

The use of modal verbs to express hedging in student academic writing

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Abstract – This study was conducted to analyse hedging modal verbs in student assignments. Specifically, it was designed to investigate how the native English speaking (NS) students and the non-native English speaking (NNS) students express their hedging in their assignments by focusing on three hedging modal verbs: *would*, *should*, and *may*. The methodology used for the present research was a combined approach of methods from corpus linguistics and discourse analysis (specifically, move analysis). The results of the top-down corpus-based move analysis showed that the different patterns of these three modal verbs have different hedging functions and have a tendency to occur at different move types to fulfil different communicative purposes. The analyses also indicated the existence of both similarities and differences between the NS and NNS groups in the use of hedging modal verbs in terms of both lexico-grammatical and rhetorical features in different contexts. This study contributed to analyse the hedging modal verbs used in students' assignments from corpus linguistics and move analysis approaches.

Keywords – hedging, modal verbs, academic writing, corpus linguistics, move analysis

1. INTRODUCTION

A number of applied linguistics studies have viewed hedging as a salient characteristic of academic writing (Channell 1994; Hyland 1994, 2004; Jordan 1997; Skelton 1998; Biber et al. 2002; Hinkel 2004). The traditional view considers academic written work as a channel to transmit information in an objective and impersonal manner without any involvement of the writer's personal opinions (Bazerman 1988). Indeed, academic writing is better regarded as socially constructed 'rhetorical artifacts' (Hyland 1998: 16). Thus, in order to avoid the appearance of over-rigid categorisation in putting forth information, the authors of academic papers often engage in processes of negotiation and persuasion.

Modal verbs are used to express a writer's stance, expressing either the degree of certainty of the proposition (epistemic modality), or meanings such as permission, obligation, or necessity (deontic modality). As Alonso Almeida (2015) argues, one of the commonest pragmatic meanings of modality in context is the hedging function of mitigation. And modal verbs are the common lexico-grammatical features used by the NS and the NNS groups to express hedging.

The use of modal verbs as hedging devices (HDs) in academic writing has been discussed by many researchers (Adams-Smith 1984; Hyland 1994, 1998). Modal verbs do appear to be the typical (54%) means of marking epistemic comments in medical RAs (Adams-Smith 1984) and constitute 27% of lexical HDs in Hyland's corpus of 26 molecular biology articles. Hyland (1998) examines the epistemic functions of modal verbs and claims that modal verbs appear to be the typical devices used to express hedging in academic writing. He states that the modal verbs are an important means of allowing a researcher to adjust the degree of certainty about his/her claims, and to build the writer-reader relationship that the writer wants to achieve.

When academic writers use such modal verbs as *would*, *may*, and *should* in their academic papers, the epistemic modality expressed with these modal verbs can play an important role. These verbs are used to express certainty or

possibility towards findings and hypotheses, their roles seem to be more significant, and the writers, therefore, need to carefully select an appropriate modal verb in order to convey his/her idea to the readers precisely.

The current study focuses on Chinese university level students' use of modal verb hedging in their assignments written in English. In China, the ability to write academic English is becoming more and more important for researchers and students in higher education (Zhang 2005; Wang 2010). However, Xu (2005) and Sun (2004) argue that few English for Specific Purposes (ESP) courses are offered in Chinese universities, with only limited numbers of students actually being trained in academic writing in English. In fact, teachers only provide students with the format of academic papers without further elaboration of the specific issues, such as modal verbs as HDs in academic writing, behind the structure of an academic paper (Xu 2005; Gao 2012).

A corpus study is useful for the current research on the use of hedging modal verbs in undergraduate Chinese students' assignments written in English because researchers have started to look at HDs in learner corpora and have compared their findings to the use of HDs in NS corpora (eg. Hyland and Milton 1997; Atai and Sadr 2006). They seek to investigate how NS academic writers and NNS academic writers express hedging differently. The aim of this current study is to examine the patterns of hedging modal verbs in rhetorical structures. As proposed by Swales (1990), each section of the academic paper performs different rhetorical functions, which is reflected by differences in the distribution of modal verb HDs across individual sections of the research article. The Introduction and Discussion sections are the most heavily hedged, which is linked to the kind of information presented in these sections (Salager-Meyer 1994). However, very little work has been done to look at the phraseological patterns to gain a text structure view of modal verb HDs.

In the present work, corpus linguistics is not limited to the analysis of the lexical and grammatical aspects of language, but also attempts to combine with genre analysis. This provides a useful starting point for the corpus approach to genre-level discourse analysis of the lexical patterns of modal verb HDs. Previous corpus studies of HDs have focused on the quantitative distribution of lexical and grammatical features, generally disregarding the language used in higher-level discourse structure and discourse organisation. The genre-level discourse analysis starts with the macrostructure of the text with a focus on larger units of text rather than only on lexico-grammatical patterning. However, most qualitative discourse analyses have focused on the analysis of discourse patterns in a few texts, but they have not provided tools for empirical analyses that can be applied on a large scale across a number of texts. The advantage of a corpus approach to discourse analysis for the study of HDs puts the emphasis on the representativeness of a large amount of authentic text samples and on the computational tools for investigating distributional patterns across discourse contexts.

This study presents the move analysis by focusing on how selected hedging modal verbs achieve rhetorical functions in order to contribute to the persuasiveness of the student writing. The Discussion section summarises the main results with regard to modal verbs as a group of HDs. Discussion of similarities and differences between the NS and NNS groups in the use of hedging modal verbs *would*, *may*, and *should* in various co-occurrence patterns and different move types are compared and concluded in Section 3. Section 4 offers the conclusions drawn from the present study.

2. CORPUS LINGUISTICS AND MOVE ANALYSIS

The work presented in this study follows corpus methodology and highlights how move analysis can greatly benefit from a corpus linguistics approach. Corpus linguistics approaches to language studies emphasise how the use of computers to manipulate and analyse large bodies of language data has greatly affected "the methodological frame of linguistic enquiry" (Tognini-Bonelli 2001: 210). The use of computer-based corpus material is currently seen as a very useful methodological tool in linguistics. With the possibility of storing large electronic corpora on computers and with the help of concordance techniques and other computer-assisted methods (ie. frequency analysis), linguists can now observe characteristics and verify results which are not apparent only via the researcher's intuition (Francis et al. 1996; Chief et al. 2000). I maintain that corpus linguistics as a methodology can go a long way to compensating for the existing mismatch between traditional descriptions and real language instances.

2.1 Top-down corpus-based move analysis

As a corpus linguistic research study, the current study starts by examining the information drawn from corpus evidence, from which some generalisations will be made regarding the recurrent lexico-grammatical patterning of modal verbs. HDs can be analysed as part of a chain, which allows the direct observation, the identification, and even the generalisation of the most meaningful collocates of node words.

One specific research emphasis for discourse studies of structure 'beyond the sentence' has been the attempt to segment a text into higher-level structural units. The 'units of analysis' in corpus studies of discourse structure must be well-defined discourse units: the segments of discourse that provide the building blocks of the texts. As reviewed by Biber et al. (2007), there are many types of analyses that have been conducted from the perspective of discourse

analysis as the study of linguistic structure ‘beyond the sentence’, with the focus on communicative/functional organisation. Move analysis (Swales 1981, 1990) is one of the most common examples of such a specific genre-level analysis. The notion of ‘move’ (Swales 1990), defined as a functional unit in a text used for some identifiable purposes, is often used to identify the textual regularities in certain genres of writing and to “describe the functions which particular portions of the text realise in the relationship to the overall task” (Connor et al. 1995: 463).

Move analysis is a helpful tool in genre studies since moves are the semantic and functional units of texts, which can be identified because of the communicative purposes and linguistic boundaries (Nwogu 1997). My study is also designed to understand more fully how modal verb HDs contribute to the rhetorical functions of different rhetoric move types in the data allows the combination of rhetorical move analysis with analysis of the recurring lexical and grammatical choices of modal verb HDs with which students accomplished these moves in their academic papers. By doing move analysis of modal verb HDs in student academic writings, it can be generalised how the NS and NNS students in my study use modal verb HDs to make rhetorical moves in their writings.

In discourse analysis, as Upton and Connor (2001) remark, most corpus studies have focused on the quantitative distribution of lexical and grammatical features, generally disregarding the language used in particular texts or higher-level discourse structures or other aspects of discourse organisation. Most qualitative discourse analyses have focused on the analysis of discourse patterns in a few texts from a single genre, but they have not provided tools for empirical analyses that can be applied on a large scale across a number of texts or genres. Corpus linguistics has been shown to be particularly compatible with contemporary usage-based linguistic frameworks, including move/genre analysis (Baker 2006).

Biber et al. (2007) see the interface of these two perspectives in discourse analysis as one of the current challenges of corpus linguistics. The advantages of a corpus approach for the study of discourse, lexical, and grammatical variation include the emphasis on the representativeness of the text sample, and the computational tools for investigating distributional patterns across discourse contexts. Biber et al. (2007) outline a top-down approach (the ‘Biber, Connor and Upton Approach’) to discourse analysis. In this top-down approach to discourse analysis, the first step is to develop the analytical framework, determining the set of possible discourse unit types based on an a priori determination of the major communicative functions that discourse units can serve in these texts. That framework is then applied to the analysis of all texts in the corpus. Thus, when texts are segmented into discourse units, it is done by identifying a stretch of discourse of a particular type which serves a particular communicative function. Once these discourse units are identified, they are then analysed and described for their lexical/grammatical features. Complete texts and then the full corpus are then analysed and described by organisational patterns.

In my study, corpus-based move analysis depends on both quantitative and qualitative techniques. The moves of the Introduction sections in each text in the two corpora have first been identified (and stored separately) by the author making qualitative judgments about the communicative purposes of the different segments of a text. In my research, corpus-based move analysis has been done on a relatively large representative collection of texts from the NS and the NNS undergraduate student assignments. The NS and the NNS data allow me to clearly see and validate linguistic patterns of selected HDs in different move types.

2.2 *The corpora of the present study*

The texts used for the current study are assignments written by university students. Details of each corpus, together with its characteristics and comparability, are described in the following sections.

2.2.1 The non-native speaker corpus (NNS corpus)

Since there is no suitable existing learner corpus that can be used for the current study, I compiled my own corpus. The data chosen to build the corpus was based on three main criteria. Since in China only students in English or Linguistics departments are required to write assignments and dissertations in English, the present investigation is restricted to one specific group of Chinese learners, who are undergraduate learners of English or Linguistics. These students are from four different universities with whom I have maintained a good personal relationship. Since data from the same writer might be biased, students were only allowed to send in one assignment so there would be a wider range of assignments from different contributors. Another criterion was that each assignment should have an Introduction section – it is important to have them among the rhetorical sections of assignments.

2.2.2 The native speaker corpus (NS corpus)

Native English students’ assignments are available in an electronic format (text files), collected from the MICUSP (Michigan Corpus of Upper-level Student Papers) and the BAWE (British Academic Written English) corpus (see Alsop and Nesi 2009).

The MICUSP was developed by researchers at the University of Michigan English Language Institute. The corpus files are freely available for study, research and teaching. It contains around 830 A grade papers (roughly 2.6 million words) from a range of disciplines across four academic divisions of the University of Michigan. For the current study, only the category of argumentative essays or research papers (which contain Introduction sections) written by the NS

students of English studies and linguistics related departments were selected in order to build up the NS corpus. A total of 55 undergraduate student assignments were selected.

The BAWE corpus, released in 2008, contains approximately 3,000 pieces (ca. 6.5 million words) of proficient assessed student writing from British universities. The same criteria used to select data from the MICUSP are applied to choose from the BAWE corpus. A total of 107 undergraduate student assignments were selected to build the NS corpus.

With all the texts extracted from MICUSP and BAWE, two subcorpora have been compiled on the basis of student level. The NS corpus consists of 162 assignments (486,000 words), 55 from MICUSP and 107 from the BAWE corpus. Since textbooks in both American and British English are adopted by the four universities where I collected my data in English teaching, I chose to include both American and British English student writing as a norm in my study. All texts were collected and converted to text file format and edited by cutting out titles, abstracts, acknowledgements, tables, footnotes, reference lists, and appendices. Each section (IMRD) of student English academic writing were stored in a separate text files. There are approximately 480,000 words in the NS corpus and 825,000 words in the NNS corpus. The description of the NNS corpus and the NS corpus that the present investigation sets out to contrast is summarised in Table 1.

Corpus	Variety	No. of words	No. of texts
NS corpus	UK Academic	486,000	162
	US Academic		
NNS corpus	Chinese Academic	825,000	150

Table 1: Computer corpora analysed in the study

3. RESULTS AND DISCUSSION

In this section the major communicative uses of modal verb HDs are analysed in greater detail by studying extracts of each move type in Introduction sections. As mentioned in Section 2, situating hedges in their appropriate linguistic and rhetorical context gives a better picture of the ways hedges interact with other rhetorical features and contribute to the persuasiveness of the students' writing. In addition, we can also see more clearly how writers seek to vary their discussion of possibilities and manipulate their attitudes to the truth of statements through the combination and concentration of modal verb HDs. Hyland (1998) argues that the analyses of longer stretches of discourse can thus more explicitly reveal how the distribution and use of hedges reflects the different rhetorical purposes of the dissertations stages. Table 2 shows information on a number of Introduction sections analysed in both the NS and NNS corpora and summarises the results of occurrences of each modal verb in the different moves.

moves	NS-Introduction (110)			NNS-Introduction (110)		
	establish a territory (110)	establish a niche (22)	occupying a niche (56)	establish a territory (110)	establish a niche (15)	occupying a niche (44)
<i>would</i>	32/1.16	0/0	10/2.06	51/0.76	2/2.02	5/0.57
<i>may</i>	31/1.13	8/3.60	3/0.62	53/0.79	6/6.06	4/0.45
<i>should</i>	11/0.40	0/0	3/0.62	52/0.78	31/31.30	4/0.45

Table 2: Raw occurrences and normalised frequencies of modal verbs *would*, *may*, and *should* in different moves in Introduction sections (the figures indicate the number per 1,000 words)

Swales (1990) points out that the structure of academic writing Introductions can be analysed with reference to the writers' need to 'create a research space', a task involving three major moves, namely 'establishing a territory', 'establishing a niche', and 'occupying the niche'. In general terms, then, the Introduction section involves presenting the topic to be dealt with by placing it in perspective with regard to the existing research paradigms and previous work, demonstrating that there is a need for work in the area due to for example gaps, lack of evidence or shortcomings in previous studies. One of the aims of the Introduction is thus to explain how this need will be addressed by the research at hand.

It appears that hedging is particularly linked with Introduction sections, as the strategy allows writers to introduce their research projects to the scientific community without being too bold as to the importance and definiteness of their work. However, as seen above, modal verb HDs may be found in a variety of contexts in academic writing, not only in preliminary discussion of the writers' own work in occupying a niche, but more frequently in connection with establishing a territory, for instance when giving an overview of previous work, as well as in establishing a niche, by pointing toward a gap, shortcoming or lack of evidence in previous work. In each case, the use of HDs may be seen as a cautionary strategy, allowing authors to 'diplomatically' indicate less than full commitment to what is being said (Swales 1990: 175).

As can be seen in Table 2, the NS group's uses of the three modal verbs *would*, *may*, and *should* to realise the three moves of the Introduction sections of their writings bear some similarities as well as some differences with those of the NNS group. The analysis of Swales' CARS model of moves and steps in NS students' writing reveals that all texts in both the NS corpus and NNS corpus have a Move 1 (establishing a territory) in the Introduction section and the majority of them also have a Move 3 (occupying a niche), but a relatively small number of them have a Move 2 (establishing a niche). 'Establishing a niche' (indicating a gap in previous research or extending previous knowledge in some way) of the CARS model when writing the introduction of an academic paper is often thought to be obligatory in major academic papers (Swales 2004). However, the majority of student writings in both the NS and NNS corpora did not have this essential move. This indicates that students in both groups did not sufficiently elaborate criticisms or denials of previous knowledge claims to create a gap for their research. In all the three moves examined, the occurrences of *would* and *should* in the NS corpus mostly occurred in the moves 'establishing a territory' and 'occupying a niche', while in the NNS corpus, *would*, *may*, and *should* were frequently found distributed in all the three moves. Although a large number of *would*, *may*, and *should* were found to be used by NNS group to establish a niche, no examples of *would* and *should* were found to be used to accomplish this rhetorical function in the NS corpus. To occupy a niche, *would* and *may* were more frequently used by the NS group than by the NNS group through announcing present research.

3.1 Establishing a territory (Move 1)

The first move, 'establishing a territory', occurs in all Introduction sections in both the NS and NNS texts. The communicative function of this first move type is to introduce the topic of the study. As Swales (2004) noted, this move usually begins with topic generalisations and ends with topic specific information. According to Swales' (1990) CARS model for article Introduction sections, academic writers realise the first move of the Introduction sections of their research articles 'establishing a territory' by 'claiming centrality' and/or 'making topic generalisations' and/or 'reviewing items of previous research'. A widely realised sub-move by both the NS and NNS groups is 'reviewing items of previous research'. Modal verbs can be said to be characteristic of the third step of reviewing items of previous research. The third step is generally used to report other researchers' findings or arguments. More precisely, according to Swales (1990), writers need to provide a 'specification' of previous findings, an 'attribution to the research workers who published the results', and 'a stance towards the findings themselves' in order to establish a research territory in an Introduction section (Swales 1990: 148).

Both the NS and NNS writers tend to use modal verbs *would*, *may*, or *should* as shown in the following six examples in their discussion or interpretation of previous studies:

- (1) (NS corpus: 6120b) Move type: establishing a territory
McCarthy (1998) is one of very few researchers who has actually looked into the specific area of indefinite pronouns and from his work gives the impression of a completely different view point to that which Lakoff <accuracy-oriented_M1>would</accuracy-oriented_M1> <accuracy-oriented_M1> likely</accuracy-oriented_M1> have. He feels that the uses of such indefinite pronouns as 'something' or 'anything' are simply a form of vague language. He feels that in certain situations when people are interacting with each other, there are often instances where it would not be appropriate to be precise as it can sound overly authoritative, patronising and assertive, especially in informal contexts.
- (2) (NNS corpus: 008) Move type: establishing a territory
According to some critics, the most outstanding achievement of this novel is the discovery of the inadequacy of Western models, which always appear in the myth and Bible, for those who have been tied up with bitter experience and repelled by the dominating white culture. Aristotle once wrote that the tragic plot might indeed play upon our humane feelings, but it <accuracy-oriented_M1>would</accuracy-oriented_M1> not arouse either pity or fear; for our pity is awakened by undeserved misfortune, and our fear by that of someone just like ourselves, 'pity for the undeserving sufferer and fear for the man like ourselves' so that the situation in question <accuracy-oriented_M1>would</accuracy-oriented_M1> have nothing in it either pitiful or fearful.

Example (1) is from an Introduction section of the NS corpus. Both *would* and the adverb *likely* after it are expressions of uncertainty. The compound-hedged expression shows the greater tentativeness of the writer's statement. The writer used *would likely* to modify the main verb *have* in the sentence in order to accurately express the writers' tentative attitude to Lakoff's point of view to *indefinite pronouns* when comparing it with McCarthy's standpoint. Then he/she tried to explicitly review McCarthy's opinion on *indefinite pronouns* with the writer's tentative expression. Similarly, in example (2), the NNS writer also used *would* to show his/her awareness in referencing Aristotle's research on the *tragic plot*.

- (3) (NS corpus: 0030) Move type: establishing a territory
As with any identifiable aspect of academic writing, much of the research on hedging attempts to define it, theoretically and functionally. Because of the negative treatment hedging has received in the past, many studies (e.g. Skelton 1988a and 1988b; Myers 1996; Channell 1990; Banks 1998; Hyland 1994 and 1998) aim to validate the presence and legitimacy of hedges in academic writing. Other research (e.g. Hyland 1994 and 1998) has offered advice on how best to teach hedging in an EAP context. Research has been undertaken on the pragmatics of hedging and its link to politeness, its social implications, and how it affects the negotiation of meaning between writer and reader (e.g. Lakoff 1972; Myers 1996; Salager-Meyer 1994). Several contrastive rhetoric studies have looked at hedging in different cultures (e.g. Martin

& Burgess 2004) and the possible linguistic transfer that <accuracy-oriented_M1>may</accuracy-oriented_M1> result from attempts to hedge in the L2 (e.g. Clyne 1991; Hinkel 1997).

- (4) (NNS corpus: 002) Move type: establishing a territory
The definition of conflict varies in with different cultures. The Chinese <accuracy-oriented_M1>may</accuracy-oriented_M1> see conflict as intense fighting and contradictory struggle, while the Americans <accuracy-oriented_M1>may</accuracy-oriented_M1> imply broader meaning, such as perceived incompatible goals or perceived interference of the other in achieving the desired outcomes (Lulofs&Cahn, 2000).

Example (3) addresses the literature of previous research on hedging. The statement of the relationship between different cultures and hedging in the L2 is based on research evidence gained from previous literature reviews from Clyne's research and Hinkel's research. *May* in the last sentence expresses the possibility of the action of the lexical verb *result* and acknowledges the writer's tentativeness towards the statement on *linguistic transfer* and *attempts to hedge in the L2*. In example (4), the writer reviews Lulofs and Cahn's research on *how the definition of conflict varies in with different cultures*. The modal verb *may* modifies the action of lexical verb *see* and reinforces the tentative meaning of the hedging lexical verb *imply* in the example. The writer tried to infer the possibilities of the claim that *Chinese see conflict as intense fighting and contradictory struggle, while the Americans imply broader meaning*. References or citations are scattered throughout Move 1 (establishing a territory) in the NS example (3) and NNS example (4), even from the very beginning of the move. These references seem to be used to provide readers with background information or knowledge, as in the definitions of key terminologies, narration of a research topic history, in order to establish a territory for the hedging study in example (3) and the conflict study in example (4).

By using *would* and *may* in these examples, the writers displayed their tentative stance in reviewing previous studies, which aims to provide information on the territory within which the topic of the study is situated. In all the examples, writers address the literature in order to assert those matters that are taken to be true for the purpose of the paper. Because the background is assumed to be shared knowledge, the information is cited categorically in order to build a foundation of substantiated facts upon which the argument to follow can be constructed. Both the NS and NNS writers achieved this purpose by the use of accuracy-oriented HD realised through modifying the action of the lexical verb by the modal verbs *would* and *may*.

Compared with the NNS group, a lower number of tokens of *should* was used by NS students in the Introduction sections, most of which were used to establish a territory. The co-occurrence pattern *should be + past participle* was largely used by NS students in expressing the writer's obligation to review the related knowledge or accurately indicating the previous researcher's attitude to their statements in order to establish a territory.

- (5) (NS corpus: 0051) Move type: establishing a territory
In one of his famous short stories, Edgar Allan Poe defined perverseness as the completion of an action for the reason that it <accuracy-oriented_M1>should</accuracy-oriented_M1> not be done. The spirit that motivates this type of action is therefore known as the imp of the perverse, and its presence can be found in the works of other authors as well. One predecessor of Poe's who made use of the idea of the imp of the perverse was Charles Brockden Brown in his novel *Wieland*. A person motivated by the imp of the perverse is inherently asocial and amoral, and Brown's character of Carwin the bilquist is certainly both. His irresponsible choices and decision to continue using his bilquistism lead to the creation of an irrational, anarchic atmosphere which both influences *Wieland's* violence and has a lasting, powerful effect on the reader.
- (6) (NS corpus: 0032) Move type: establishing a territory
There are several terms relevant to the discussion of Nicaraguan Sign Language data that <accuracy-oriented_M1>should</accuracy-oriented_M1> be clarified. Idioma de Seas de Nicaragua (ISN) refers to the full Creole nativized by the second generation of children, and continuously restructured by subsequent generations. ISN is the only one of the three manifestations of Nicaraguan Sign Language that can be considered a structurally complete Creole. Lenguaje de Seas de Nicaragua (LSN) refers to the signed Pidgin created spontaneously by the first generation of children in the community. Pidgin de Seas de Nicaragua (PSN) is the term used to refer to the more traditional Pidgin used for communication purposes between deaf and hearing individuals. PSN uses a mixture of spoken Spanish lip movements, signs borrowed from ISN or LSN, and common Nicaraguan gestures.

Example (5) above is from the NS corpus. It illustrates the use of *should* as an accuracy-oriented hedge in an Introduction section for expressing the writer's desire to review the previous research explicitly. The first sentence addresses the definition of *perverseness* in order to provide the background of the writer's research. The writer reviewed how Edgar Allan Poe defined *perverseness* and explained the reason why he gave this definition. The phrase *should not be done* accurately expressed the writer's attitude to Edgar Allen Poe's concept of *perverseness*. Since the background concept is assumed to be shared knowledge, the reason the definition was proposed categorically was in order to build a reliable foundation upon which the argument to follow can be constructed. By reviewing the concept of *perverseness* of Edgar Allan Poe's research, the writer aimed at realising the first move type 'establishing a territory' of the Introduction section.

Example (6) is also from the NS corpus, which demonstrates the use of *should* as a reader-oriented hedging device in an Introduction section for declaring the writer's obligation to review the background information of research relevant terms. The writer suggested the necessity to clarify 'terms relevant to the discussion of Nicaraguan Sign Language data' through the use of the reader-oriented HD *should be + past participle*. The hint of obligation is milder than *must*, allowing freedom to potential readers to judge the necessity of the clarifications. The use of *should be* expressed an

obligation. The reader-oriented HD *should be* aims to control the thoughts and inferences of the potential reader, to lead the reader towards the following actions of reviewing *terms relevant to the discussion of Nicaraguan Sign Language data*, to gain reader acceptance.

Similar to the NS students, the NNS students applied the co-occurrence pattern *should be + past participle* in reviewing items of previous research to ‘establish a territory’. In addition, the NNS students also used the co-occurrence pattern *we should* in claiming the importance and centrality of the topic to be studied. These are exemplified in (7):

- (7) (NNS corpus: 0067) Move type: establishing a territory

The study on the connotation has been the focus of linguists for a long time. Many linguists contribute to the study of connotation. One of the most important scholars, Geoffrey Leech, says connotations are unstable. He further illustrates that connotations vary from individual to individual and from society to society. Another important figure, Bloomfield, considers connotations as the supplementary values of words. He places connotations from social standing in the most important position. What he declares clearly is that connotations vary according to the social standards. Compared with the above two linguists, F.R. Palmer does not give a positive view on connotations. He says connotations are not useful. But Palmer points out that connotations are closely related to society. Then Greimas studies on connotation from the perspective of sociology. He concludes that connotations <accuracy-oriented_M1>should</accuracy-oriented_M1> be postulated in individual and social fields. Greimas further concludes that connotation can gain more territory as it enters into other fields. Roland Barthes says connotation relates the meaning to another text. He points out connotation implies additional meaning to the communication so that communication is not a pure activity.

Here the writer used *should be* to conclude the findings of Greimas’ research. *Should be* expressed Greimas’ attitude to the claim of *connotations*. In other words, the writer of example (7) would like to claim that Greimas’ point of view is that it is necessary to postulate connotations in individual and social fields. This obligation is milder than *must*, but stronger than *could*. The wrong choice of modal verb may misinterpret the intention of the original researcher. The modal verb contributes to the precision with which a claim is made. The major function of *should be* here is to provide a specification of the state of knowledge rather than hedge the writer’s commitment to the claim.

The move ‘establish a territory’ can also be realised by claiming centrality through the use of *should* in a reader-oriented expression.

- (8) (NNS corpus: 0032) Move type: establishing a territory

Colorful pigments to palette are what idiomatic expressions to language. Without those colors, even though you, as the greatest master, move heaven and earth, the jig is up. Without those idiomatic expressions, even though you, the smashing chatterbox, bend over backwards to talk away, you can not hold water. So in order to complete a wonderful painting, we must know pigments like the palm of our hands, and accordingly, we <reader-oriented_M1>should</reader-oriented_M1> be familiar with the idiomatic expressions to get the hang of language study. For us Chinese students who learn English as the second language, it is extremely important to understand the differences between Chinese and English idiomatic expressions if we want to get to the bottom of language study.

As shown in example (8), the writer claims at the very beginning that his/her research of *idiomatic* expressions is important. By so claiming, the writer called attention to potential readers to consider the concept of *idiomatic* by using the pattern *we should* to indicate the necessity to *be familiar with the idiomatic expressions*. The expression *we should* negotiates a position with the reader by stating the proposal as an opinion and leaving it open to ratification. The sentence with the opening phrase *we should* also played a role of a connecting link between what comes before and what goes after. Understanding the importance of *idiomatic*, the readers know that the writer is going to give out the relevant concepts. By emphasising the importance of studying *idiomatic* expressions and claiming the need to understand the concept, the writer tried and partly established a territory for his/her study.

3.2 Establishing a niche (Move 2)

Move 2 ‘establishing a niche’ mainly involves pointing out the weaknesses of previous relevant work, denying earlier claims made by earlier investigators and making claims that may dispute other’s work; this is the common way writers establish a niche or create a space for research (Swales 1990). In other words, in this move, the writers seek to find a gap in the existing literature in the field under review in order to justify their own current research. It implies distancing oneself from other researchers who have already investigated the field. In so doing, the author may be led to express disagreement or even criticism in such a way as to show respect for fellow researchers. As shown in Table 2, only a small number (22 and 15 out of 110 texts in the NS and NNS corpora, respectively) of the NS and NNS writings have a segment which can be classified as a Move 2. The NS writers rarely used the modal verbs *would* and *should*, preferring *may* to realise the second move ‘establishing a niche’, while the NNS writers used all these three modal verbs quite often in the second move, especially in the use of the modal verb *should*. In the NNS corpus, the frequency of *should* is several times higher than that of *may* and *would* in ‘establishing a niche’. The niche establishment segment, realised through modal verbs, is mainly expressed using the rhetorical work of stating that research on a particular area is important or in need of being carried out or reported. *May* is the primary modal verb used to express uncertainty or possibility and *should* is commonly used to convey obligation. The different preferences of using *may* and *should* in the NS and NNS corpora may indicate that the two groups of students followed different strategies in establishing a niche. The following two typical examples reveal how the NS and NNS students use *may* and *should* respectively to establish a niche in their assignments.

- (9) (NS corpus: 6206b) Move type: Establishing a niche
What this lack of focused attention leaves unclear is just how often multiple hedging occurs, whether or not it is considered acceptable (and if so how many hedges must be used before multiple hedging becomes overhedging), and what, if any, factors, such as level of education, native vs. non-native speaker status, etc, <accuracy-oriented_M1>may</accuracy-oriented_M1> affect the strength or amount of a given writer's use of hedges.
- (10) (NNS corpus: 032) Move type: Establishing a niche
For the foreign audience, the translation of a film plays a significant role in cultural communication between two countries. It is through translation that foreign audiences get the chance to understand and appreciate other countries' art, culture, people and way of life. So the importance and effect of film translation <reader-oriented_M1>should</reader-oriented_M1> not be ignored. And it is necessary to study on the translation method of film title translation.

In these two examples, both the NS and NNS writers address Move 2 by concluding that research on a particular aspect has been neglected by other researchers. Therefore, their research project could be very important or significant. These conclusions or claims about the unavailability or non-existence of studies on a particular aspect of research were proposed with the writers' hedging. The modal verb *may* is concerned with precision in (9) and indicates accuracy-oriented hedging, and the obligation expression *should not be ignored* marks the hedge in (10) as a reader-oriented strategy. In (9), the tentativeness, which is expressed through the modal verb *may*, relates principally to the writer's concern with the truth of its proposition *affect the strength or amount of a given writer's use of hedges*. According to the analysis of section 3.1, the co-occurrence pattern *should be + past participle* is used to express obligation in order to give advice and make suggestions. In example (10), the writer attempts to advice that attention needs to be paid to *the importance and effect of film translation*. Through conveying the writer's entreaty to the potential readers by expressing obligation, writers also involve potential readers of this study in a joint quest for knowledge on *film translation*. It could be argued that different strategies were adopted by the NS and NNS students in 'establishing a niche' in their assignments. The results show that the NNS students tend to indicate a gap of previous research through making suggestions by using *should* as a reader-oriented HD. While the strategy used by the NS students was to evaluate the gap of previous research tentatively.

3.3 Occupying a niche (Move 3)

The role of Move 3 in the CARS model is 'to turn the niche established in Move 2 into a research space that justifies the present research' (Swales 1990: 159). In move 3, academic writers offer to substantiate the particular counter-claim that has been made, fill the created gap, answer the specific questions, or continue the rhetorically-established tradition. Swales (1990) suggests that the obligatory step in Move 3 is 'indicate the main purpose of research'.

Compared to Move 1, rhetorical work in a Move 3 is more straightforward and simpler syntactically and semantically; this part of a piece of academic writing, therefore, often requires shorter textual realisation or statements than Move 1 does (Ahmad 1997). The main communicative purpose of this move is to announce or indicate the research purposes, research specific features, principle findings, or academic writing structure. Unlike Move 1, which is more persuasive, Move 3 seems to be more informative than argumentative.

The final move the two groups realised in the Introduction sections of their writings was 'occupying the niche'. This was achieved through the use of *would*, *may*, and *should* to varying percentages (see Table 2). *Would* is predominantly used in Move 3 'occupying a niche' by the NS students, while fewer examples of *may* and *should* were found to be used in occupying a niche in the NS data. In the NNS corpus, there is no difference in the frequency of occurrence among the three modal verbs *would*, *may*, and *should* in Move 3. All these three modal verbs were used by the NNS students, but in a low frequency, to 'occupy a niche'.

Both the NS and NNS students used *would* to realise the final move 'occupying a niche' by describing the purpose of their research with a preference in use of personal attribution.

The purpose of using *would* in (11) from the NS corpus and (12) from the NNS corpus is to tentatively propose the aim of the research:

- (11) (NS corpus: 6120d) Move type: Occupying a niche
For the purposes of this assignment, I decided that I <reader-oriented_M3>would</reader-oriented_M3> look at a specific aspect of language and compare its use in both tabloid and broadsheet newspapers. In order to make the most accurate comparisons, equivalent stories from the newspapers had to be collected and so I decided to look at the recent events surrounding the former Liberal Democrat leader, Charles Kennedy. It then had to be decided which aspect of language to investigate. Eventually it was therefore decided that my final research question <reader-oriented_M3>would</reader-oriented_M3> be: 'How does the use of superlative adjectives differ between the broadsheet newspaper The Guardian and the tabloid newspaper The Mirror?'
- (12) (NNS corpus: 0084) Move type: Occupying a niche
This article attempts to analyse and probe into the cultural influence on color words from the angle of the cultural contrast of Chinese and Western. I <reader-oriented_M3>would</reader-oriented_M3> like to make a comparison and discussion on the eastern and western senses of color and its symbolic meaning as follow. (NNS corpus)

My interpretation is that an acceptance of personal responsibility mitigates the expression of a proposition and signifies a reader-oriented hedge. By marking the propositions as personal beliefs with the personal pronoun *I*, the author recognises the possible interpersonal effects of his/her claim and simply labels it as an alternative position without weakening its probability in any way.

4. CONCLUSION

The analysis of a long extract demonstrates the cumulative effect of hedging through a paper and how writers use different types of hedging to achieve different purposes. By the use of different hedging functions the writers are able to achieve a balance of scientific accuracy, self-protection, and deference to their audience. This paper has shown that the two groups of NS and NNS have displayed, through the employment of the modal verbs to express hedging, that they are aware of the fact that “academic discourse is not just a mere collection of facts” (Wishnoff 2000: 128). In the same vein, both the NS and NNS writers demonstrated that they know the importance of modifying their assertions, toning down uncertain or risky claims, and conveying opinions to the potential readers of their research. However, the NNS writers showed differences in the overall distribution of modal verb use across the sections and moves in their writing. They displayed different tendencies in the choice of modal verb patterns in the Introduction sections and moves. Broadly speaking, the personal attribution *I would* shows the desire of the NS writers to defer to the audience in presenting the new claims and statements they hope to gain acceptance for proposing to establish a niche.

My study revealed problems of NNS writers’ use of modal verbs in academic writing, such as an overuse of *should* and an underuse of *would* and *may* to ‘establish a niche’ in comparison with the NS writers. The inappropriate use of these three modal verbs could be due to not having enough exposure to the different functions of these modal verbs, to first language transfer, and to mode of thinking. It is important that Chinese undergraduate students majoring in linguistics or English studies, especially those for whom academic writing is a qualification requirement, be informed about using modal verbs to express reader-oriented hedging, and be shown what kinds of linguistic expressions could be used in order to accomplish particular reader-oriented hedging functions. I would suggest that Chinese undergraduate students could analyse some model texts in their field of study to see how NS writers express reader-oriented functions.

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