A Comparative Study on the Use of Modal Adjuncts Based on Learners' Corpus

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Abstract: *Although there have been many relevant studies on modal adjuncts at home and abroad, much remains to be learned about the comparison of modal adjuncts between Chinese learners and native language learners in academic writing texts. The objective of this study is to look at the parallels and variations in the usage of modal adjuncts in academic discourse between Chinese learners and native authors. Based on TECCL and LOCNESS corpora, Lancs Box 6.0 was used for quantitative analysis, and qualitative analysis was carried out in combination with relevant literature. The results show that both Chinese and native learners employ modal adjuncts far more than comment adjuncts. The use of the five sorts of comment adjuncts: "opinion", "persuasion", "presumption", "desirability", and "validation" differs significantly between Chinese learners and native learners, which can be attributed to the differences in English proficiency and cultural background.*

Keywords: *modal adjuncts; mood adjuncts; comment adjuncts; interpersonal meaning*

1. Introduction

Domestic and foreign research on modal attachments has primarily concentrated on two primary features, namely function and categorization, with few comparative studies on the usage of modal attachments in academic writing discourse by Chinese learners and native learners. Using the TECCL and LOCNESS corpora, this study explores similarities as well as distinctions in the use of modal adjuncts in academic discourse between Chinese and native speakers. Lancs Box 6.0 is used in the study to statistically assess the number and frequency of various types of modal additions, as well as to qualitatively analyze the causes behind them in light of related literature.

Although much research has been done on modal adjuncts, there have been few studies comparing modal adjuncts in academic writing texts between Chinese learners and native language learners. The goal of this study is to compare modal adjuncts in TECCL and LOCNESS, two important learner corpora, using Halliday's taxonomy of modal adjuncts. Three questions are addressed in the article: (1) What are the general characteristics of the use of modal adjuncts in academic discourse by Chinese learners and native language learners? (2) What are the similarities and differences between the two types of academic discourse? (3) What are the possible reasons for the similarities and differences in the use of modal adjuncts in the two types of academic discourse?

This study is based on the Ten-thousand English Compositions of Chinese Learners (TECCL) built by Professor Xu Jiajin of Beijing Foreign Studies University and The Louvain Corpus of Native English Essays (LOCNESS), a corpus of college students' writing in the United Kingdom and the United States. The article uses a mixed research paradigm combining quantitative and qualitative methods of corpus analysis and literature research to analyze the use of modal adjuncts in Chinese learners and native language learners' writing discourse. Through quantitative and qualitative analysis, the number and frequency of each modal adjuncts are counted, and the cultural significance reflected behind the use of modal adjuncts is analyzed according to the data obtained.

2. Literature review

This chapter covers two main aspects: first, the article provides an overview of the theoretical foundations related to modal adjuncts, including Halliday's interpersonal function, which is one of the three functions of language, the modality system that embodies the interpersonal function, and the

theory of modal adjuncts, which is an important part of the modality system. In addition, the literature of previous studies on the modality system and modal adjuncts in different aspects is reviewed and evaluated respectively.

2.1 Theoretical framework

This descriptive framework mainly draws upon Halliday, and is appropriate for an analysis of the use of modal adjuncts in discourse. The notion "interpersonal function", "modality system" and "modal adjuncts" lie at the core of this framework. According to Halliday[1], language has three meta- functions, namely ideational meta-function, interpersonal meta-function and textual meta-function. Each of these three functions is represented by a certain system. Among them, the subject system embodies the textual function, the mood system and the modal system embody the interpersonal function, but the modal adjuncts are embodied in all three systems. Therefore, modal adjuncts are chosen as the core concept of the study. This section provides a brief introduction to interpersonal function theory and modal adjuncts.

2.1.1 Interpersonal function theory

Language has not only a textual function but also an interpersonal function, i.e., it can express the speaker's inferences, judgments, and evaluations about things, and it can be used to convey information and to establish and maintain social relationships[1]. The interpersonal function of language is participatory in the sense that the speaker, as a participant, places himself or herself in a specific situation. People express their opinions, attitudes, etc. in such situations. Two semantic systems dominate the interpersonal function: the mood system and the modality system. The main component of the interpersonal function is modal adjuncts.

The modality system can express the writer's opinions, attitudes and judgments, and includes two subsystems: modality system and intentional system. Modality system consists of different kinds of modal components. And the modality is the domain between affirmation and negation, between which one can express his thoughts and opinions by different degrees. There are many ways to express modality, and the author chose one of these, modal adjuncts, as the object of study to investigate the differences in academic writing of Chinese and native language learners.

2.1.2 Modal adjuncts

In Halliday's theory of adjuncts, adjuncts include three major categories: contextual adjuncts, modal adjuncts, and connective adjuncts. Among them, modal adjuncts are those expressive components at the micro level of language where speakers make judgments about relevant information and can reflect the interpersonal function of language. In small sentences, personal attitudes and evaluations can be expressed through modal adjuncts[2]. Halliday separates modal adjuncts into two distinct types in his book An Introduction to Functional Grammar: modal adjuncts and comment adjuncts.

The mood adjuncts are generally located between the subject and the finite verb, indicating mood and temporality, which are closely related to the meaning constructed by the mood system, which contains four categories as shown in Table 1. Comment adjuncts are flexible in their position and indicate the speaker's attitude and evaluation of a topic or a matter, and can be divided into two categories: propositional and verbal function. Commenta adjuncts consist of ten categories as shown in Table 2.

Table 1: Mood Adjunct (Halliday:2004, P82)[2].

Types	Examples
probability	probably/possibly/certainly/maybe/ perhaps
usuality	usually/ often/sometimes/seldom/never/ever/always
typicality	occasionally/regularly/generally/for the most part
obviousness	of course/surely/clearly/obviously

Table 2: Comment Adjunct (Halliday:2004,P82)[2].

Types	Examples
opinion	in my opinion/personally/to my mind
admission	frankly/to tell you the truth/to be honest
persuasion	honestly/believe me/really/seriously
entreaty	kindly/please

presumption	evidently/apparently/no doubt/presumably
desirability	unfortunately/fortunately/ to my delight/distress/regrettably/hopefully
reservation	at first/looking back on it/tentatively/ provisionally
validation	broadly speaking/strictly speaking/in general/on the whole/in principle
evaluation	unwisely/wisely/understandably/foolishly/mistakenly
prediction	to my surprise/as expected/surprisingly/by chance

2.2 Previous studies

The English modality system has been studied by scholars from different linguistic schools. In the field of traditional linguistics, Jespersen[3] is the most representative of the study of the modal system, focusing on the three aspects of declarative, imperative, and virtual voice. In cognitive linguistics, Talmy[4], Sweetser[5] and Langacker[6] are the three most representative scholars on the mood. The semantic school is more systematic in its study of mood, and its research focuses on cognitive and moral moods, represented by Lyons[7] and Palmer's[8] research. The school of systemic functional linguistics, as we are most familiar with, has specifically conducted in-depth research on the modality system, concluding that the core component of interpersonal function is the modality system. Most of the domestic studies on English modality systems are based on Halliday's theory of systemic functional grammar and involve political speeches, Foreign Ministry press conferences, arbitration mediation discourse, news discourse, English textbooks, and many other discourses. A large number of linguists have focused their attention on modality, however, many other modal expressions, especially modal adjuncts, are ignored.

Foreign studies on modal adjuncts have focused on the functions of modal adjuncts and the classification of modal adjuncts. Others, like Aijmer[9], examine how modal adjuncts are employed to create different sentence forms and offer extensive examples by combining corpus with modal adjuncts. Van der Auwera, J., & Boye, K. [10] focus on the dynamic use of the core, periphery and other regions of English modal adjuncts. Some domestic scholars have also studied the theoretical origins, definitions and functions of modal adjuncts. At the discourse level, most domestic studies focus on academic papers, news reports, speeches and multimodal discourse. There are also a few studies on modal particles from a cross-cultural perspective. They have developed the study from the aspect that there are some differences in the usage characteristics of modal adjuncts due to different cultural backgrounds of users, which provides a new perspective for future research.

As a result, the author selected to compare modal adjuncts in academic writing discourse of Chinese learners and native speakers, which had gotten less attention in prior research. The analysis of the interpersonal meanings reflected by the use of modal adjuncts in learners, academic writing discourse is combined with an attempt to analyze the causes of the potential differences at the cultural level.

3. Methodology

This chapter provides a brief introduction to the research questions, the sources of the corpus and the research tools used, the research methods, and the research process.

3.1 Research questions

The goal of this study is to look at how Chinese learners and native speakers utilize modal adjuncts in academic discourse, as well as to explain and indicate the similarities and variations in the specific usage of modal adjuncts by speakers from diverse cultural backgrounds. The frequency of the use of modal adjuncts in academic speech is determined and its essential characteristics are discussed in this research in order to compare the usage of modal adjuncts by scholars from Chinese and English cultures. As a result, the research questions are as follows: (1) What are the general characteristics of Chinese learners' and native language learners' usage of modal adjuncts in academic discourse? (2) What similarities and distinctions exist between the two styles of academic discourse? (3) What could explain the parallels and variations in the usage of modal adjuncts in the two styles of academic discourse?

3.2 Data collection

In this study, the learner corpus employed is TECCL (Ten-thousand English Compositions of

Chinese Learners), encompassing around 10,000 written pieces from Chinese EFL learners. More precisely, the corpus includes 9,865 texts, amounting to 1,817,472 words in total. The comparative reference corpus is derived from LOCNESS (The Louvain Corpus of Native English Essays), a resource established by Professor Sylviane Granger from the University of Louvain, Belgium. The LOCNESS corpus primarily consists of argumentative essays drafted by UK and US students, supplemented by a selection of literary compositions. Despite the word count of LOCNESS being lower than that of TECCL, the volume of LOCNESS is relatively sufficient to facilitate the research.

The corpus tools used in this paper is Lancs Box 6.0 (Brezina et al., 2015, 2018, 2020), a corpus analysis tool developed at Lancaster University.

3.3 Research design

Aijmer[10] emphasizes the importance of the corpus in identifying the variability of modal attachments. To achieve the purpose of the study, a mixed research paradigm combining quantitative and qualitative analyses was used in this study. First, the modal adjuncts in the corpus were retrieved with the help of Lancs Box 6.0, and the frequencies of the various types of modal adjuncts present in the corpus were counted. Then, the retrieved data and results were organized and analyzed, including the distribution characteristics, the commonly used modal adjuncts, and the specific usage of comment and mood adjuncts. Second, this study contrasts modal adjuncts in both Chinese and English academic discourses by presenting the amount and significant aspects of each type of modal adjunct. Finally, discuss and analyze the statistical results. This study investigates and interprets the same and distinct interpersonal connotations that modal adjuncts transmit in Chinese and English academic discourses using such similarities and differences. The research attempts to find plausible reasons for the disparities by examining the interpersonal meanings conveyed in the uses of modal adjuncts in Chinese and English academic discourses.

4. Results and discussion

This chapter reports the results of data analysis and makes general discussion of the results. Based on the research questions and the research objects in Chapter 3, first, the two major corpora, TECCL corpus and LOCNESS, were retrieved for the modal adjuncts. Then, the data and the retrieval results are analyzed. Finally, the interpersonal meaning differences reflected behind them are analyzed in the context of relevant literature and theory to find out what are the reasons behind this result.

4.1 Overall distributional characteristics of modal adjuncts

Based on Halliday's classification of modal adjuncts, the author takes the whole corpus and all the modal adjuncts as a whole respectively, and by organizing and processing the data obtained from searching the corpus, we can see the usage of modal adjuncts in the two major corpora in the two categories of mood adjuncts and comment adjuncts, as shown in Table 3 below.

Table 3: The general distribution of modal adjuncts in two corpora.

		Token	Frequency (per 10000 words)	Distribution
TECCL	Mood adjunct	7932	46.16	70.56%
	Comment adjunct	3309	19.25	29.44%
	Total	11241	65.41	100%
LOCNESS	Mood adjunct	1314	40.75	77.07%
	Comment adjunct	391	12.12	22.93%
	Total	1705	52.87	100%

Since the size of the two corpora is different, the normalized frequency (per 10,000 words) is used. Considering the two corpora as a whole, we can see from the above table the token, standardized frequencies, and distribution of the two types of modal adjuncts, mood adjuncts and comment adjuncts, in the two corpora. In the Chinese learner's English corpus, the frequencies of mood adjuncts and comment adjuncts are 46.16 and 19.25, respectively, and their percentages in the modal adjuncts are 70.56% and 29.44%. In the native corpus, the total number of uses of mood adjuncts and comment adjuncts are 1314 and 391, respectively, and their proportions in the whole corpus are 77.07% and 22.93%.

From the above table, it can be concluded that the number of mood adjuncts and comment adjuncts used in the two corpora is obviously asymmetric, both in terms of frequency and distribution, with the number of mood adjuncts being much larger and the proportion of mood adjuncts being much higher than the proportion of comment adjuncts. Although there are more types of comment adjuncts, they are not widely used, which shows that mood adjuncts may be more capable of expressing the author's views and attitudes. In addition, the top 10 modal adjuncts used in both corpora were retrieved, as shown in Table 4.

Table 4: Top 10 modal adjuncts in two corpora.

TECCL			LOCNESS		
Top10	Token	Fre.	Top 10	Token	Fre.
always	2360	13.73295	always	175	5.426676
never	1258	7.320359	often	165	5.116581
really	1230	7.157426	never	165	5.116581
often	1045	6.080902	really	147	4.558408
In my opinion	662	3.852208	perhaps	109	3.380044
maybe	578	3.363408	ever	106	3.287015
sometimes	576	3.35177	probability	82	2.542785
usually	499	2.903704	of course	75	2.325718
no doubt	332	1.931923	clearly	67	2.077642
of course	297	1.728256	usually	67	2.077642

We can find that most of the high-frequency modal adjuncts in both corpora are mood adjuncts, and the most frequent ones are usuality, including always, never, often, sometimes, usually. In terms of specific vocabulary, Chinese learners use always, never, really, and often more frequently than always, which is the most frequently used word in the native corpus. In addition, when it comes to the expression of probability, Chinese learners prefer maybe while native speakers use probably and perhaps more often. When expressing usuality, they use ever less than native speakers.

4.2 Distributional characteristics of mood adjuncts

We analyze and interpret main modal adjuncts occurring in the selected discourse according to the classification they belong to. Mood adjuncts and comment adjuncts are classified into some subsets according to their specific semantic content. Then we discuss the specific use of mood and comment adjuncts respectively.

The distribution results of each subset of mood adjuncts are provided in Table 5:

Table 5: The specific distribution of mood adjunct.

		TECCL			LOCNESS		
	Type	Token	Fre.	Distribution	Token	Fre.	Distribution
Mood adjunct	probability	893	5.20	7.94%	336	10.42	19.71%
	usuality	6088	35.43	54.16%	728	22.57	42.70%
	typicality	253	1.47	2.25%	41	1.27	2.40%
	obviousness	698	4.06	6.21%	209	6.48	12.26%
Total		7932	46.16	70.56%	1314	40.75	77.07%

In the two corpora, the frequency of use of four types of modal adjuncts is arranged in descending order: usuality, probability, obviousness, typicality. The two corpora present the same characteristics, that is, more usuality is used, less probability, obviousness and typicality. In terms of typicality, there is little difference between them. In the aspect of usuality, The frequency of use by Chinese learners is 35.43 higher than that of native speakers, 22.57, while the frequency of use by Chinese learners is slightly lower than that of native speakers, in probability and obviousness. This shows that Chinese learners more use usuality, while the difference in the use of various modal adjuncts of mother tongue is smaller than that of Chinese learners, and is not limited to a very small range.

4.3 Distributional characteristics of comment adjuncts

The distribution results of each subset of comment adjuncts are provided in Table 6:

Table 6: The specific distribution of comment adjunct.

		TECCL			LOCNESS		
	Type	Token	Fre.	Distribution	Token	Fre.	Distribution
Comment adjunct	opinion	769	4.47	6.84%	56	1.74	3.28%
	admission	71	0.41	0.63%	0	0	0.00%
	persuasion	1424	8.29	12.67%	184	5.71	10.79%
	entreaty	309	1.80	2.75%	10	0.31	0.59%
	presumption	368	2.14	3.27%	14	0.43	0.82%
	desirability	106	0.62	0.94%	68	2.12	3.99%
	reservation	131	0.76	1.17%	22	0.68	1.29%
	validation	70	0.41	0.62%	24	0.74	1.41%
	evaluation	23	0.13	0.20%	7	0.22	0.41%
	prediction	38	0.22	0.34%	6	0.19	0.35%
Total		3309	19.25	29.44%	391	12.12	22.93%

In the two corporas, the frequency of the comment adjuncts is much less than that of the mood adjuncts, and the most common one is persuasion, with the normalized frequencies of 8.29 and 5.71, respectively. Many categories such as admission, evaluation, prediction appear rarely. In addition, the gap between the two corpora is no longer as large as that of mood adjuncts. In each category, Chinese learners use persuasion, opinion, or presumption more often than native speakers. In terms of desirability and validation, Chinese learners use them less frequently than native speakers.

4.4 Possible reasons

According to the prior debate and study, native academic authors utilize modal adjuncts differently from Chinese authors. The purpose of this section is to investigate a preliminary interpretation of the similarities and differences provided by the usage of modal adjuncts. According to Van der Auwera, J., and Boye, K.[11], modal adjuncts are associated to linguistic proficiency and cultural background.

4.4.1 Differences in English proficiency

For a start, there must be difference in their linguistic proficiency in English, since native authors are better than Chinese authors. It may be widely agreed that native speakers are generally more proficient in their language than non-native speakers. The distribution differences of mood adjuncts in the corpus of native are more balanced may be partly accounted for English proficiency.

The ability to use modal adjunct in English is primarily a matter of lexical proficiency. Actually, most of the modal adjuncts identified in the two datasets are common words and high-frequency lexical items, and they are easily available to ordinary speakers. When Chinese learners acquire a common usage, they use it frequently. Therefore, Chinese learners tend to use more modal adjuncts than native speakers. In terms of specific words, Chinese learners use always, never, really, often and other words that are relatively easy to learn more frequently. In addition, when expressing probability, Chinese learners prefer simple maybe rather than probably, perhaps used by native speakers. For the expression usuality, less than ever of native speakers.

4.4.2 Differences in cultural background

Modal adjuncts' utilization is an integral step in the process of producing discourse, intimately linked with the innate values and ideologies of the speaker. As Kress[11] suggests, discourse represents a systematic, organized collection of statements, articulating the meanings and principles inherent to a specific institution. These statements serve to examine particular themes, subjects, or procedures. Therefore, it's conceivable that the discourse's formation, regulation, permission, and even constraints are governed by the institution or community's ingrained values that generate it. Given that nearly every institution and societal community bears distinct values, it's logical that members of a particular academic community would possess common values and ideologies.

Broadly, Chinese academics tend to underscore the value of communal consensus and authoritative knowledge. This cultural influence often leads them to employ persuasion (such as "really", "seriously") in their writing, aiming to garner reader validation. They also utilize a significant proportion (12.67%) of persuasive adjuncts to project authority and foster a sense of camaraderie with their readership. Conversely, English academics place a higher emphasis on the articulation of innovative scholarly

perspectives. They frequently use words of desirability like "unfortunately", "hopefully" and the like to convey emotions. Furthermore, they demonstrate a proficiency in synthesizing information, as evidenced by the prevalent use of validation techniques.

5. Conclusion

In this study, we examined the similarities and differences between Chinese learners' and native speakers' usage of modal adjuncts in academic discourse, based on the data of modal adjunct occurrence in the two corpora. The study found that: (1) learners used a significant number of modal adjuncts in academic discourse, and the frequency of mood adjuncts was significantly higher than that of comment adjuncts, with the most frequent occurrence of the mood adjuncts in relation to usuality and the most frequent occurrence of comment adjuncts in relation to persuasion. (2) In terms of mood adjuncts, the differences in the use of mood adjuncts by native speakers were smaller than those by Chinese learners, and were not limited to a very small range. The same subtle differences exist in the comment adjuncts. The differences between Chinese learners and native speakers are summarized as differences in English proficiency and cultural background. Native language learners have a higher level of English proficiency and are relatively unfocused in their choice of modal adjuncts. Culturally, Chinese emphasize collective objectivity and authority, while Americans focus on creative academic viewpoints.

Grounded in Halliday's Interpersonal Function Theory, this research endeavors to scrutinize the employment of English modal adjuncts from a cross-cultural standpoint. Such an examination is projected to enhance our comprehension of cultural connotations that underpin the disparities in micro-linguistic elements in discourse. It also promises to expand the scope of sociolinguistic variation studies and cross-cultural discourse variation research. Furthermore, this investigation could aid non-native speakers in identifying areas for improvement, ultimately fostering a more precise, courteous, and diplomatic mode of expression, particularly in the context of modal adjunct usage.

Given the author's constrained theoretical aptitude, the interpretation of data and identification of causality may unavoidably be influenced by personal bias. Though it is challenging to eliminate this completely, it is imperative to strive for an expansion of theoretical insight, cultivate the capacity for objective analysis, and triumph over inherent limitations. For future investigations, it is anticipated that the elucidation of disparities, particularly in relation to varying cultural backgrounds of scholarly authors, will be more intricate, profound, and strive for the utmost objectivity.

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