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"Establishing a Territory" in Traditional and Article-based PhD Thesis Introductions: A Comparison of Rhetorical Moves and Linguistic Realisations

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ABSTRACT

Thesis writing, especially the Introduction chapter, can be a challenge for PhD students. A clear understanding of rhetorical structure, including moves and steps, is crucial to achieve success in academic writing. Despite this, there has been limited research on the rhetorical strategies and their linguistic realisations in PhD thesis introductions, particularly in various thesis formats. This study examines how writers of traditional and article-based theses employ Move 1 ("establishing a territory") and its linguistic realisations, based on Bunton's (2002) move model. A corpus of 40 PhD thesis introductions (20 traditional, 20 article-based) was analysed. Findings indicate both groups commonly follow Move 1 and its steps, but they vary in the linguistic strategies employed. These insights are valuable for writing instruction and can assist doctoral students in crafting more impactful thesis introductions.

Keywords: Thesis introduction, rhetorical structure, move and step, traditional thesis, article-based thesis

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1.0 Introduction

Researchers have long shown interest in the analysis of dissertation chapters, with particular attention to the Introduction. For graduate students, especially those who are non-native speakers of English—writing dissertation chapters is widely regarded as one of the most challenging aspects of academic writing (Prasetyanti & Tongpoon-Patanasorn, 2023). Bitchener and Basturkmen (2006) further note that non-native English-speaking students of ten struggle to organise their ideas coherently and to meet the rhetorical and organisational expectations of dissertation writing.

The Introduction chapter serves a central function in academic texts. According to Bunton (2002) and Bhatia (2014), it establishes a link between the current research and existing knowledge in the field, while also shaping readers' expectations and facilitating their understanding of the thesis. Despite its importance, the Introduction is frequently regarded by both supervisors and students as the most difficult section of a thesis to write (Dong, 1998; Ono, 2017). Numerous scholars have similarly identified the Introduction as the most challenging component of thesis writing (Dudley-Evans, 1986; Paltridge & Starfield, 2019; Shaw, 1991; Swales, 2004). While many postgraduate writers may find

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producing research papers manageable, composing an effective thesis Introduction remains particularly demanding (Casal et al., 2021; Gupta, 1995; Paltridge, 2002).

Despite its significance, research on the rhetorical structure of thesis and dissertation Introductions remains limited. Swales (1990) characterises the thesis genre as a neglected area in discourse analysis, attributing this to the length of theses and the fact that doctoral writers typically produce only one thesis during their academic careers. Consequently, detailed rhetorical analyses of thesis Introduction chapters have often been overlooked.

Existing studies have examined individual sections of master's and doctoral theses, including Abstracts (Pratiwi & Kurniawan, 2021; Sujiyani, 2022), Introductions (Bunton, 2002; Cheung, 2012), Literature Reviews (Anjum & Masroor, 2023; Flowerdew & Forest, 2009), Discussions (Salmani Nodoushan, 2012), and Results and Discussion sections (Loan & Pramoolsook, 2015; Pojanapunya & Watson Todd, 2011). However, relatively few studies have focused specifically on the rhetorical moves and steps employed in PhD thesis Introductions. While scholars such as Carbonell-Olivares et al. (2009), Choe and Hwang (2014), Geçiklí (2013), Kawase (2018), Prasetyanti and Tongpoon-Patanasorn (2023), and Soler-Monreal et al. (2011) have examined rhetorical moves in doctoral thesis Introductions, none have systematically analysed the linguistic realisations of these moves within PhD thesis Introduction chapters.

Some studies have explored both rhetorical moves and their linguistic realisations in doctoral writing. For instance, Monreal and Salom (2011) investigated citation practices in PhD theses, while Lim et al. (2014, 2015) analysed specific steps within Move 3, including research questions, hypotheses, and purpose statements. Zainuddin and Shaari (2017) examined Move 2, which focuses on establishing a research niche in doctoral thesis Introductions. However, despite these contributions, it remains unclear how the linguistic realisations of Move 1 ("establishing a research territory") are employed across different rhetorical units in PhD thesis Introductions.

Furthermore, thesis format may influence rhetorical and linguistic choices. Dong (1998) highlights structural differences between traditional and article-based theses, noting that the latter typically consist of a collection of published or publishable research articles framed by introductory and concluding chapters. Similarly, Paltridge (2002) explains that article-based theses differ substantially from traditional theses, which follow a conventional chapter-based structure. These structural differences suggest that rhetorical strategies in thesis Introductions may also vary according to thesis format.

Previous research on article-based theses has largely focused on their macrostructures, pedagogical implications, and writers' perceptions (Anderson et al., 2020, 2022; Anderson & Okuda, 2019; Baggs, 2011; Durling, 2013; Freeman, 2018; Gross et al., 2012; Peacock, 2017; Thomas et al., 2016). To date, however, no study has examined the schematic structure of rhetorical moves, steps, and their linguistic realisations in the Introduction chapters of article-based PhD theses. In response to this gap, the present study aims to compare Move 1 ("establishing a research territory") in traditional and article-based PhD thesis Introductions, with particular attention to the linguistic realisations used in each thesis format.

In genre analysis, a rhetorical move is defined as a functional unit of text that fulfils a specific communicative purpose (Ruiying & Allison, 2003). Moves may be realised through a sentence, a group of sentences, or an entire paragraph. Steps, in contrast, operate at a lower level and serve to elaborate the communicative purpose of a move. Linguistic realisations refer to the lexical and grammatical resources writers employ to enact these moves and steps (Nwogu, 1997; Pho, 2008). These realisations are typically signalled through recurring lexical items and phraseological patterns, often referred to as lexical signals (Indrian & Ardi, 2019; Swales, 1990). Identifying such signals provides insight into how rhetorical functions are constructed in academic texts (Ye, 2019).

In sum, the thesis Introduction remains a critical yet underexplored component of doctoral writing. By examining the rhetorical and linguistic realisations of Move 1 in traditional and article-based PhD thesis Introductions, the present study seeks to contribute to a deeper understanding of doctoral writing practices and to offer pedagogically relevant insights for PhD students, supervisors, and academic writing instructors.

2.0 Literature Review

According to Swales (1990), the concept of genre is related to both written and spoken texts. Swales argued that a text not only requires interlocutors but also entails communicative purposes within a related social context. As such, a genre is a set of communicative events that are supposed to be in harmony with a specific social interaction which Swales (1990) referred to as a discourse community. Moreover, Swales (1990) discussed that repeated communicative events of a particular genre may be recognised and classified as rhetorical units of texts. Therefore, in order to specify any particular genre, such as PhD theses or different chapters of theses, it is necessary to highlight and focus on the different rhetorical units of that genre. Swales (1990, p. 1) explains genre analysis as an approach to studying "written discourse for applied ends", and contemplates concepts such as intended discourse community, purpose, and rhetorical features of written texts. Swales' (1990) genre analysis is supported by Dudley-Evans (1986) who argues that to show the main variations of communicative events in any genre, genre analysts can follow a system of analysis that reveals the similarities and differences of rhetorical units of a text.

Recent studies on scholarly writing have emphasised the importance of establishing a research territory in the introductory part of a well-structured introduction. Swales' (1990, 2004) Create a Research Space (CARS) model continues to be influential in analysing how scholars position their work within existing literature. Move 1 typically involves providing background information, defining key concepts, and reviewing relevant studies to justify the research focus. Recent research has uncovered disciplinary variations in the realisation of Move 1 (Loi et al., 2016; P. Pho, 2013). While the importance of Move 1 is widely acknowledged, recent studies have explored into its disciplinary differences, revealing that the method by which researchers state their claims varies between fields. According to Hyland (2024), Move 1 in the sciences typically consists of succinct, data-driven statements that highlight knowledge gaps, while in the humanities and social sciences, it is more typical to encounter in depth conversations that analyse theoretical perspectives.

Hussain et al. (2022) stated that Move 1 can be achieved through selecting various topics for research. This move helps define the layout of the research territory by describing the situation and characteristics of the study area. A study by Shirani and Chalak (2016) claimed that establishing a research territory is a crucial factor when starting a research study. Thus, researchers are careful when implementing Move 1. Buena (2021) indicated that in the majority of his study presentations, Move 1 involved establishing a territory by stating the goal and current capacity. This is an important point for those who design slides because there is a high frequency of the first move. A study conducted by Hyland (2024) suggests that varieties in Move 1 not only reflect the norms of the disciplines but also the authors' identity and the readers' expectations. Furthermore, advancements in AI-assisted textual analysis (e.g., Lee et al., 2023; Lu & Ai. 2015) have offered new insights into how Move 1 functions across large-scale academic corpora. This research has revealed that the rhetorical moves employed to establish a research territory are continuously evolving in response to changing publication standards and interdisciplinary research trends.

Moreover, an introduction identifies the general topic, defines the issue or area of concern, and prepares the ground for one's investigation. Readers' existing knowledge is used to find a common ground on which the new investigation can be placed. Studies by scholars such as Anjum and Masroor (2023) on Literature Review, Cheung (2012) on Introduction, Loan & Pramoolsook (2015) on Results and Discussion, and Sujiyani (2022) on Abstract demonstrate that the individual sections of a complete text can be termed as a genre since they intend to describe a single communicative event. In addition, some researchers have focused on studying the introduction chapters of theses from different perspectives. However, there are variations among genres. For example, Cheung (2012) found in the study of introductions across three disciplines that they often lack Move 1 steps.

In his 2002 study, Bunton proposed a model for PhD thesis introductions based on Swales' (1990) CARS model for research article introductions and Dudley-Evans's (1986) model for master thesis introductions. Since this is the only model available for describing PhD thesis introductions, the writer

of the current study chose to use it as a foundation for analysis. Bunton analysed a corpus consisting of 45 PhD theses from various disciplines and introduced ten new steps in his model. The model is depicted in Table 1 below.

Table 1

Bunton's (2002) Modified CARS model

Move 1 (M1): Establishing a territory	
STEPS	[Parameters of the research]
S1: Claiming centrality (importance of the topic)	
S2: Making topic generalisations and providing background information	
S3: **Defining terms*	
S4: Reviewing previous research	
Move 2 (M2): Establishing a niche	
STEPS	[Counter-claiming]
S1A: Indicating a gap in the research	
S1B: *Indicating a problem or need*	
S1C: Question raising	
S1D: Continuing/Extending a tradition	
Move 3 (M3): Occupying the niche (Announcing the present research)	
STEPS	[Chapter structure] [Research questions/Hypotheses] [Theoretical positioning] *Defining terms [Parameters of research] [Application of product] [Evaluation of product]
S1: Purposes, aims or objectives	
S2: Work carried out/Announcing the research	
S3: Hypotheses	
S4: *Method*	
S5: *Materials/Subjects*	
S6: Findings/Results (Announcing/predicting the principal findings) *Product of research / Model proposed*	
S7: *Justification/Significance*	
S8: *Thesis structure*	

Note. Newly identified steps are in italics.
* Indicates a new step proposed by Bunton that can appear in first or third moves.
[] indicates a step that is occasionally present, according to Bunton.

The adoption of Bunton's (2002) model was motivated by two primary reasons. Firstly, Bunton's (2002) model was confirmed as the most relevant through a genre study analysis of 45 PhD thesis Introductions across eight disciplines, making it applicable to the corpus of the current study. Furthermore, this model has been successfully employed in previous studies for analysing thesis Introduction moves (e.g., Carbonell-Olivares et al., 2009; Kawase, 2018; Nguyen & Pramoolsook, 2014; Pujiyanti & Arsyad, 2018; Prasetyanti & Tongpoon-Patanasorn, 2023; Soler-Monreal et al., 2011). In addition, Carbonell-Olivares et al. (2009) confirmed that Bunton's move model was the only model suitable for describing PhD thesis Introductions, and it showed a greater number of steps compared to Swales (1990) and Dudley-Evans (1986) models. Consequently, the current study adopted Bunton's (2002) model for the analysis of a series of PhD thesis Introductions.

Hence, adopting Bunton's (2002) model, we aim to answer the following research questions:

1) What is the rhetorical Move 1 in traditional and article-based PhD Introductions with a focus on "Establishing a research territory"?

2) What are the linguistic realisations of Move 1 "Establishing a research territory" in the introduction chapters of traditional and article-based PhD theses?

3.0 Methods

3.1 The Corpus

The corpus of this study consisted of two small corpora of PhD thesis Introduction chapters, consisting of traditional and article-based theses in the fields of medicine and psychology. A total of forty theses (20 traditional and 20 article-based) were purposively selected from various Australian universities, including the Macquarie University, the University of Western Australia, the Australian National University and the Newcastle University. Due to the limitations of article-based theses, only 20 of each type were considered for the analysis. Additionally, previous studies have only analysed small amounts of data. For example, Hussain, Hussain, and Khan (2022) examined 8 PhD theses, Soler-Monreal et al. (2011) looked at 20 PhD theses, and Kawase (2018) studied 20 PhD theses. Therefore, 40 theses were deemed sufficient for the current study. The reason for selecting Australian universities was the limited availability of open-access article-based theses. This type of thesis is relatively new, and not many universities have such theses. An online search revealed that only a few Australian universities had open access to such theses. Therefore, the rationale for choosing the theses from Australian universities was their availability of article-based theses.

Additionally, the choice of medicine and psychology disciplines was based on two main factors. First, online article-based theses were predominantly found in certain science disciplines. Second, only medicine and psychology disciplines have sufficient online article-based theses to be taken as samples for the study. It is important to note that different disciplines are not the focus of this study. After the data were gathered, all tables and figures were removed from the Introduction sections of the selected theses (e.g., from the PDF files). Each Introduction was then transferred into a separate Microsoft Word document to allow for individual labelling. Each thesis introduction saved as a .doc file and was manually coded by the researcher according to the types of the theses and disciplines. This coding process facilitated the quick and easy identification of each sample. In this study, TM and TP refer to traditional theses in medicine and psychology, respectively, while AM and AP denote article-based theses in medicine and psychology.

3.2 Data Analysis

Both qualitative and quantitative methods were utilised in this research. The quantitative method involved using descriptive statistics, in the form of frequency counts, to describe the steps of Move 1 "establishing a research territory", in the Introductions of both traditional and article-based theses. Moreover, a normalised frequency count was calculated for the linguistic realisations of each step in Move 1. The research process included conducting a pilot study, which began with Bunton's (2002) model, and focusing on Move 1 of each PhD thesis introduction (refer to Table 1).

The Bunton model had more detailed units and appeared to be a more suitable framework for the analysis of PhD thesis Introductions. However, some of the steps in Bunton's model were not observed in the pilot study analysis. For example, in Bunton's model, in Move 1 "establishing a territory", the step research parameters, was absent in the pilot study results. The other 4 steps in Bunton's model (claiming centrality, making topic generalisation, reviewing previous research, and defining terms) were evident. Therefore, a modified framework was proposed for analysing the main corpus of the current study (see Table 2).

Table 2

Modified Framework for Analysis of Rhetorical Structure of Move 1 in Thesis Introduction

Move 1 and steps
Move 1: Establishing a territory
M1S1: Claiming centrality M1S2: Making topic generalisation M1S3: Defining terms M1S4: Reviewing previous research

To enhance the accuracy and reliability of the present study, two raters were consulted. They are referred to as Rater A and Rater B. Both raters held PhDs in English language studies and linguistics, specialising in genre analysis. Bunton's (2002) analytical framework and the revised model were thoroughly discussed with the raters. Once the researcher was confident that the raters understood the models, move and steps structures, and methodology, samples of the pilot study were provided to them. They were instructed to independently identify the moves and steps. Then, the results of the raters' analyses were compared and contrasted with the researcher's findings. A few disparities emerged from the comparisons. For example, a unit was codified by the researcher as M1S2 ("Making topic generalisations") while rater A considered this step as M1S4 ("Reviewing previous research"). In these cases, disagreements were observed. Such disagreements were addressed through discussion meetings between the researcher and both raters A and B. However, after sufficient concentration on the disagreements, a final agreement was reached regarding the functional and semantic purposes of the text units, and raters A and B were convinced of the practicality of the study's analytical framework.

Firstly, Move 1 and steps were identified manually, without using any software, as software cannot identify functional-based moves and steps. Then, Move 1 and its steps were counted to determine the frequency and percentage, and tabulated to display the quantitative results of the rhetorical moves. To achieve the aim of this study, the count was based on the number of traditional and article-based thesis introductions that contain Move 1 and its constituent steps. Determining the frequency of each unit can help identify the optional and obligatory moves and steps within each thesis. According to Kanoksilapatham (2005), moves or steps occurring in less than 60% of the data are considered optional, while those occurring in more than 60% are considered obligatory.

In the qualitative method, sentences were analysed in depth to identify the linguistic realisations of Move 1 "establishing a research territory" in the Introduction chapters of two types of PhD theses. Furthermore, a comparison was made between the usage of these linguistic realisations in different types of theses to propose possible explanations for their usage. According to Nwogu (1997), moves and their component parts were identified partly from context and partly by reference to linguistic clues in the speech. Therefore, the moves and steps were identified based on the use of certain linguistic realisations.

The data from this study were analysed in two phases. In the first phase, linguistic realisations representing the function of each step within Move 1 were highlighted and underlined in the sentences. The researcher then manually identified and analysed the linguistic realisations based on their lexical signals. In the second phase of analysis, the identified linguistic realisations were verified using AntConc 3.5.8 (2019) software. This software was chosen because it is a freeware, multi-platform, multi-purpose corpus analysis toolkit. AntConc is a highly effective toolkit for corpus analysis. For instance, it was used by Wu and Paltridge (2021) and Dong and Lu (2020) in their studies to identify linguistic realisations.

First, the linguistic realisations were manually recognised and counted in the move and step. Next, the AntConc concordance tool was used to conduct a word count on each step's draft separately, determining the total number of words for each step in the move. This software was utilised to obtain a raw frequency of the linguistic realisations of each step in the move. Furthermore, the software was employed to identify the lexical signals. To accomplish this, each of the created Microsoft Word files (e.g., .doc file) representing moves and steps were converted into plain text format (e.g., .txt) to ensure compatibility with the Antconc software. The use of these plain text files in Antconc software is

demonstrated in Figure 1, displaying corpus files in their raw format (e.g., TM, TP:M1S1. txt). The procedure of using AntConc and identifying linguistic realisations from the study's data is illustrated below:

Figure 1

A Screenshot Showing the Identification of Linguistic Realisation in Move 1

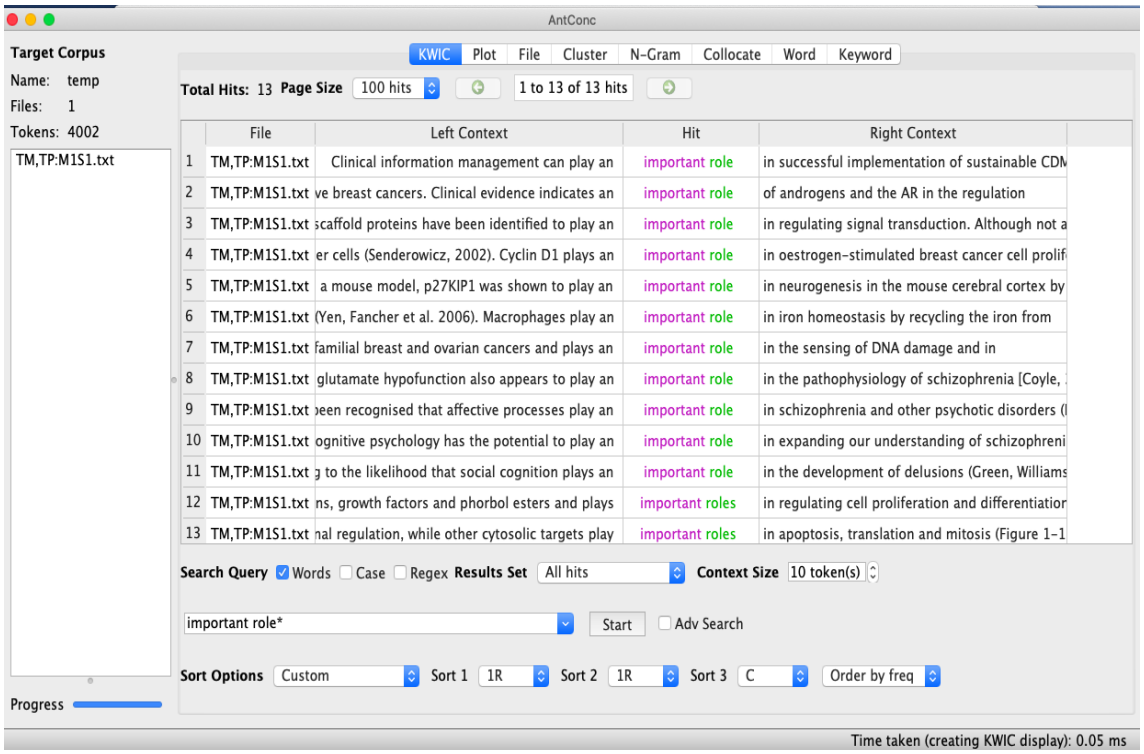

Figure 1 demonstrates one of the stages in identifying linguistic realisations in a step of the move. In the Search Term box, the researcher typed a linguistic realisation associated with Move 1 Step 1 focusing on "claiming centrality", which is the lexical signal of an *important role*. Therefore, the concordance hit displayed a raw frequency of 13 occurrences for this linguistic realisation in M1S1 (see Figure 1).

In this study, since there were two corpora of different sizes, a normalised frequency was required to compare them. To calculate the normalised frequency for each linguistic realisation, the number of words for the steps in Move 1 was counted separately. This count serves as the basis for the equation used. The raw frequencies for the linguistic realisations in each step of Move 1 were then normalised per 100 words using the following formula.

$$\text{Normalised frequency} = \frac{\text{Frequency (raw count)} \times 1000}{\text{Number of words}}$$

Based on this formula, the normalisation of the linguistic realisation for the lexical signal of each step in Move 1 was calculated. Biber et al. (1998) noted that in corpus-based studies examining the frequency of features across texts, it is important to ensure that the counts are comparable. They highlighted the method of "Normalisation" as a means to adjust raw frequency counts from texts of varying lengths, enabling accurate comparisons.

4.0 Results and Discussion

The data on the frequency of Move 1 and steps in the introductions of traditional and article-based theses revealed minor variations between the two types of theses. Both traditional and article-based theses showed that Move 1 occurred 100% of the time. However, there was a negligible difference in the use of steps. Table 3 below shows remarkable variations in the frequency of steps in Move 1 in the Introductions of traditional and article-based theses.

Table 3

Comparison of the Occurrences of Move 1 and Steps in Traditional and Article-based Theses

Moves and Steps	***Traditional***		***Article-based***	
	N=20		**N=20**	
	Freq.	**Percent %**	**Freq.**	**Percent %**
Move 1: Establishing a territory	20	100%**	20	100%**
M1S1: Claiming centrality	20	100%**	20	100%**
M1S2: Making topic generalisation and giving background information	18	90%**	18	90%**
M1S3: Defining terms	16	80%**	19	95%**
M1S4: Reviewing previous research	20	100%**	20	100%**

Note. Obligatory steps (**)

Table 3 shows that all steps in Move 1 were found to be obligatory in both traditional and article-based theses. It indicates that steps "claiming centrality" (M1S1) and "reviewing previous research" (M1S4) were found to have a 100% frequency in both traditional and article-based theses. The findings of these two steps as the most commonly applied steps in both traditional and article-based theses affirm the results of many previous studies (e.g., Bunton, 2002; Choe & Hwang, 2014; Geçíklí, 2013; Kawase, 2018; Samraj, 2008; Soler-Monreal et al., 2011). It can be said that these steps are not limited to different types of the theses; they are relatively obligatory elements in PhD thesis Introductions.

The step "defining terms" (M1S3) with 95% frequency was the next prominent step found in article-based theses, while it was evident with lesser frequency (80%) in traditional theses. This result is congruent with Soler-Monreal et al. (2011) study, in which "defining terms" occurred in as many as 80% of occurrences in the Introductions of computer science in English PhD theses. The frequent use of this step, defining terms, in the Introductions, especially in article-based theses, may be due to the varied topics or subjects these theses address. Such diversity often requires clarifying new or specific terms to help readers better understand unfamiliar concepts related to the topic.

The step "making topic generalisations" (M1S2), as the other obligatory step, shares much in common with the two types of the theses in terms of its use. This step was found with the same percentage of traditional and article-based theses with 90% occurrences. This finding also affirms Buena (2021) and Indrian and Ardi (2019) studies that this step was deemed obligatory in the Introductions of master's theses with 100% and 91.6% frequency of use, respectively. Table 4 indicates the comparison of the occurrences of linguistic realisations in Move 1 between the traditional and article-based theses.

Table 4

Comparison of the Linguistic Realisations of Steps in Move 1 in Traditional and Article-based Theses

Move 1 (Establishing a territory) Steps	**Number of words in Steps**	**Linguistic realisations of Traditional Theses**	**Raw F**	**Normalised frequency per 1000 words**	**Linguistic realisations of Article-based Theses**	**Raw F**	**Normalised frequency per 1000 words**
M1S1: Claiming centrality	4002 Traditional	…important role/s	13	3.2	…leading cause(s) of	11	2.4
		…is/are essential	4	1.0	…most important	4	0.9
	4612 Article-based	…most prevalent	3	0.7	…important contributor	2	0.4
Total				4.9			3.7
M1S2: Making topic generalisation and giving background information	2586 Traditional	…is/are well established	6	2.3	…there is evidence to suggest	4	1.8
		…evidence suggests that	5	1.9	…is well known	2	0.9
	2203 Article-based	…known to have	2	0.7	… it is believed	2	0.9
Total				4.9			3.6
M1S3: Defining terms	1327 Traditional	…refers to	15	11.3	…is/are defined as	16	6.3
		…is/are defined as	6	4.5	…refers to	10	3.9
	2544 Article-based	…is/are called	2	1.5	…described as	5	1.9
Total				17.3			12.1
M1S4: Reviewing previous research	10848 Traditional	…reported that	17	1.6	…found that	54	7.4
		…showed that	14	1.3	…demonstrated that	7	1.0
	7260 Article-based	…proposed that	12	1.1	…suggests that	6	0.8
Total				4.0			9.2

As indicated in Table 4, for M1S1 ("claiming centrality"), the lexical signal *important role(s)* (3.2 occurrences per 1000 words) was used dominantly in the introductions written by the writers in traditional theses, while in article-based theses the lexical signal *leading cause(s) of* (2.4) was the most utilised linguistic realisation. The lexical signals *is/are essential* (1.0 occurrences) and *most prevalent* (0.7) were other linguistic realisations of this step in traditional theses, whereas the lexical signals *most important* (0.9), and *important contributor* (0.4) were other linguistic realisations in article-based theses. Therefore, as seen in Table 4, the dominant linguistic realisations of M1S1 were different in both types of the theses, though their functions were the same. In M1S1, for instance, it is clear that linguistic realisations like *important role(s)* in *traditional* and *leading cause(s) of* in *article-based* theses fulfil the same function, but the writers had the choice of using a different linguistic realisation when asserting the centrality of their research. In addition to these variations, it was found that the lexical signals *is/are essential*, *most prevalent*, *most important*, and others, highlighted the prominence of the research topic as the main concern in both traditional and article-based theses. It can be assumed that PhD thesis writers, like other writers in the scientific discourse, also "establish a research territory" (Move 1) to level the ground in order to put forth their argument. Nevertheless, the expressions and strategies through which they achieve this purpose are different and varied, making it more interesting. Examples

below exhibited dominant linguistic realisations of M1S1 ("claiming centrality") in both traditional and article-based theses.

[1a] Macrophages play an *important role* in iron homeostasis by recycling… **(TM6, M1S1)**

[1b] RNA binding proteins *are essential* molecules in the cell for the regulation of gene expression. **(TM4, M1S1)**

Example 1a demonstrated the use of the lexical signal *important role*, indicating the significance of macrophages in maintaining iron balance. Therefore, by using this lexical signal, the writer appeared to emphasise the topic's relevance and appeal. This observation supports the findings of Kanoksilapatham (2005) and Ye (2019), who reported that the linguistic realisation *important role* commonly appears in Move 1 Step 1 ("claiming centrality") of research article introductions to highlight the importance of the research field. The lexical signal *are essential* was another frequently used expression in Move 1 Step 1 (M1S1, "claiming centrality") (see Example 1b). In this example, the writer employed the phrase *are essential* to underscore the key function of RNA proteins in gene expression, the primary focus of the research. By using this linguistic realisation, the writer aimed to convey that RNA proteins are crucial cellular components influencing gene expression. The writer highlighted the importance of RNA proteins to explain the rationales behind his/her study.

[1c] Cancer is the *leading cause of* death in the developed world and the second leading cause of death in the developing world. **(AM1, M1S1)**

[1d] Pain is the *most important* symptom of arthritis. **(AM7, M1S1)**

In Example 1c, the writer used the lexical signal *leading cause of* to highlight the critical role of cancer in contributing to mortality. Example 1d showed the use of *most important* to stress the significance of pain as a key factor in arthritis. This observation aligns with Indrian and Ardi's (2019) study, which identified *most important* as a linguistic feature representing the "claiming centrality" step in Move 1 of thesis introductions.

The finding on the use of linguistic realisation in traditional theses was consistent with the previous studies (e.g., Pujiyanti & Arsyad, 2018; Shehzad, 2006) on thesis and research articles in which the linguistic realisations such as *important role,* and *essential,* were utilised to denote M1S1("claiming centrality"). However, the presence of other lexical signal such as *most prevalent* in traditional and the lexical signals *important contributor,* and *leading causes of* in article-based theses were not observed in the previous studies. Previous studies employed different linguistic realisations to signal M1S1 ("claiming centrality"). For instance, the lexical signal i.e., *most frequently* was realised in Wang and Yang (2015) study to signal M1S1 ("claiming centrality") in the introduction chapters of research articles to proclaim the importance of the study. Although the intention of the lexical signal *most frequently* in Wang and Yang (2015) study was similar to the lexical signal *most prevalent* (employed in traditional theses), different linguistic realisations were utilised to signal this step.

Table 4 shows that, in traditional theses, the prevalent linguistic realisations of M1S2 ("making topic generalisation" and "giving background information") were the lexical signals *is /are well established* (2.3), *evidence suggests that* (1.9), and *known to have* (0.7). In contrast, in article-based theses, the dominant linguistic realisations of this step were the lexical signals *there is evidence to suggest* (1.8), *is well known* (0.9), and *it is believed* with 0.9 occurrences. The use of linguistic realisation such as *is well known* in article-based theses, was also found in Indrian and Ardi's (2019) and Lu et al. (2021) studies of the introductions of master theses and research articles. However, other linguistic realisations i.e., *is/are well established*, *there is evidence to suggest,* and *is well known* were found in this study that were not discovered in the previous studies. It is reasonable to infer that writers of both traditional and article-based theses continued to exhibit a propensity for employing various linguistic realisations to signify M1S2. These examples demonstrated M1S2 in traditional and article-based theses.

[2a] In breast cancers, the prognostic value of p27KIP1 has been extensively studied and *is well*

established (Chu et al., 2008). **(TM3, M1S2)**

[2b] Multidisciplinary treatment programs often address self-efficacy and fear of movement/(re)injury, as *evidence suggests that* they are amongst the most salient predictors of pain and disability. (**TP4, M1S2)**

The lexical signal *is well established* was frequently used to signal M1 Step 2 ("making topic generalisation" and "giving background information"). This linguistic realisation helps to provide the concrete information on the knowledge related to the topic which was breast cancer (see Example 2a). In Example 2b, the writer used the lexical signal *evidence suggests that* to give the readers the background information on how self-efficacy and fear of injury can be related in pain and disability.

[2c] Moreover**,** *there is evidence to suggest* that poorer mental health may also be associated with mortality [7]. **(AM6, M1S2)**

[2d] Arthritis *is well known* to be more common in the older population and is more common in women. **(AM7 M1S2)**

In Example 2c, the writer used the lexical signal *there is evidence to suggest* to offer background information and support the claim of a link between poor mental health and mortality. This linguistic realisation served as further evidence on the poor mental health and its connection to mortality. In Example 2b, the lexical signal *is well known* was used to present a general statement about the topic. Specifically, the writer used it to describe arthritis as a disease that predominantly affects women and older individuals. This linguistic realisation signalled the function of Step 2 "making topic generalisation" by generalising the topic of arthritis disease.

In traditional theses, the most dominant linguistic realisations to realise M1S3 ("defining terms") were the lexical signals *refers to* (11.3), *is/are defined as* (4.5), and *is/are called* (1.5). For article-based theses, however, the dominant linguistic realisations were the lexical signals *is/are defined as* (6.3), *refers to* (3.9), and *described as* (1.9), respectively. Though the lexical signals *is/are defined as* and *refers to* were used in both sets of the corpus, they had variations in the frequency of use. The lexical signal *is/are defined as* which was similarly seen in both types of theses was compatible with Pujiyanti and Arsyad's (2018) study in that it served as the linguistic realisations of step "defining terms" in master's thesis introduction chapters. Extracts below showed M1S3 in traditional and article-based theses.

[3a] Chronic pain *refers to* pain that has been present for three months or more or has continued beyond the usual expected recovery period (Katz & Rothenberg, 2005; Priest & Hoggart, 2002). (**TP4, M1S3)**

[3b] Pain *is defined as* "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage". **(TP4, M1S3)**

In Example 3a, the writer applied the lexical signal *refers to* in Move 1 Step 3 (M1S3), which involves "defining terms", to explain the concept of 'chronic pain' to the readers. This usage aligns with findings from Rahman et al. (2017) and Setiawati et al. (2021), who observed that the phrase *refer to* commonly functions as a marker of definitional clarification in the introduction sections of research articles. As illustrated in Example 3b, the lexical signal formed by the auxiliary verb *be* plus a past participle (e.g., *is defined as*) clearly indicated the use of Step 3 in Move 1 ("defining terms") by providing a definition of pain. This linguistic realisation, expressed in the simple present tense as *is defined as*, reflects the realisation of the definitional step. This finding supports the results of Pujiyanti and Arsyad's (2018) study, which identified *is defined as* as a common lexical signal used to fulfil the function of "defining terms" in the introduction chapters of English master's theses written by Indonesian postgraduate students.

[3c] Avoidance *is defined as* the circumvention of specific social interactions or places due to fear of attack or harm, a response that commonly results in negative life impacts for the individual. **(AP4, M1S3)**

[3d] Self-efficacy *refers to* individuals' assessments of their own capabilities in a particular domain; it involves self-reflection and an evaluation of one's ability to enact or perform a task in a desired way (Bandura, 1977, 1982). **(AP9, M1S3)**

In Example 3c, the lexical signal *is defined as* explicitly performed the function of Step 3 "defining terms" by helping readers better understand various concepts. Similarly, in Example 3d, the writer used the lexical signal *refers to* to clarify the meaning of the term 'self-efficacy' for the audience. This observation aligns with Shehzad's (2006) study, which also identified the lexical signal *be + defined* as an indicator of the "defining terms" step in the introduction sections of computer science research articles.

In traditional thesis introductions, the prevalent lexical signals for M1S4 ("reviewing previous research") were *reported that* (1.6), *showed that* (1.3), and *proposed that* (1.1). In contrast, in article-based thesis introductions, the lexical signals such as *found that* (7.4), *demonstrated that* (1.0), as well as *suggests that* (0.8) were commonly found in M1S4. The two types of theses used different linguistic realisations to denote M1S4. Examples of these linguistic realisations are presented below for traditional and article-based theses respectively.

Non-Integral:

[4a] *A more recent study* investigating the impact of various biomarkers in triple- negative breast cancer patients *reported that* increased ERK1/2 expression was correlated with… (Eralp et al., 2008). **(TM3, M1S4)**

[4b] Utilising the same adenoviral expression vector, *Wang et al (1997) showed that* ectopic… **(TM3, M1S4)**

It was clear that reporting verb + that-complement clauses such as *reported that, showed that* and *proposed that* were employed to signal M1S4 ("reviewing previous research"). These types of citations using these signals were employed to show how the previous studies support the claim and background of the study. Similarly, studies such as Nwogu (1997) and Thomas and Hawes (1994) also found the lexical signals such as *reported that* and *showed that* were used with the intention of citing earlier research in support of their own. Other linguistic realisation utilised in this step, *proposed that* was also used in study by Monreal and Salom (2011) to denote the step "reviewing previous research" in the PhD thesis's introduction chapter.

As seen from the Examples 4a and 4b above, in the analysis of the types of citations used by traditional theses, it is found that these writers use both the integral as well as non-integral citations to review the past studies. However, concerning the types of citation, it is noteworthy that traditional theses utilised more non-integral citation than the integral citation. This finding corroborates Samraj (2008) findings which indicated more use of non-integral citation in the introductions of master theses. Therefore, the writers in traditional theses prefer the non-integral type of citation that downplays the role of the author and reduces their visibility (see Example 4a).

Integral:

[4c] Evertsen and Wolkenstein [101] *found that* partners often felt physicians and... **(AM6, M1S4)**

[4d] For example, Demsky, Ellis, and Fritz (2014) recently *demonstrated that* those who experience aggression at work have reduced psychological detachment. **(AP7, M1S4)**

Example 4c demonstrates how the writer focused on the citation from an earlier study using the lexical signal *found that* to review the previous research. Similar to this, in Example 4b the lexical signal *demonstrated that* was used to indicate a citation from the previous research. As a result, it is necessary to provide a review of earlier research to support a research topic.

The finding from article-based theses was consistent with an earlier study by Thompson and Yiyun (1991), in which the lexical signal such as *demonstrate* was identified in citations in academic papers. In different studies, different linguistic realisations such as *see*, *state*, *expresses*, and *assumes* were used

by Jalilifar (2012) and Indrian and Ardi (2019) to mark the Step 4 *reviewing previous research* in the introductions of master's theses and research articles. It can be noted that, in article-based theses, writers chose more integral citation to highlight the role of the author, though non-integral citation was employed as well. Therefore, phrases such as *Evertsen and Wolkenstein [101] found,* and *Demsky, Ellis, and Fritz (2014) recently demonstrated that* were used to signal the role of this step. This finding affirms the study by Monreal and Salom (2011) in which integral citations were found with high frequency in English theses than the Spanish theses when reviewing previous studies.

5.0 Conclusion

This study investigated how Move 1 ("establishing a research territory") is realised in the Introduction chapters of traditional and article-based PhD theses, with particular attention to the linguistic realisations used to enact its constituent steps. Drawing on Bunton's (2002) model and a corpus of doctoral theses from medicine and psychology, the study set out to address a gap in genre-based research by comparing rhetorical practices across two distinct thesis formats.

The findings demonstrate that Move 1 constitutes a stable and obligatory rhetorical component in both traditional and article-based PhD thesis Introductions. Across the corpus, all four steps of Move 1—claiming centrality, making topic generalisations and providing background information, defining terms, and reviewing previous research—were consistently realised, confirming the central role of this move in positioning doctoral research within an established scholarly domain. These results align with previous studies that highlight the foundational function of Move 1 in academic introductions.

Despite this structural similarity, meaningful differences emerged at the level of linguistic realisation. Traditional theses tended to employ broader and more general evaluative expressions when establishing centrality and background, whereas article-based theses favoured more concise, impact-oriented lexical signals. This pattern suggests that thesis format influences how rhetorical purposes are linguistically enacted, likely reflecting the influence of journal-oriented writing conventions on article-based theses. In this sense, the findings indicate that rhetorical stability at the move level coexists with flexibility at the linguistic level.

By focusing explicitly on linguistic realisations rather than schematic structure alone, this study extends existing move-analytic research on PhD thesis Introductions. The comparative analysis highlights thesis format as an important contextual factor shaping rhetorical choices, an aspect that has received limited attention in prior research. As such, the study contributes to a more nuanced understanding of doctoral writing practices and the ways in which genre conventions are adapted across different thesis formats.

The findings also have pedagogical implications, particularly for doctoral writing instruction in EFL/ESL contexts. Raising PhD students' awareness of how rhetorical moves are realised through specific lexical signals may support them in constructing more effective thesis Introductions and in adapting their writing to different academic expectations. These insights may also inform future research on genre-based writing support and the development of instructional materials for postgraduate writers.

Several limitations of the study should be acknowledged. The corpus was limited to theses from Australian universities and to two disciplines, medicine and psychology, which may restrict the generalisability of the findings. In addition, the relatively small number of available article-based theses constrained the sample size. Future studies could expand the dataset by including a wider range of disciplines, institutional contexts, and national settings, as well as by examining additional rhetorical moves beyond Move 1 to provide a more comprehensive account of thesis Introduction writing.

In conclusion, this study shows that while traditional and article-based PhD theses share a common rhetorical foundation in establishing a research territory, they differ in how this purpose is linguistically realised. These findings underscore the importance of considering both rhetorical structure and linguistic choice in genre-based analyses of doctoral writing.

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The authors have declared that no competing interests exist.

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