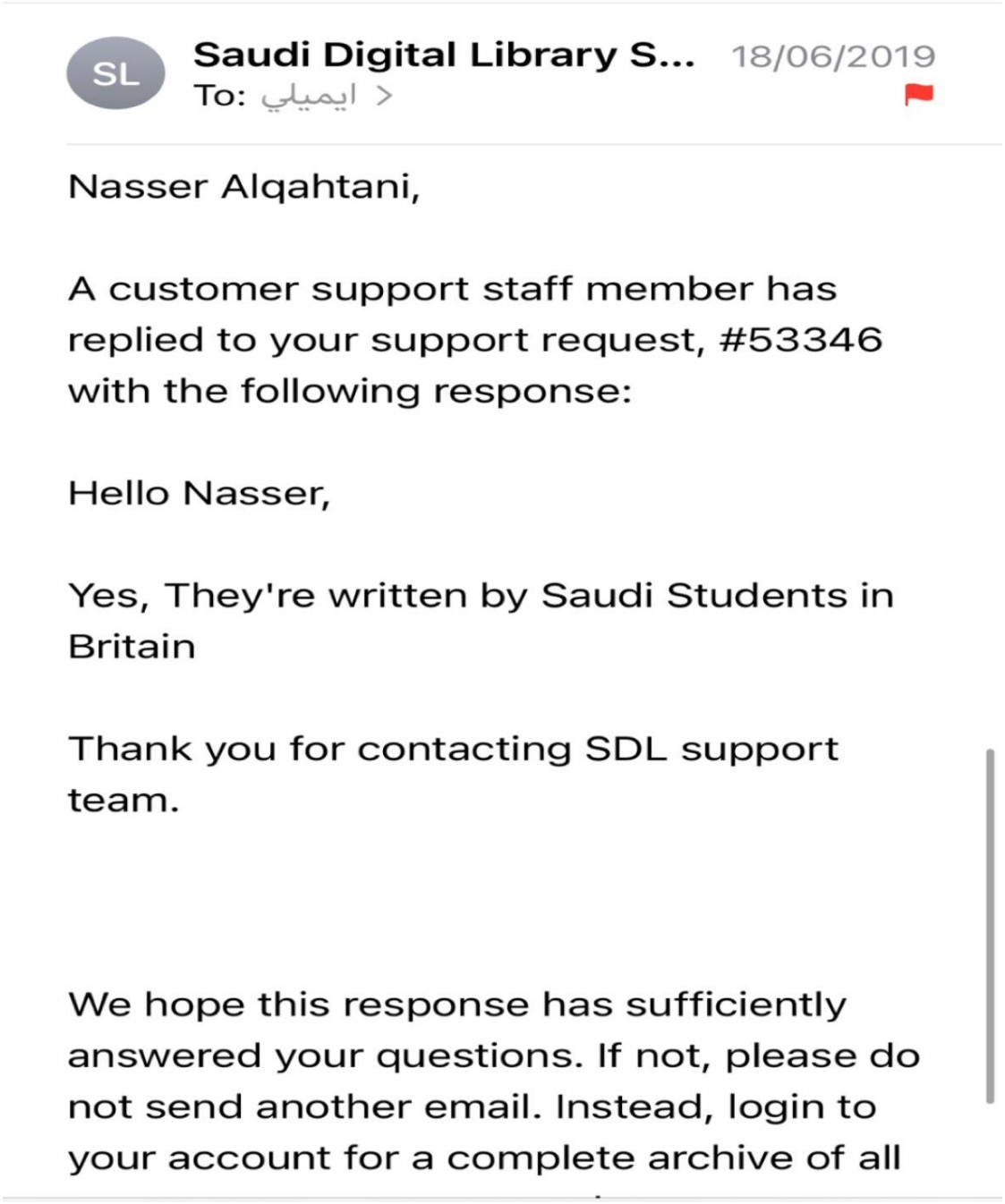
Eng 533	Research Project	3 (3 + 0)
In this course the students will be required to write a high quality 6000 to 8000-word research projects. Students' projects have to be related to the field of applied linguistics and to what they have been studying in the previous courses. Each student will be assigned to a supervisor who will guide him/her throughout the process.		

Eng 600	Thesis	6 Units
In this course the students will be required to write a high quality 15.000 to 18.000- word thesis. Students' dissertations have to be related to the field of applied linguistics and to what they have been studying in the previous courses. Each student will be assigned a supervisor who will guide him/her throughout the process.		

Appendix Three: Confirmation from KFIL that the Dissertations are Written by Saudi Students

Which translates into ‘yes, all the dissertations are written by Saudi Students’.

Appendix Four: Confirmation from SDL that the Dissertations are Written by Saudi Students



SL

Saudi Digital Library S... 18/06/2019

To: ايميلي >

Nasser Alqahtani,

A customer support staff member has replied to your support request, #53346 with the following response:

Hello Nasser,

Yes, They're written by Saudi Students in Britain

Thank you for contacting SDL support team.

We hope this response has sufficiently answered your questions. If not, please do not send another email. Instead, login to your account for a complete archive of all

Appendix Five: The Study's Modified List of MD Markers

INTERACTIVE MD colour codes:

red for Saudis in UK

yellow for Saudis in KSA

blue for UK students

Transition Markers	**Code Glosses**	**Endophoric Markers**	**Evidentials**	**Frame Markers**
A) Addition	-	(In) Chapter X	(date)/(name)	**a) Sequencing**
Simultaneously	( )	(In) Part X	(to) cite X	(in) Chapter X
alongside this	as a matter of fact	(In) Section X	(to) quote X	(in) part X
additionally	owing to the fact	(In) the X Chapter	[ref.no.]/[name]	(in) section X
added to this	due to the fact	(In) the X part	according to X	(in) the X Chapter
(but) also	called	(In) the X section	cited	(in) the X part
further	defined as	(In) This Chapter	quoted	(in) the X section
further still	e.g.	(In) This part	as stated by X	(in) this Chapter
furthermore	for example	(In) This section		(in) this part
in addition	for instance	Example X		(in) this section
to add to this	I mean	Fig.X		The subsequent section presents
moreover	To clarify	Figure X		Finally
so	i.e.	P. X		ultimately
besides	in fact	PageX		first
again	in other words	Table X		first of all
	indeed	X above		firstly
B) Comparison	known as	X before		initially
but	namely	X below		last
by contrast	orX	X earlier		lastly
conversely	put another (in this) way	X later		listing (a, b, c, etc.)
equally	say	(As) mentioned above/previously		
in contrast	specifically			
in (by) comparison	to be specific	In items 6/X		
comparatively				
comparably				
contrastingly				
in the same way				

in the same vein	to explore	As seen in table		next
likewise	this	()		numbering (1,
otherwise				2, 3, etc.
on the contrary	breaking this	To be confirmed		second
contrary to that	down	(In the)		secondly
to the contrary	such as	Following		subsequently
on one hand	that is			then
on the other	that is to say	outlined above		after that
hand	that means			afterwards
rather	this means	aforementioned		third
similarly	viz			thirdly
in similar fashion	which means	According to		to begin
in a like manner		the…. above		to start with
whereas	more			**b) label**
while	precisely	As highlighted in		**stages**
yet		(the lit review)		to this end
however	in this			all in all
alternatively	manner			at this point
so as to				at this stage
	broken down			by far
C) consequence				for the
Correspondingly	in this light			moment
accordingly	herein			in brief
although				in conclusion
as a	in this regard			in short
consequence				in sum
as a result				in summary
at the same time				now
because				on the whole
by the same				overall
token				so far
consequently				thus far
even though				to conclude
hence				to repeat
leads to				to sum up
nevertheless				to wrap up

nonetheless result in since still the result is thereby therefore though thus for this reason				to summarize **c) announce goals** this study the present study, this paper the present research, this dissertation the current study (in) this Chapter (in) this part (in) this section Aim desire to focus goal intend to intention objective purpose seek to want to wish to would like to **d) shift topic**

				back to digress in regard to move on now resume return to revisit shift to so to look more closely turn (ing) to well with regard to regarding concerning in relation to In terms of in respect of with respect to in reference to As for In considering

Interactional Metadiscourse

Hedges	**Attitude Markers**	**Boosters**	**Self Mention**	**Engagement Markers Reader pronouns**. let us, let's, one's, our, (the) reader, us (inclusive),
Not all, overall, about, almost, apparent, apparently, seemingly, with approximation, approximately, around,	! Notably admittedly agree (Ass, pos)	All**,** actually, beyond doubt, certain, clear, definite, demonstrate, demonstrated,	I we me my our mine	

broadly, certain amount, certain extent, a large extent, a greater extent , certain level, could, couldn’t, could not, doubt, doubtful, essentially, estimate, estimated, fairly, frequently, generally, commonly (generally speaking), guess, in general , in a general sense , in general terms , in most cases, in some cases, in most instances, , most of, kind of, largely, likely, mainly, may, maybe, might, mostly, often, regularly, on the whole, perhaps, plausible, plausibly, possible, possibly, presumable, presumably, probable, probably, quite, rather X, relatively, roughly, slightly, sometimes, somewhat, some , tend to, tended to, typical, typically uncertain, uncertainty, unclear,	agrees agreed amazed amazing amazingly appropriate appropriately astonished astonishing astonishingly correctly curious curiously desirable desirably disappointed disappointing disappointingly disagree disagreed disagrees dramatic dramatically essential essentially even x expected expectedly fortunate fortunately hopeful hopeless hopefully important importantly inappropriate	doubtless, establish, established, evident, find, found, in fact, on the fact, incontestable, incontrovertible, indeed, indisputable, know, known, will, shall , must (possibility), no doubt, obvious, notable, noticeable, of course, prove(s), proved, proven, realize, realized, really, assert, affirmed, affirms , show, showed, shown, sure, truly, true, undeniable, without doubt, without a doubt, without, impossible (then) again Highly	us the author the author's the writer the writer's	we (inclusive), you, your **Interjections.** by the way, incidentally, key **Questions. ?** add, allow, analyze, apply, arrange, assess, assume, calculate, choose, classify, compare, connect, consider, consult, contrast, define, demonstrate, do not, don’t, develop, employ, ensure, estimate, evaluate, find, follow, go, imagine, increase, input, insert, integrate, let x = y, take (a look/as example) look at, measure, mount, note, notice, observe, order, pay, picture,

unclearly, unlikely, usually, occasionally argue, argued, arguable, arguably, appear, appeared, assume, assumed, claim, claimed, indicate, indicated, postulate, postulated, seem, seemed, suggest, suggested, suppose, supposed, suspect, suspected believe, believed, feel, felt, from my perspective, from our perspective, from this perspective, in my opinion, in our opinion, in my view, in our view, in this view, from this point of view, ought, should, think, thought, to my knowledge, would, wouldn't, would not It is true to some extent	inappropriately interesting, interestingly (enough), prefer preferable favour, favourable (assessment, pos) preferably preferred remarkable remarkably shocked shocking shockingly striking strikingly surprised surprising surprisingly unbelievable unbelievably understandable understandably unexpected unexpectedly unfortunate unfortunately unusual unusually usual	always, certainly, clearly, strongly, conclusively, decidedly, definitely, evidently, incontestably, incontrovertibly, indisputably, never, obviously, surely, undeniably, undisputedly, undoubtedly, imperatively		prepare, recall, recover, refer, regard, remember, remove, review, see, select, set, show, suppose, state, think about, think of, turn, use modals. have to, must, need to, ought, should

Significance The markers in the negative form of this category are considered as *limitations* (e.g. significant vs insignificant).	Limitations and gaps (negative)	Emotion (positive/negative)	Assessment
Crucial critically fundamental (ly) importance importantly influential main major notable noteworthy primary relevant significant significantly	Critical difficult(ies) issue lack limited only neglect need to needed to short of unfortunately	Amazing (positive) Interestingly (positive) Fortunately (positive) surprising (positive) surprisingly (positive) unfortunately (negative) interestingly	Adequate (ly) best caution complex complexity comprehensive conclusively dangerous desirable dilemma easy (ly) effective generalizable great(er,ly) marginal new necessary obvious beneficial

Appendix Six: Distribution of Evidntials in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=1174		N=1533		N=2216	
- abstract	7	0.60%	30	1.96%	11	0.50%
- introduction	162	13.80%	106	6.91%	163	7.36%
- lit_review	762	64.91%	823	53.69%	1313	59.25%
- methodology	80	6.81%	179	11.68%	295	13.31%
- results	29	2.47%	24	1.57%	100	4.51%
- discussion_	113	9.63%	25	1.63%	124	5.60%
- conclusion	10	0.85%	18	1.17%	18	0.81%
- combined_res-disc	0	0.00%	313	20.42%	167	7.54%
- implication_or_limi	2	0.17%	5	0.33%	24	1.08%
- recommendation	8	0.68%	4	0.26%	1	0.05%
- conc_limit_recom	0	0.00%	0	0.00%	0	0.00%

Appendix Seven: Distribution of Transitions in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=963		N=1551		N=1888	
- abstract	17	1.77%	34	2.19%	13	0.69%
- introduction	142	14.75%	105	6.77%	119	6.30%
- lit_review	315	32.71%	441	28.43%	604	31.99%
- methodology	89	9.24%	221	14.25%	286	15.15%
- results	161	16.72%	87	5.61%	268	14.19%
- discussion_	158	16.41%	44	2.84%	234	12.39%
- conclusion	35	3.63%	70	4.51%	65	3.44%
- combined_res-disc	0	0.00%	474	30.56%	229	12.13%
- implication_or_limi	3	0.31%	52	3.35%	59	3.12%
- recommendation	39	4.05%	17	1.10%	9	0.48%
- conc_limit_recom	3	0.31%	0	0.00%	0	0.00%

Appendix Eight: Distribution of Frame Markers in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=972		N=1299		N=1451	
- abstract	30	3.09%	42	3.23%	48	3.31%
- introduction	190	19.55%	169	13.01%	134	9.24%
- lit_review	184	18.93%	247	19.01%	457	31.50%
- methodology	226	23.25%	259	19.94%	253	17.44%
- results	113	11.63%	117	9.01%	158	10.89%
- discussion_	119	12.24%	28	2.16%	137	9.44%
- conclusion	45	4.63%	103	7.93%	80	5.51%
- combined_res-disc	0	0.00%	265	20.40%	114	7.86%
- implication_or_limi	10	1.03%	44	3.39%	66	4.55%
- recommendation	52	5.35%	15	1.15%	4	0.28%
- conc_limit_recom	3	0.31%	0	0.00%	0	0.00%

Appendix Nine: Distribution of Code Glosses in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=681		N=891		N=1083	
- abstract	11	1.62%	14	1.57%	5	0.46%
- introduction	62	9.10%	71	7.97%	49	4.52%
- lit_review	161	23.64%	293	32.88%	373	34.44%
- methodology	91	13.36%	115	12.91%	144	13.30%
- results	280	41.12%	51	5.72%	220	20.31%
- discussion_	49	7.20%	16	1.80%	116	10.71%
- conclusion	3	0.44%	26	2.92%	35	3.23%
- combined_res-disc	1	0.15%	276	30.98%	117	10.80%
- implication_or_limi	2	0.29%	15	1.68%	21	1.94%
- recommendation	18	2.64%	7	0.79%	2	0.18%
- conc_limit_recom	2	0.29%	0	0.00%	0	0.00%

Appendix Ten: Distribution of Endophoric Markers in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=286		N=521		N=830	
- abstract	0	0.00%	1	0.19%	0	0.00%
- introduction	9	3.15%	11	2.11%	71	8.55%
- lit_review	29	10.14%	60	11.52%	145	17.47%
- methodology	56	19.58%	70	13.44%	143	17.23%
- results	174	60.84%	144	27.64%	185	22.29%
- discussion_	14	4.90%	4	0.77%	77	9.28%
- conclusion	2	0.70%	0	0.00%	15	1.81%
- combined_res-disc	1	0.35%	218	41.84%	179	21.57%
- implication_or_limi	0	0.00%	6	1.15%	13	1.57%
- recommendation	1	0.35%	1	0.19%	2	0.24%
- conc_limit_recom	0	0.00%	0	0.00%	0	0.00%

Appendix Eleven: Distribution of Hedges in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=1126		N=1928		N=2609	
- abstract	20	1.78%	31	1.61%	30	1.15%
- introduction	183	16.25%	111	5.76%	171	6.55%
- lit_review	381	33.84%	534	27.70%	753	28.86%
- methodology	104	9.24%	178	9.23%	351	13.45%
- results	147	13.06%	91	4.72%	410	15.71%
- discussion_	150	13.32%	64	3.32%	314	12.04%
- conclusion	37	3.29%	92	4.77%	111	4.25%
- combined_res-disc	5	0.44%	694	36.00%	332	12.73%
- implication_or_limi	15	1.33%	84	4.36%	117	4.48%
- recommendation	80	7.10%	36	1.87%	17	0.65%
- conc_limit_recom	3	0.27%	0	0.00%	0	0.00%

Appendix Twelve: Distribution of Attitude Markers in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=747		N=963		N=1217	
- abstract	16	2.14%	22	2.28%	16	1.31%
- introduction	130	17.40%	73	7.58%	88	7.23%
- lit_review	258	34.54%	258	26.79%	403	33.11%
- methodology	68	9.10%	122	12.67%	159	13.06%
- results	106	14.19%	39	4.05%	168	13.80%
- discussion_	111	14.86%	34	3.53%	156	12.82%
- conclusion	23	3.08%	51	5.30%	44	3.62%
- combined_res-disc	12	1.61%	309	32.09%	137	11.26%
- implication_or_limi	5	0.67%	31	3.22%	38	3.12%
- recommendation	16	2.14%	22	2.28%	6	0.49%
- conc_limit_recom	0	0.00%	0	0.00%	0	0.00%

Appendix Thirteen: Distribution of Boosters in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=492		N=690		N=1228	
- abstract	6	1.22%	21	3.04%	12	0.98%
- introduction	57	11.59%	53	7.68%	87	7.08%
- lit_review	178	36.18%	240	34.78%	396	32.25%
- methodology	27	5.49%	80	11.59%	197	16.04%
- results	89	18.09%	37	5.36%	172	14.01%
- discussion_	83	16.87%	37	5.36%	151	12.30%
- conclusion	34	6.91%	22	3.19%	43	3.50%
- combined_res-disc	1	0.20%	187	27.10%	135	10.99%
- implication_or_limi	4	0.81%	5	0.72%	32	2.61%
- recommendation	13	2.64%	6	0.87%	2	0.16%
- conc_limit_recom	0	0.00%	0	0.00%	0	0.00%

Appendix Fourteen: Distribution of Self-mentions in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=116		N=198		N=481	
- abstract	5	4.31%	5	2.53%	0	0.00%
- introduction	16	13.79%	9	4.55%	47	9.77%
- lit_review	8	6.90%	15	7.58%	112	23.28%
- methodology	69	59.48%	95	47.98%	168	34.93%
- results	12	10.34%	17	8.59%	70	14.55%
- discussion_	2	1.72%	0	0.00%	36	7.48%
- conclusion	0	0.00%	7	3.54%	26	5.41%
- combined_res-disc	1	0.86%	40	20.20%	2	0.42%
- implication_or_limi	0	0.00%	8	4.04%	20	4.16%
- recommendation	3	2.59%	1	0.51%	0	0.00%
- conc_limit_recom	0	0.00%	0	0.00%	0	0.00%

Appendix Fifteen: Distribution of Engagement Markers in the Three Dissertation Groups Across Dissertation sections

	SIS		SIUK		UKIUK	
SECTION_TYPE	N=11		N=69		N=124	
- abstract	0	0.00%	1	1.45%	1	0.81%
- introduction	1	9.09%	3	4.35%	13	10.48%
- lit_review	4	36.36%	3	4.35%	55	44.35%
- methodology	1	9.09%	1	1.45%	10	8.06%
- results	3	27.27%	1	1.45%	23	18.55%
- discussion_	2	18.18%	12	17.39%	12	9.68%
- conclusion	0	0.00%	4	5.80%	7	5.65%
- combined_res-disc	0	0.00%	38	55.07%	1	0.81%
- implication_or_limi	0	0.00%	2	2.90%	2	1.61%
- recommendation	0	0.00%	4	5.80%	0	0.00%
- conc_limit_recom	0	0.00%	0	0.00%	0	0.00%