



## **A genre analysis of PhD dissertation acknowledgements across disciplinary variations**

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### **Abstract**

This study examined PhD dissertation acknowledgements (DA) written by EFL authors in an English-speaking context. A total of 120 texts from six different disciplines were collected as the study corpus. The study attempted to investigate whether or not the variable of discipline would exercise influences on the construction of DA in terms of their generic structure and linguistic choices made to modify thanking acts. It is found that subtle variations existed in employing strategies of writing DA between soft science and hard science PhD students. A number of factors contributed to the diversity, including the area of research, academic conventions, exposure to English, language proficiency, and socio-cultural norms or expectations. In addition, the study also suggests that ESP practitioners attend to genre analysis of DA at both macro and micro levels in order to develop ESP learners' awareness of broad socio-cultural and narrow linguistic perspectives as they learn to construct appropriate dissertation acknowledgements.



## 1 Introduction

Expressing gratitude in academia is a common practice and is also commonly seen in academic texts, in particular, in dissertation acknowledgements (DA). However, writing acknowledgements does not simply involve listing the individuals acknowledged for their assistance; rather, “acknowledgements are sophisticated and complex textual constructs which bridge the personal and the public, the social and the professional, and the academic and the lay” (Hyland, 2003: 265). Acknowledgements not only provide writers with space to signify interpersonal relationships by employing rhetorical devices, but reflect writers’ personal identity and socio-cultural, contextual or conventional values. Compared with other academic texts such as the introduction, literature review, methods, results, discussion and conclusion in dissertations and journal research articles, researching DA is generally regarded as marginal and thus has received relatively less attention (Cheng, 2012; Hyland, 2004a).

To express appropriate personal gratitude through rhetorical elements relies much on what identities writers adopt in different situations; that is, how writers position themselves through elaborated language use in their DA. Nevertheless, acknowledgements are not entirely personal but can also be context-embedded. Language users in different contexts may have various thought patterns, and these affect writers’ preferred patterns of rhetoric. Use of the full range of one specific language will not occur with equal frequency across different contexts (Kaplan, 1987; Nkemleke, 2006). In addition, writing acknowledgements also involves social and cultural pragmatism. Socio-cultural variations and preferences could affect how the expressions of thanking acts are arranged and realised (Cheng, 2012). In other words, personal identities and language use in DA are inevitably influenced by the contexts writers are exposed to.

Previous research on DA has been conducted from two main perspectives. A majority of the research, mainly following Hyland’s (2004a) model, has examined the compatibility between their corpora and Hyland’s universal three-tier structure, and has attempted to identify whether new localised moves/steps existed due to socio-cultural differences; meanwhile, another direction has compared the differences of DA written by non-native (NNS) and native English speakers (NS). Very few studies have compared and contrasted DA written by EFL learners studying in English-speaking countries across different disciplines. Moreover, the existing research has seldom addressed the issue of the keywords used to modify thanking acts in DA. Therefore, the present study endeavours to compare and contrast PhD dissertation acknowledgements written by EFL learners in an English-speaking country, to be specific, Taiwanese students studying in the US, across various disciplines, namely, hard sciences and soft sciences, in order to investigate how DA are structured, sentence patterns and lexical elements chosen in the expressions of thanking acts, and whether disciplinary conventions or the targeted culture (i.e. the US) will affect the above across the two major science areas.

## 2 Literature Review

In studying acknowledgements, most researchers have adopted the genre analysis approach (Swales, 1990). According to Bhatia (1993), a genre is highly structured and conventionalised, and has specific constraints such as lexis and moves exploited by the members in a community to achieve communicative purposes. Studies on conventionally recognisable texts of a genre can better attend to the dynamic/negotiated aspects of situated language use (Lee, 2001). Analysing a genre helps ESP practitioners and writers identify how texts are structured and distinguished in conventional and socio-cultural contexts in order to



realise their communication purposes (Hyland, 2004a). Moreover, analysing texts in the genre approach offers researchers “explicit and systematic explanations of the ways language functions in social contexts” (Hyland, 2004a: 18), which also helps writers acquire the specialist culture (Bhatia, 1997).

Giannoni (2002), as the first genre analyst studying acknowledgements, analysed acknowledgements in journals and concluded that their generic structure not only reflects the varieties of different disciplines but is affected by national patterns of the disciplinary communities. However, it was Hyland (2003, 2004a) and his colleague (Hyland & Tse, 2004) who started to analyse dissertation acknowledgements systematically and established the three-tier generic structure of expressing gratitude in DA. In their model, DA mainly consist of three moves, namely, one obligatory move, the thanking move (Move 2) where writers map credit to individuals and institutions, and two optional moves, the reflective move (Move 1) in which writers introspectively comment on their research experience, and the announcing move (Move 3) where they make a public statement of responsibility and inspiration. In the thanking move, there are four sub-divided steps, namely, presenting participants (Step 2.1), thanking for academic assistance (Step 2.2), thanking for resources (Step 2.3), and thanking for moral support (Step 2.4). There are two sub-divided steps in Move 3, namely, accepting responsibility (Step 3.1) and dedicating the thesis (Step 3.2). Hyland (2003: 266) also acknowledges that DA not only “play an important role in promoting a competent, even rhetorically skilled, scholarly identity“ of the acknowledgers, but also reveal their social and cultural characteristics in situated settings.

The above three studies (Hyland, 2003, 2004a; Hyland & Tse, 2004) opened a window for subsequent research to scrutinise DA in more detail. Zhao and Jiang (2010) examined DA written by Chinese speakers in China using a corpus from English-related disciplines, and found that the structure generally follows Hyland’s model. However, subtle differences were still identified. In their corpus, Moves 1 and 2 are absent, especially Step 3.2, and the writers were prone to excessively use the bare mention form and modifiers in their thanking acts. Zhao and Jiang contributed these differences to cultural, mental and academic diversities in various contexts. Similarly, Cheng and Kuo (2011) investigated DA in the applied linguistics discipline written by Chinese speakers in Taiwan. Their study found that Taiwanese writers tend to express their gratitude explicitly and use more complex strategies to thank their advisors, while Yang (2012a) compared DA in the same single discipline written by Taiwanese students studying in both Taiwan and the US. He argued that the rhetorical language in his samples was relatively direct, emotional and precise, and that academic conventions, institutional preferences, the language context and socio-cultural factors were the likely cause of this tendency. In addition, Yang (2012a) identified a unique step in Move 3 from his corpus, Making a confession, where writers confessed themselves to those who had made sacrifices due to their postgraduate study.

Variations in arranging moves/steps and employing strategies to thank others for their assistance are also commonly seen in other contexts. For instance, a new step was found in Muslim cultures. Al-Ali (2006, 2010) identified a step named Thanking Allah (God), which is caused by Arabic writers’ academic and social conventions. Furthermore, these writers tend to use contextualised components to specifically realise their thanking acts. In Nkemleke’s (2006) study, writers are apt to employ nativised deferential strategies and nominal phrases to display good manners to their advisors and superiors. Afful and Mwinlarru (2010a. b.) also argue that writers use different lexical, grammatical and discursal elements to construct their



identities and signify particular relationships with various individuals who are thanked. All of these four studies confirm that the construction of dissertation acknowledgements has a feature of hybridism and is dynamic because they are shaped and appropriated to accommodate newly accepted practices and localised socio-cultures (Bhatia, 2004).

To better clarify socio-cultural influences on employing strategies in expressing gratitude, some studies have compared and contrasted DA written by native English speakers (NS) and non-native English speakers (NNS) in diverse contexts. Lasasky (2011) collected DA in the applied linguistics discipline written by NS and NNS Iranians, but found that statistically there was no significant difference between the two groups in terms of constructing DA, although the step Thanking Allah was identified. In contrast, by collecting texts from the same discipline, Cheng (2012) found a number of subtle differences between NS Americans and NNS Taiwanese in terms of employing thanking strategies. She discovered that Taiwanese writers tend to use more explicit but fewer implicit thanking strategies than American students. Taiwanese also use relatively more complex rather than simple strategies. Furthermore, the two groups adopt different strategies and preferences in arranging the thanked addressees. Cheng (2012) contributed this distinctness to diverse social norms and expectations in Taiwan and the US.

In contrast to the above studies, Scrivener (2009) investigated DA written by PhD history students between 1930 and 2005 in the US. Rather than adopting Hyland's model, she attempted to discover the academic and life evolutions from history majors' dissertation acknowledgements. She concluded that societal changes and features of an academic discipline impact how DA are constructed. For example, librarians and archivists are the second most frequently acknowledged groups, and these history majors are no longer lone scholars as they once were because they have gradually included more and more individuals to be thanked in their acknowledgements. Besides, the language use has also dramatically changed from formal to less formal voice in terms of the authorial subject from the third person s/he to the first person I. This study not only reflects the fact that acknowledgements are not simply a fixed form, but bridge writers' ways of living, communication and interaction with the public, the social, the professional and the academic (Bazerman, 1997; Hyland, 2004a).

In sum, a number of factors can indeed affect the construction, the strategies and the linguistic realisations used in DA such as discipline, cultural expectations, language background, social norms, and academic conventions. Previous studies have undertaken the cross-examination of the influences of these variations. However, some perspectives might still be overlooked, such as the diversities of disciplines studied by a single ethnic group, the status of English use, and the context in which English is used. To bridge the gap, the present study examines dissertation acknowledgements written by a group of EFL learners with an identical ethnic background, specifically Chinese-speaking Taiwanese, studying in an English speaking country, namely the US, across a wide range of academic disciplines. This research attempts to investigate whether disciplinary, socio-cultural and contextual differences affect the structure construction and linguistic choices in realising the thanking acts.

### **3 Research methodology**

#### **3.1 Corpus**

This study is based on 120 PhD dissertation acknowledgements written in English by native Taiwanese students (TW) who studied their doctoral degrees in the US. In order to compare



and contrast the similarities or differences of DA between the soft and hard sciences, the corpus collected texts from 6 different disciplines. The texts from the soft sciences represent the disciplines of applied linguistics (APL), business studies (BUS), and public administration (PBA), while those from the hard sciences include the disciplines of medical science (MED), electronic engineering (EEN), and biology (BIO). Each discipline equally contributes 20 texts, giving a total of 120 texts. All of the acknowledgements in the dissertations were written between 1990 and 2011.

Due to the severely limited availability of English DA written by Taiwanese PhD students in Taiwan, all 120 texts were collected in the US using the ProQuest Digital Dissertations Database. Several measures were taken to ensure the native identity of the authors for accurate representation of Taiwanese students, as follows: setting keywords to limit the topics related to Taiwan only, checking the author's name spelling system, reading the author's curriculum vitae, and screening from the content of abstracts and acknowledgements. The present corpus consists of a total of 43,166 running words. The length of the DA ranges from 54 to 1,456 words with an average of 420.6 words in the soft sciences, and 50 to 1,669 words with an average of 298.8 words in the hard sciences. Table 1 shows the detailed total and average running words of the texts in each discipline, and compares the present corpus to that of Hyland (2003).

Discipline	Present corpus			Hyland's corpus		
	Texts	Words	Average	Texts	Words	Average
APL	20	7,917	395.9	20	7,718	385.9
BUS	20	7,298	364.9	19	2,512	132.2
PBA	20	10,022	501.1	20	3,594	179.7
Soft disp.	60	25,237	420.6	59	13,824	234.3
MED/COM	20	6,356	317.8	20	3,470	173.5
EEN	20	4,833	241.7	19	2,771	145.8
BIO	20	6,740	337.0	19	3,864	203.4
Hard disp.	60	17,929	298.8	58	10,105	174.2
All totals	120	43,166	359.8	117	23,929	204.5

**Table 1.** Acknowledgement corpus (20 DA from each discipline) vs. Hyland's corpus (2003)

**Note:** APL: Applied linguistics, BUS: Business studies, PBA: Public administration, MED: Medical science (Present)/ COM: Computer science (in Hyland's), EEN: Electronic engineering, BIO: Biology.

### 3.2 Analysis

The texts were analysed for their generic structure and linguistic realisation in terms of structural moves/steps, sentence patterns of expressing thanking acts, and lexical choices in modifying thanking acts. To investigate the generic structure of acknowledgements employed by the Taiwanese authors, Hyland's (2003) three-tier scheme of dissertation acknowledgements was adopted. The texts were coded manually by the researcher after a



research assistant and the researcher went through every four randomly-selected texts in each discipline together (i.e. 24 texts in total, with an inter-coder reliability of 88.6%) to reach a consensus of categorisation of moves and steps. The coding of the sentence patterns of expressing thanking acts, which was adopted from Hyland and Tse (2004), also applied the identical procedure as above, and the inter-coder reliability of this classification reached 91.2%. Regarding the lexical choices of realising thanking acts, a text analysis and concordance programme WordSmith Tools v 5.0 (Scott, 2008) was used to count word frequency and identify the keywords used in modifying and receiving thanking acts.

## **4 Results and Discussion**

### **4.1 Generic structure**

As Table 2 shows, the generic structure of this present corpus also largely follows Hyland's (2004a) three-tier model of DA. The thanking move is obligatory so all of the writers utilised one step in this move at least once while the other two moves, namely the reflecting and announcing moves, are apparently optional because only 26% and 46% of the DA respectively include these two. Expressing gratitude for intellectual support, ideas, analyses, and feedback, etc. from academic communities and for the encouragement, friendship, sympathy, and patience etc. of non-academic associates is regarded as indispensable across each discipline. However, to these writers, claiming responsibility for any flaws or errors in their dissertations seems to be unnecessary; hence, not a single instance of Step 3.1 was located in the present corpus. Though there is no great difference between the two science areas in terms of move/step structure, some subtle variations were still found. For instance, the reflecting move is used twice as often in the DA in the soft sciences, and there is also 20% higher use of Step 2.1, introducing those to be thanked, compared with those in the hard sciences. In particular, the discipline of public administration (PBA) has significantly higher occurrences of each move and step (excluding Step 3.1) than any other discipline. It is believed that the core of public administration is involvement in human relationships, and thus writers in this discipline may tend to emphasise the assistance offered by various other parties during their research journey. After all, public administration is closely associated with interaction, communication, and human relationships, and DA rightly provide a chance to display these functions. Besides, it is also predicted that writers in the soft sciences would apply writing strategies more rigorously than students in the hard sciences. Step 2.1 in DA serves as a topic sentence in writing a paragraph, by which authors introduce or summarise the main idea of the entire paragraph to increase reading accessibility. Presenting the participants to be thanked at the beginning helps readers determine the subject and perspective of the paragraph. Thus, even though all the writers studied their PhD degrees in the American educational system, they did not all strictly follow the general guidelines of how to write a paragraph in academic texts.



	Soft disciplines				Hard disciplines				Total
	APL	BUS	PBA	All	MED	EEN	BIO	All	
<b>1 Reflecting Move</b>	20	15	70	35	15	15	20	17	<b>26</b>
<b>2 Thanking Move</b>									
<b>Step 2.1</b>	55	45	100	67	40	60	45	48	<b>58</b>
<b>Step 2.2</b>	100	100	100	100	100	100	100	100	<b>100</b>
<b>Step 2.3</b>	100	100	100	100	100	95	100	98	<b>99</b>
<b>Step 2.4</b>	100	100	100	100	100	100	100	100	<b>100</b>
<b>3 Announcing Move</b>									
<b>Step 3.1</b>	0	0	0	0	0	0	0	0	<b>0</b>
<b>Step 3.2</b>	50	45	50	48	60	30	40	43	<b>46</b>

**Table 2.** Percentages of acknowledgements with each step by discipline

The argument that writers in the soft sciences are prone to construct more and generically more complex acknowledgements than the hard science students is also proposed by Hyland and Tse (2004). Tables 3 and 4 respectively compare the current corpus with Hyland's (2004a) in terms of acknowledgements with each step and the average number of steps per text by discipline. Generally, in both corpora, the soft science students tended to use Move 1 and Step 3.1 much more frequently than the hard science students did. Yet, still some major variations exist between the two contexts. Firstly, in the present corpus, Step 2.4 seems to be obligatory with a 100% occurrence, and Step 3.2 has a much higher appearance rate than in Hyland's corpus. In contrast, Step 3.1 is not identified at all in the current corpus. The possible explanations can be that the Taiwanese writers in the present study studied their PhD degrees in the US while the Hong Kong writers in Hyland's corpus studied in their home country (i.e. Hong Kong), and studying in a foreign country made the Taiwanese writers depend much more on the moral and spiritual support of friends, colleagues, family or religious beliefs. Hence, after successfully completing their degrees, these students would be apt to dedicate their dissertations to those who had provided such spiritual assistance and moral support. Due to a similar reason, the average occurrence of moves/steps in the Taiwanese corpus is even higher than that in Hyland's corpus (2004a) as the Taiwanese students might have relatively more people to be thanked. Other possible reasons may be that Taiwanese students tend to consider DA as a very formal genre, and they have a cultural expectation of expressing gratitude for any assistance, both of which may contribute to the detailed and elaborate production of their DA (Cheng, 2012). Though the students in the soft disciplines tended to produce more steps than those in the hard disciplines in both corpora, interestingly the lowest average of the present corpus in electronic engineering is close to the highest average of Hyland's corpus in applied linguistics, i.e. 7.3 vs. 8.5. Thus, it is assumed that the variation of contexts in which PhD students study also affects the average number of steps produced.



	Soft disciplines		Hard disciplines		Total
	Present	Hyland's	Present	Hyland's	
<b>1 Reflecting Move</b>	35	26	17	13	<b>23</b>
<b>2 Thanking Move</b>					
<b>Step 2.1</b>	67	39	48	19	<b>43</b>
<b>Step 2.2</b>	100	100	100	100	<b>100</b>
<b>Step 2.3</b>	100	75	98	59	<b>83</b>
<b>Step 2.4</b>	100	77	100	66	<b>86</b>
<b>3 Announcing Move</b>					
<b>Step 3.1</b>	0	11	0	3	<b>2</b>
<b>Step 3.2</b>	48	4	43	2	<b>24</b>

**Table 3.** Comparison of percentages of acknowledgements with each step by soft and hard disciplines

**Note:** Hyland's study combines both master and doctoral dissertations

Discipline	Present	Hyland's	Overall
APL	10.0	8.5	<b>9.3</b>
BUS	10.3	3.7	<b>7.0</b>
PBA	14.3	4.8	<b>9.6</b>
<b>Soft disp.</b>	<b>11.5</b>	<b>5.7</b>	<b>8.6</b>
MED/COM	9.1	5.3	<b>7.2</b>
EEN	7.3	4.6	<b>6.0</b>
BIO	11.0	5.8	<b>8.4</b>
<b>Hard disp.</b>	<b>9.1</b>	<b>5.2</b>	<b>7.2</b>
<b>All totals</b>	<b>10.3</b>	<b>5.5</b>	<b>7.9</b>

**Table 4.** Text complexity: average number of steps per text by discipline

**Note:** differences in summed totals due to rounding

Tables 5 and 6 respectively show the average frequency with which steps occurred in each discipline and a comparison with Hyland's (2004a) figures. The rankings of moves/steps produced from the highest to the lowest in the two different sciences are identical. The top two frequently-produced steps are Step 2.2 and Step 2.4, which suggests that academic and emotional assistance are mostly valued and appreciated by the writers. Hyland's comparison also shows the same tendency. However, comparatively, the soft science DA still exhibit a higher frequency of each move/step than those from the hard sciences. The results support both Giannoni's (2002) and Hyland's (2004a) observations that writers from the hard disciplines tend to construct less complex acknowledgements in academic texts.





	Soft disciplines				Hard disciplines				Total
	APL	BUS	PBA	All	MED	EEN	BIO	All	
<b>1 Reflecting Move</b>	0.2	0.05	0.7	0.32	0.15	0.15	0.2	0.17	<b>0.24</b>
<b>2 Thanking Move</b>									
Step 2.1	0.55	0.45	1.35	0.78	0.4	0.6	0.65	0.55	<b>0.67</b>
Step 2.2	4.4	4.25	5.5	4.72	3.7	3.25	4.65	3.87	<b>4.29</b>
Step 2.3	1.8	1.8	2	1.87	1.8	0.95	2.25	1.67	<b>1.77</b>
Step 2.4	2.6	3.2	4.25	3.35	2.45	2	2.8	2.41	<b>2.88</b>
<b>3 Announcing Move</b>									
Step 3.1	0	0	0	0	0	0	0	0	<b>0</b>
Step 3.2	0.5	0.45	0.5	0.48	0.6	0.3	0.4	0.43	<b>0.46</b>

**Table 5.** Relative frequency of steps in each text by discipline

	Soft disciplines		Hard disciplines		Total	
	Present	Hyland's	Present	Hyland's	Present	Hyland's
<b>1 Reflecting Move</b>	0.32	0.3	0.17	0.2	<b>0.24</b>	<b>0.2</b>
<b>2 Thanking Move</b>						
Step 2.1	0.78	0.4	0.55	0.2	<b>0.67</b>	<b>0.3</b>
Step 2.2	4.72	1.6	3.87	1.7	<b>4.29</b>	<b>1.7</b>
Step 2.3	1.87	1.2	1.67	0.9	<b>1.77</b>	<b>1.0</b>
Step 2.4	3.35	1.2	2.41	1.0	<b>2.88</b>	<b>1.1</b>
<b>3 Announcing Move</b>						
Step 3.1	0	0.1	0	0	<b>0</b>	<b>0.1</b>
Step 3.2	0.48	0.1	0.43	0	<b>0.46</b>	<b>0.1</b>
<b>Avg. per text</b>	<b>11.52</b>	<b>4.9</b>	<b>9.1</b>	<b>4.1</b>	<b>10.31</b>	<b>4.6</b>

**Table 6.** Comparison of relative frequency of steps in each text by soft and hard disciplines

**Note:** Hyland's study combines both master and doctoral dissertations

#### 4.2 Participants acknowledged

Table 7 shows the percentages of gratitude expressions toward different individuals. Overall, other academic teachers were most frequently thanked, followed by family members, committee members, colleagues, advisors, friends, institutions, study participants, and religious beliefs. However, there is a slight difference between the two science areas. In the soft sciences, family members are most frequently acknowledged, while other academic teachers are most usually thanked in the hard sciences. It is supposed that hard research usually involves much collaborative team work; thus, naturally other academic teachers' assistance was highly appreciated. In contrast, many social science studies relied on the researchers themselves alone and thus emotional support, in particular from family members and friends, would become relatively more highly valued. Besides, some variations also exist



across disciplines. Participants in the research were fairly crucial in the applied linguistics discipline, especially concerning language teaching topics; therefore, they enjoyed higher occurrences of acknowledgement than in other disciplines. Another example is the gratitude to institutions. Most of these Taiwanese who studied medical science and biology were supported by third parties either at home or in the targeted countries. Apparently, the hard science PhD students had more chances of obtaining scholarships or sponsorship than the soft science PhD students, which means institutions receive greater appreciation in the above two hard disciplines. This situation, that discipline affects who should be acknowledged in DA, was also evidenced in Scrivener’s (2009) research.

Disp.	Addressees								
	AD	OT	CM	CO	FM	IN	FD	PA	RL
APL	11.96	16.85	11.41	16.30	12.50	7.61	11.41	11.96	0
BUS	9.10	18.19	17.05	9.10	19.31	8.00	11.36	4.00	4.00
PBA	6.52	20.43	18.26	10.00	23.48	8.26	7.39	3.91	1.73
<b>Soft</b>	<b>8.98</b>	<b>18.64</b>	<b>15.76</b>	<b>11.70</b>	<b>18.81</b>	<b>7.97</b>	<b>9.83</b>	<b>6.44</b>	<b>1.86</b>
MED	12.50	15.48	11.90	19.64	18.45	9.52	7.14	4.76	0.60
EEN	16.26	17.89	17.07	8.94	22.76	3.25	7.31	5.69	0.81
BIO	8.64	24.86	15.14	11.89	17.30	9.19	8.65	3.78	0.54
<b>Hard</b>	<b>11.98</b>	<b>19.75</b>	<b>14.50</b>	<b>13.87</b>	<b>19.12</b>	<b>7.77</b>	<b>7.77</b>	<b>4.62</b>	<b>0.63</b>
<b>Totals</b>	<b>10.32</b>	<b>19.14</b>	<b>15.20</b>	<b>12.66</b>	<b>18.95</b>	<b>7.88</b>	<b>8.91</b>	<b>5.63</b>	<b>1.31</b>

**Table 7.** Percentages (%) of gratitude expressions toward different addressees

**Note:** Differences in summed totals due to rounding; AD: Advisor, OT: Other teacher, CM: Committee, CO: Colleague, FM: Family, IN: Institution, FD: Friend, PA: Participant, RL: Religion

Interestingly, advisors were much less thanked in the present study compared with other studies examining Taiwanese writers’ DA constructed in Taiwan. Both Cheng’s (2012) and Yang’s (2012a) investigations show that advisors were always highly and firstly acknowledged by Taiwanese writers in dissertation acknowledgements. Socio-cultural differences of advisor-advisee relationships in the two contexts can contribute to this diversity. In Confucian societies such as Taiwan, Japan, Korea, and China, the role of advisors is always authoritative and powerful. Advisors are not only the experts in the researched fields but can make crucial decisions on failing or passing PhD candidates’ dissertations (Cheng, 2012; Krase, 2007; Li, 2005). The hierarchy of advisor-advisee is strictly obeyed and thus Taiwanese writers in Taiwan would “view advisors as indispensable addressees and always place them at the initial position of acknowledgements” (Cheng, 2012: 14). Nevertheless, in western academic culture, advisors are regarded as joint partners rather than authorities. Advisorship seemingly emphasises the cultivation of the independent ability of carrying out research, and thus mutual growth and enhancement confine the relationship with advisees (Cheng, 2012; Krase, 2007). Indeed, socio-cultural expectations, academic conventions and disciplinary variations all affect who should be thanked in priority in dissertation acknowledgements.



### 4.3 Gratitude expressions

According to Hyland and Tse’s (2004) categorisation, there are five main types of patterns used to express gratitude in thanking acts, Move 2. They are, nominalisation (N) (e.g. My sincere thanks go to...), performative verb (V) (e.g. I thank...), adjective (A) (e.g. I am grateful to ...), passive (P) (e.g. Appreciation is given to ...), and bare mention (B) (e.g. X is very helpful in ...). Table 8 exhibits the occurrence percentages of patterns expressing gratitude in the present study by discipline and an overall comparison with Hyland’s (2004a) findings. Generally, there is no difference in pattern ranking between the soft and hard sciences. The performative verb pattern was used most commonly, while the passive pattern was used the least by these Taiwanese students. Using the performative verb pattern always begins with the subject I and this suggests a very direct authorial voice which “was particularly marked in the science and engineering texts” (Hyland, 2004a: 266). Similarly, in the present corpus, the disciplines of medical science and engineering also show this tendency, where the performative verb pattern was used more frequently than in other disciplines, particularly the soft disciplines. The least use of the passive pattern is not unusual as Chinese is regarded as a language without voice category. Passive voice in Chinese is expressed in a covert way instead of a marked way, which possibly makes Chinese-speaking writers feel uneasy about using passive voice in constructing English DA (Zhao & Jiang, 2010).

Discipline	Patterns				
	N	V	A	P	B
APL	16.13	55.38	18.28	4.84	5.38
BUS	13.45	50.29	11.70	2.92	21.64
PBA	10.82	35.06	17.32	1.30	35.50
<b><i>Soft disp.</i></b>	<b><i>13.27</i></b>	<b><i>45.92</i></b>	<b><i>15.99</i></b>	<b><i>2.90</i></b>	<b><i>21.94</i></b>
MED	5.00	55.90	13.04	3.11	22.99
EEN	15.20	59.20	14.40	4.80	6.40
BIO	12.50	42.93	17.93	7.61	19.02
<b><i>Hard disp.</i></b>	<b><i>10.64</i></b>	<b><i>51.70</i></b>	<b><i>15.32</i></b>	<b><i>5.32</i></b>	<b><i>17.02</i></b>
<b>All totals</b>	<b>11.96</b>	<b>48.81</b>	<b>15.66</b>	<b>4.11</b>	<b>19.48</b>
<b>Hyland’s</b>	<b>33.66</b>	<b>33.70</b>	<b>15.41</b>	<b>10.96</b>	<b>6.79</b>

**Table 8.** Occurrence percentages (%) of patterns expressing gratitude in the present corpus

**Note:** Differences in summed totals due to rounding; N: Nominalisation, V: Performative-verb, A: Adjective, P: Passive, B: Bare mention

The bare mention pattern, signifying a more implicit and reserved thanking act, was ranked the second highest in the present corpus; the ranking of two extreme ends of thanking acts (i.e. explicitness in V pattern vs. implicitness in P pattern) as the consecutive first and second places cannot be found in other similar studies where Chinese-speakers’ DA were analysed (e.g. Hyland, 2004a; Zhao & Jiang, 2010). It is believed that the interwoven complexity of socio-cultural perspectives and habits of English use contributes to this cause. Zhao and Jiang’s (2010) observation suggests that Chinese-speaking students in China, as an EFL context, are more reserved when expressing their feelings and emotions; thus, the bare



mention pattern is most commonly used in their corpus. In contrast, Chinese-speaking students in Hong Kong, where English is used as a second and one of the official languages, used the bare mention pattern least but the performative verb pattern far more in Hyland's (2004a) corpus. It can be predicted that the longer Chinese-speaking students are exposed to an English-speaking environment, the more likely it is that they would express their gratitude explicitly. Hence, the Taiwanese students in the present study, who had been educated in an EFL context for a long time and then studied for their PhD in an English-speaking context, would display these two seemingly opposite preferences. In addition, the passive pattern was used almost twice as often in the hard disciplines than in the soft disciplines. Academic training of using the passive voice to represent objectivity in the hard sciences probably caused this variation.

When the patterns used and individuals acknowledged in thanking acts were cross-compared, some subtle differences between the sciences were identified. Firstly, it is found that family members and other academic teachers are the two major addressees, with 40% being thanked with performative-verb use in both science areas; however, there is a relatively high usage of the bare mention pattern in thanking family members in the soft science DA and other academic teachers in the hard science DA, as Table 9 shows. The results are different from what Hyland and Tse (2004) argue in that the bare mention pattern, as a low-key way of expressing thanks, is usually over-represented in offering gratitude for resource support. Probably, the Taiwanese students were more emotionally reserved than the Hong Kong students. Other subtle variations include the hard science students tending to use adjective patterns to appreciate both moral and academic help (i.e. FM and OT) while their soft science counterparts mainly use it to appreciate academic assistance (i.e. AD, OT and CM). Besides, hard science students used a passive pattern to thank committee members and institutions, while soft science students used it to thank various addressees (i.e. AD, OT, CO and PA mainly). This difference between a widespread distribution and a concentrated distribution of individuals thanked using different patterns substantiates the argument that writers in the soft sciences are apt to use a greater variety of patterns than those in the hard sciences (Hyland & Tse, 2004). Furthermore, the types of research in the various disciplines may also account for this difference. That is, research participants were acknowledged more frequently in the soft disciplines while institutions were more commonly thanked in the hard disciplines.



	Addressees									
	AD	OT	CM	CO	FM	IN	FD	PA	RL	TOTALS
Nominalisation										
SOFT	13.9	19.4	12.5	2.8	18.1	8.3	16.7	6.9	1.4	100
HARD	12	22	8	18	10	8	8	14	0	100
<b>TOTAL</b>	<b>13.1</b>	<b>20.5</b>	<b>10.7</b>	<b>9.0</b>	<b>14.8</b>	<b>8.2</b>	<b>13.1</b>	<b>9.8</b>	<b>0.8</b>	<b>100</b>
Performative-verb										
SOFT	10.6	19.3	17.9	8.0	19.7	6.6	9.1	6.9	1.8	100
HARD	13.4	20.9	11.7	14.2	21.8	4.6	7.5	4.6	1.3	100
<b>TOTAL</b>	<b>11.9</b>	<b>20.1</b>	<b>15.0</b>	<b>10.9</b>	<b>20.7</b>	<b>5.7</b>	<b>8.4</b>	<b>5.8</b>	<b>1.6</b>	<b>100</b>
Adjective										
SOFT	12.4	22.4	15.7	7.9	11.2	7.9	10.1	11.2	1.1	100
HARD	16.2	14.7	25	8.8	20.6	4.4	7.4	2.9	0	100
<b>TOTAL</b>	<b>14.0</b>	<b>19.1</b>	<b>19.7</b>	<b>8.3</b>	<b>15.3</b>	<b>6.4</b>	<b>8.9</b>	<b>7.6</b>	<b>0.6</b>	<b>100</b>
Passive										
SOFT	14.3	28.6	7.1	14.3	7.1	7.1	0	14.3	7.1	100
HARD	12.5	12.5	50	0	0	16.7	4.2	4.2	0	100
<b>TOTAL</b>	<b>13.2</b>	<b>18.4</b>	<b>34.2</b>	<b>5.3</b>	<b>2.6</b>	<b>13.2</b>	<b>2.6</b>	<b>7.9</b>	<b>2.6</b>	<b>100</b>
Bare mention										
SOFT	3.6	17.9	15.7	13.6	25.7	10.7	7.9	2.9	2.1	100
HARD	5	25	10	12.5	21.3	17.5	6.25	2.5	0	100
<b>TOTAL</b>	<b>4.1</b>	<b>20.5</b>	<b>13.6</b>	<b>13.2</b>	<b>24.1</b>	<b>13.2</b>	<b>7.3</b>	<b>2.7</b>	<b>1.4</b>	<b>100</b>

**Table 9.** Percentages (%) of thanking patterns used to thank different addressees by soft and hard disciplines

**Note:** Differences in summed totals due to rounding

#### 4.4 Lexical choices to realise and modify the thanking acts

Table 10 shows the lexical choices used to realise the thanking acts between soft and hard science authors. The results demonstrate that there is no significant difference between the two groups, and that both of them tended to use verbs to express gratitude. However, this tendency is completely opposite to Cheng's (2012) claim that Taiwanese students tend to use more noun forms to express their thanks than native English speakers, who employ more verb forms. One possible explanation is that the authors in the present study were more or less assimilated into the academic conventions and language use in an English-speaking environment, though this assimilation may be either purposeful or unintended.



	Lexical items	Soft	%	Hard	%	Total	%
Noun	gratitude	57	10.34	57	11.75	114	11
	thanks	88	15.97	65	13.40	153	14.77
	appreciation	45	8.17	44	9.07	89	8.59
	gratefulness	2	0.36	0	0	2	0.19
	indebtedness	1	0.18	0	0	1	0.10
	debt	4	0.73	5	1.03	9	0.87
	Verb	thank	193	35.02	194	40	387
appreciate		18	3.27	12	2.47	30	2.90
appreciated		8	1.45	4	0.82	12	1.16
acknowledge		20	3.63	14	2.89	34	3.28
recognize		0	0	2	0.41	2	0.19
owe		16	2.91	8	1.65	24	2.32
Adjective		gratefulness	60	10.89	44	9.07	104
	Indebted	22	3.99	24	4.95	46	4.44
	thankful	15	2.72	11	2.27	26	2.51
	appreciative	2	0.36	0	0	2	0.19
	obliged	0	0	1	0.21	1	0.10
<b>Total</b>		<b>551</b>	<b>100</b>	<b>485</b>	<b>100</b>	<b>1036</b>	<b>100</b>

**Table 10.** Frequency of lexical realisations of explicit thanking acts for the soft and hard disciplines

**Note:** Differences in summed totals due to rounding

The word and keyword analysis show some slight variations between the two science areas. Table 11 shows the numbers of distinct (different) words used, while Table 12 exhibits the total numbers of keywords generated when the two corpora were compared with the BNC (British National Corpus, a daily spoken and written English corpus), respectively. It suggests that firstly, soft science students might have a better command of English vocabulary; thus, they tended to use more distinct words than the hard science students did. Yet, relatively higher TTR (distinct words/total running tokens) in hard science DA implies that these authors are used to writing shorter sentences but with higher lexical density; in other words, their writing style may be more concise and straightforward. In addition, keyword use also demonstrates that soft science students employed comparatively more overused keywords than their hard science counterparts did, suggesting that the lexis used in soft science DA contained fewer daily words and their lexical choices better represent the main features of aboutness and keyness (Archer, 2009; Baker, 2009; Scott & Tribble, 2006) in this genre.



<b>Discipline</b>	<b>Distinct words (DW)</b>	<b>TTR (DW/tokens)</b>	<b>Sentences</b>	<b>Means in words</b>	<b>Standard deviation</b>
APL	1,885	23.81	510	15.52	13.14
BUS	1,779	24.38	563	12.96	10.30
PBA	2,145	21.40	647	15.49	10.59
<b><i>Soft disp.</i></b>	<b><i>1936</i></b>	<b><i>23.20</i></b>	<b><i>573</i></b>	<b><i>14.66</i></b>	<b><i>11.34</i></b>
MED	1,691	26.60	460	13.82	10.49
EEN	1,216	25.16	466	10.37	9.26
BIO	1,642	24.36	719	9.37	9.05
<b><i>Hard disp.</i></b>	<b><i>1,516</i></b>	<b><i>25.37</i></b>	<b><i>548</i></b>	<b><i>11.19</i></b>	<b><i>9.60</i></b>
<b>All totals</b>	<b>1,726</b>	<b>24.29</b>	<b>561</b>	<b>12.92</b>	<b>10.47</b>

**Table 11.** Distinct words, TTR, and sentence length of the present corpus

	<b>Soft disciplines</b>	<b>Hard disciplines</b>
Total keywords	372	329
Overused keywords	328	292
Underused keywords	44	37

**Table 12.** Keywords of soft and hard disciplines with reference to BNC

As Appendix 1 lists, the selected overused keywords which were mainly employed in the thanking acts also show some variations between groups. This wordlist contains the lexis, modifying the types of assistance obtained from various addressees and the extent of the author's emotional state in expressing gratitude. On the one hand, it again corroborates that soft science students were able to use a greater variety of words to modify their thanking acts, while on the other hand, it displays subtle variations of priorities in acknowledging help in the top 20 words of very high keyness between groups. For instance, hard science authors tended to use unspecific words (e.g. support, assistance or help) more frequently, while soft science authors would apparently identify their reasons for thanking more specifically. However, both keyword lists mirror the same fact. That is, the key features of this genre address the issues of what is to be acknowledged and how to magnify gratitude for academic and moral assistance. Moreover, a large number of non-daily adjectives (esp. -ful, such as grateful, insightful, helpful, thoughtful and superlatives such as deepest, endless, sincerest or foremost) make dissertation acknowledgements a relatively formal genre (Hyland & Tse, 2004). Hence, keyword analysis not only helps researchers ensure what DA is really about in a target situation and its diversity across disciplines, avoiding trivia and insignificant detail (Scott & Tribble, 2006), but also helps student writers to distinguish variations between texts, determine the content of texts, and identify textual and rhetorical styles (Archer, Culper, & Rayson, 2009; Baker, 2009).



## 5 Conclusion

As discussed earlier in this study, acknowledgements are sophisticated and complex, and their constructions are heavily affected by many factors such as academic conventions, author's language proficiency, socio-cultural expectations or even personal writing style. The present study attempted to investigate a less attended variable influencing the construction of dissertation acknowledgements, namely discipline variations. The results demonstrate that though generally most EFL writers followed Hyland's (2004a) three-tier model to compose their acknowledgements, subtle differences exist between the two science areas in terms of generic construction and lexical realisations in modifying thanking acts. It is believed that the diversities of research per se (i.e. its epistemology, ontology and methodology) and writers' exposure to an English-speaking environment together with the above factors could contribute to the variations in constructing DA.

The pedagogical implication of this study for ESP practitioners is as follows. Compared with other genres in academic texts, acknowledgements have received relatively less attention in research (Hyland, 2004a) and furthermore, teaching how to write appropriate acknowledgements is not well accommodated either. Rather than mimicking formulaic structures and rhetoric, graduate students should be explicitly informed of the possible factors which would affect how they employ thanking moves/steps, strategies and lexical choices while constructing appropriate DA. In addition, listing word frequency and identifying keywords used in various DA corpora can be helpful in presenting writers with possible lexical choices and constraints in different settings, which serves as a reference to cater for academic, linguistic, socio-cultural, disciplinary and contextual differences. Hence, ESP instructors are advised to conduct genre-based writing instruction of this genre at both macro (i.e. socio-cultural) and micro (i.e. linguistic) levels (Hyland, 2004b; Paltridge, 2001; Yang, 2012b) as it can assist PhD students in writing impressive and proper acknowledgements.

Additional analysis can be done to complement this research. A cross-cultural comparison can be conducted to examine whether discipline variations exercise similar influences on DA written by native English speakers. Furthermore, an intra-cultural analysis is also recommended. Texts collected from other Chinese EFL learners (e.g. from mainland China) who studied in the US, can be compared to ensure whether authors' socio-cultural backgrounds exercise greater influences on constructing DA than the variations in English speaking environments, or vice versa. Finally, qualitative methods can be adopted into the inquiries. To better realise the account of why authors choose certain arrangements and lexis in different disciplines and to learn how they perceive themselves as writers of DA, continued analysis such as interviews or ethnographic methods can be integrated into projects that concentrate on corpus analysis.





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## 7 Appendix

**Appendix1.** Overused keywords employed to modify thanking acts in two sciences with reference to BNC

Soft disciplines			Hard disciplines		
Key word	Keyness	Frequency	Key word	Keyness	Frequency
SUPPORT	849.3895264	190	SUPPORT	685.6174316	148
ENCOURAGEMENT	707.8490601	81	ENCOURAGEMENT	682.8666382	74
GUIDANCE	321.3438721	51	GUIDANCE	399.9871216	56
INSIGHTFUL	311.7173157	23	GRATEFUL	310.5231934	44
SINCERE	306.6517029	33	ASSISTANCE	236.3457947	40
SUGGESTIONS	293.0917358	43	PATIENCE	209.0389099	27
PATIENCE	237.2440186	32	SINCERE	201.7852478	22
LOVE	194.8524475	64	INSIGHTFUL	173.3990936	13
COMMENTS	181.4472809	36	SUGGESTIONS	168.7018585	26
INVALUABLE	180.2219238	24	ADVICE	156.47966	38
DEDICATION	172.7871704	22	HELP	146.996994	58
DEEPEST	153.5054932	19	LOVE	135.4749756	45
ALWAYS	153.3752899	74	CONTINUOUS	117.1722336	21
ADVICE	148.9017029	41	ESPECIALLY	100.0851669	34
UNCONDITIONAL	134.1839905	16	THANKFUL	90.87915802	11
ASSISTANCE	127.9447327	28	VALUABLE	88.89487457	19
VALUABLE	127.2196884	27	SPECIAL	86.58507538	34
HELP	124.7024384	61	COMMENTS	78.30434418	18
INSPIRATION	124.5999527	20	FRIENDSHIP	76.09213257	14
MENTORING	122.6819382	9	INVALUABLE	73.04397583	11
DEEPLY	117.2798538	25	ADVICES	69.79037476	5
ENDEAVOR	117.1376343	8	DEDICATION	69.70275879	10
FRIENDSHIP	109.5598755	20	GREAT	62.92067337	41
UNDERSTANDING	86.79158783	28	ENDEAVOR	57.78165054	4
GENEROUSLY	78.66903687	11	GENEROUS	57.55865097	12
CONTINUOUS	76.92755127	17	GENEROUSLY	57.4994545	8
ESPECIALLY	75.84360504	33	HELPFUL	56.65489578	13
TIMELY	72.33976746	10	DEEPEST	56.37428284	8
INSPIRED	70.67552185	15	INSPIRATION	55.31654358	10
ENDLESS	66.01902008	13	FOREMOST	52.72362137	8
MANY	63.89118195	70	ENDLESS	52.17824936	10
SINCEREST	63.66653442	5	MENTORING	52.12264633	4
HELPFUL	59.93144608	15	ALWAYS	51.8959198	36
EDITING	59.20835495	10	KNOWLEDGE	50.82569885	21
INSIGHTS	59.08026505	10	PRECIOUS	49.73204803	10
HEARTFELT	58.89132309	7	INSIGHTS	49.0126152	8
FEEDBACK	56.21112061	11	PROOFREADING	48.86028671	4
SHARING	52.1133728	13	EXPERTISE	48.12690735	11
GRACIOUSLY	51.12567902	6	SINCERELY	43.09775925	8
WONDERFUL	49.13499069	15	UNDERSTANDING	43.0551033	16
UNWAVERING	48.02345657	5	UNCONDITIONAL	42.77565002	6
CONSTRUCTIVE	47.44129944	9	CARE	38.07379532	23
GREATLY	47.06027985	13	OPPORTUNITY	36.8275032	15



KNOWLEDGE	46.08368301	23	DEEPLY	35.86294556	10
GENEROUS	43.91822433	11	EDITING	33.46864319	6
SUPPORTIVE	43.52952576	8	WONDERFUL	31.43604469	10
DISCUSSIONS	42.98007202	12	SUPPORTS	30.26088524	7
PATIENTLY	42.39264679	7	SHARING	29.78320694	8
THOUGHTFUL	39.86115265	7	ENCOURAGING	28.92959976	8
WISDOM	39.50578308	9	STEADFAST	28.61402512	3
ENCOURAGING	39.46471405	11	CHALLENGING	27.90635681	6
TEACHING	38.33738708	17	HELPING	27.67040825	9
DATA	38.21007156	26	DISCUSSIONS	27.58444023	8
KINDNESS	38.16832733	7	TREMENDOUSLY	26.46580887	4
SUPPORTING	37.56524658	11	SUPPORTIVE	25.89236832	5
ADVICES	37.44016266	3	EXPERIENCES	25.84810257	8
PRECIOUS	37.18175125	9	INSPIRING	23.98058319	4
INSPIRING	36.7943573	6			
CONSTANT	36.66481781	13			
FELLOWSHIP	36.43498993	7			
EXPERTISE	35.64498901	10			
EXPERIENCES	35.23467255	11			
SCHOLARSHIP	34.53067017	7			
HUMOR	33.81703949	3			
PERSEVERE	33.61241913	4			
ENCOURAGEMENTS	33.44131851	3			
POSSIBLE	32.55728149	30			
GENEROSITY	32.44838715	6			
FOREMOST	32.25347519	6			
LOVING	32.2256012	8			
COUNTLESS	32.00497437	6			
INTERVIEWS	31.73026848	9			
SUPPORTS	31.54142761	8			
WILLINGNESS	30.70469666	7			
PERSPECTIVES	30.2885685	6			
CHALLENGES	29.88908958	7			
GREAT	28.66644669	35			
INTELLECTUAL	28.12630463	9			
CONSTANTLY	27.94377899	9			
SCHOLARLY	27.67696762	5			
BLESSINGS	27.2507515	4			
HELPING	26.62705612	10			
PRICELESS	26.5873909	4			
ENTIRE	24.90049171	10			
TREMENDOUS	24.07941246	7			
REWARDING	23.96828461	5			

**Note:** Keywords are ranked from the highest keyness to the lowest.

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