Is Chinese English Majors' Tendency to Use Modal Sequences Better with the Passing of Their College Campus Time?

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Abstract

Based on the result of the trends of modal sequences in Chinese English majors' argumentation, this research focuses on the relationship between English majors' tendency to use modal sequences and their college campus time. The paper reveals that the tendency to use modal verbs is not related to their college campus time, and that epistemic and deontic modality to uses are not related to their college campus time, either. This study offers reference to the understanding of how Chinese students acquire modal verbs and gives suggestions for modal verb teaching which are the following: (1) We should bear in mind when compiling textbooks that more exposure to epistemic modal verbs with euphemism modality for students is needed in early senior high textbooks; (2) Native speakers' tendency to use modal verbs should be explicitly clarified in class; (3) native speakers tend to use should be consciously presented both in and after class; (4) The proper pragmatic meaning of modal verbs, the basic value view and social philosophy of Anglo-American Culture involved as well as the differences in cultural tradition and value between East and West should be underlined in English modal verbs teaching.

Keywords: deontic modality, epistemic modality, explicit teaching, modal sequences, modal sequence trends

1. Introduction

Modal verbs have been researched by many linguists and scholars from different angles (Aijmer, 2002; Biber et al., 1999; Coates, 1983; Halliday, 1985; de Haan, 1997; Huddleston & Pullum, 2002; Hunston, 2004; Mindt, 1993; Palmer, 2001; Quirk et al., 1985; Sweetser, 1990; Chen, 2010), moral sequences, however, has received less attention than it deserves. Therefore, it is of great significance to further explore the modal sequences.

English learners have to not only master the expression of modal verbs, but also further study the modal sequences other than various meanings of a single modal verb (Guo, 2005; Hunston, 2004). That's because most of them are polysemic and semantic overlapping (Aijmer, 2002; Mindt, 1993), and the meanings of modal are context-dependent (Bybee & Fleischman, 1995; Hunston, 2004; Kratzer, 1981; Mindt, 1993). The mode choice of interaction between polysemous modal verbs and context is interdependent, that is, sequence will choose the combination of modal verbs of a certain meaning with main verbs of a certain meaning. The very act of doing so can ascribe meaning to a phrase as a whole (Hunston, 2001).

Hunston (2004) claimed that teaching learner's modal sequences than teaching them the auxiliary modal verb separately is more conductive to English learning. Modal verbs are not a set of semantic overlapping discrete items, but as participants in a number of sequences which are neither ambiguous nor polysemous. They typically combine with auxiliary verbs or notional verbs to form "subject + modal verb + auxiliary or notional verb". It may have many combinations of sequences, such as "subject + modal" or "modal + verb + complement".

Sinclair also agreed with the concept. He noted that meaning belongs to "units of meaning", not to individual lexical items. What he means is meaning lies in sequences of items that are partially combined and fixed. According to him (1995), the confirmation of phraseology achieves fullest explanation of vocabulary usage. In his research, "must" can express speaker's different intentions with different collocation, which inspires him that modal verb's learning cannot be limited to the study of individual lexical items, but acquire through exploring a variety of meanings according to its combination.

So far, many scholars have studied modal verbs from different angles, such as speech act, systemic grammar,

hierarchical grammar and so on. Previous empirical studies mainly focus on the overall situation of modal verbs in oral and written language output, and some scholars also pay attention to the use of modal verbs in specific fields, such as the core modal verbs have their own distribution characteristics in legal or academic texts, and convey special modal meaning.

Ehrman (1966) first analyzes the modal system of American language based on corpus. Other influential studies include the study of British English corpus by Coates (1983) and Mindt (1985). The study of Aijmer (2002) found that learners tend to use more modal verbs than their native speakers, learners' transfer model from spoken language to writing seems to be carried out in "register interference". Neff et al. (2003) explored how the author expresses his attitude and position by testing the evidence of speech. Römer (2004) found that German grammar schools treat "modal auxiliary verbs" in English classes in a way that is not as shown in textbooks, and that many important aspects of textbooks (such as core modal verbs) are ignored.

In China, Li Wenzhong (2005) also pointed out that the more specific the theme, the higher the repetition rate of vocabulary and the less vocabulary used. Liu Hua (2006) compared the frequency of modal verbs in the ST6 part of FLOB corpus and CLEC, and pointed out that learners use too many modal verbs and less use them. Ma Gang and Lu Xiaojuan (2007) found that the lexical clusters of foreign language learners are directly related to the content of the text. Yan Pengfei (2017) found that science and engineering learners use more compulsory modal sequences and less cognitive modal sequences, attributive clauses and "there be" pattern with modal verbs. However, learners' lexical, grammatical and sentence tendencies make second language academic writing somewhat monotonous and subjective in modal and modal semantics, and lack of precision and logic in reasoning. Pang Jixian and Chen Jun (2018) make a contrastive analysis of the differences in the linguistic structure, semantics and functions of modal sequences in the introduction and discussion of the two parts of international journals. However, it is limited to the study of cognitive modal sequences in some international journals of applied linguistics, and does not explore the other three kinds of modal sequences.

For these above reasons, this study aims to compare the characteristics of modal sequences in sub-corpora of English Majors' argumentations (WECCL) used by students of two different grades, aiming to shed some light on the use tendency of modal sequences over time by Chinese English majors' in the written form. It is expected that the findings of the study would provide helpful implications for English teaching in China, particularly for modal verbs instruction in grammar, writing and oral English, which in turn will facilitate students' mastery of modal verbs in a more effective way.

2. The Relationship Between Modal Sequences and Modal Meaning

The modality mainly falls into two types: deontic modality and epistemic modality (Biber et al., 1999; Coates, 1983; de Haan, 1997; Palmer, 2007). In general, deontic modality refers to the responsibility and obligations perceived by the subjects or the behaviors needed to be fulfilled, while epistemic modality is related to the approval degree to which speakers judge the truth of the preposition (Biber et al., 1999; Coates, 1983).

Any combination centered by a modal word with its preceding and following elements, which can be collocations and colligations are modal sequences (Hunston, 2001, 2004). According to Susan Hunston, the typical occurrences of I must and different from those of you must.

On the other hand, colligations or collations centered by a modal word with its preceding and following elements may be of different modality, i.e., deontic modality and epistemic modality, which can be realized by various combinations such as "animate/inanimate (there) (guide word) + modal verb", "modal verb + stative/dynamic verb", "modal verb + perfective/progressive aspect of verb" and "modal verb + epistemic adverb + notional verb".

Many studies revealed that there exists a strong correspondence between modal sequences and the types of modal meanings, thus the meaning of modal verbs can be predicted based on difference of sentence patterns of sequences (Biber et al., 1999; Coates, 1983; Warnsby, 2003). The correspondence can be generalized as follows (Table 1) (quoted in Liang, 2008).

Table 1. The correspondence between modal sequences and modal meanings

Typical Sentence Patterns	Examples	Epistemic Modality	Deontic Modality
VM + epistemic modality adverb	*can probably do*	yes	no
The subject of guide word +VM	*it may be true that*	yes	no
VM + perfective aspect	*must have done*	yes	no
VM + progressive aspect	*must be working*	yes	no

VM + stative verbs	*must be*	yes	no
VM + dynamic verbs	*must work*	no	yes
animate subject + VM	*pandas can*	no	yes
inanimate subject + VM	*the weather may*	yes	no
there + VM+be	*there must be*	yes	no

Note: VM=Modal verbs.

3. Research Design

3.1 Research Questions

Based on the above analysis, the study is intended to find out whether there is any relationship between the features of English majors' overuse and underuse of modality sequences during 1996–2007 and their college campus time. More specifically, three questions are to be addressed:

1) Is there any relationship between students' tendency to use modality sequences and their college campus time?

2) Is there and relationship between students' tendency to use epistemic modal sequences and their college campus time?

3) Is there any relationship between students' tendency to use deontic modal sequences and their college campus time?

3.2 Preprocessing of Corpus and Analytical Method

The prophase conclusion of this study is achieved grounded on preprocessed corpus and the employment of key word analysis in context, which is also the underpinning for this study and the corpus analysis.

3.2.1 Corpus and Its Preprocessing

As mentioned above, the corpora for the study are learner corpora, sub-corpora of English Majors' argumentations of WECCL 1.0 (Wen et al., 2005) and WECCL 2.0 (Wen et al., 2008). To examine whether a correlation exists between students' modal sequences and their college campus time, two learner corpora of argumentations were built based on sub-corpora of English majors' tagged argumentation and were named as Group WECCL 1.0 and WECCL 2.0 respectively. The two corpora were constructed by suing sub-corpus generator to retrieve the texts with the heading STU1 from tagged WECCL2.0. The reference corpus is the Louvain Corpus of Native English Essays (LOCNESS). The main text messages of the two corpora are defined as shown in Table 2.

Table 2. Basic information of two corpora

Corpus (Arguments)		Word Token	Amount of Text
Learner	WECCL 1.0	1,005,607	3,053
Corpora	WECCL 2.0	1,147,327	4,359
LOCNESS		264,041	297

Note: The word tokens in this study are subjected to "tokens used for wordlist" as well as the number marked in "sections" in frequencies statistics, both of which are obtained based on the original corpus that has been actually published. The number of argumentations in WECCL 1.0 is supposed to be 3,059, but in fact only 3,055, because the files named as 2105nd.cls and a34xsd.cls get corrupted during file processing.

Consulting the methods of Aarts and Granger (1998) and To-no (1999), the author does not limit the research to frequency statistics of modal verbs, but to including the syntactic features of modal sequences by using PowerGrep to process the tagged texts. The results are illustrated in Table 3.

Table 3. Illustration of text processing

	Active	Passive
Non-tagged Text	We should set	The standard should
	The standard carefully.	Be set carefully.
Tagged Text	We–PPSI2 should-VM set -VVO	The AT standard-NN1 should -VM
	the –AT standard –NN1 carefully – RR.	be-VB0 set–VVN carefully-RR.
Processed	PPSI2 should VV0 AT NN1 RR.	AT NN1 should VB0 VVN RR.

The modal sequences can be easily observed and retrieved from the processed texts through such functions of WordSmith Tools as concordance, wordlist and cluster parse.

3.2.2 Corpus Analysis Method

1) Analysis of modal sequences

a. Preprocess the corpora in accordance with the method elaborated in 3.2.1

b. Create cluster lists of 2–8 words based on the two preprocessed corpora.

c. List all clusters overused and underused: adopt KeyWords (KWs) analyzer to compare the cluster lists and generate positive and negative KWs clusters of learner corpora tag sequences.

d. Categorize KWs cluster lists: list all the KWs clusters according to two combinations of verbal sequences, i.e., tagged code 1 + tagged code 2 + … + modal verbs or modal verbs + tagged code 1+ tagged code 2 …, and then classify them into modal sequences overused and underused in learner corpora in terms of the different types of modal verbs.

e. Run independent sample test: use Statistical Package for Social Sciences (SPSS) to verify the frequencies of modal sequences overused (i.e., modal sequence A) (MSA) and frequencies modal sequences underused (i.e., modal sequence B) (MSB), in order to figure out whether there is significant difference in the frequency of learners' overusing and under-using of modal sequences in their compositions at different times.

2) Identifying meaning type of modal sequences

The relationship between students' tendency to use epistemic and deontic sequences and students' study time at school was checked merely from two perspectives owing to space reasons.

a. Is there any significant difference between the frequency of "modal verbs + all sorts of stative verbs sequences" and students' study time at school?

b. Is there any significant difference between the frequency of "all sorts of pronouns + modal verbs sequences" and students' study time at school?

According to Zhang Zhengbang (2003), stative verbs can be classified into four categories: verbs used as main verbs—be, have (means "possessed of"), verbs that connote "be, have"—apply to, belong to, differ from, cost, weight, measure, fit, hold, lack and resemble; verbs used to express feelings—feel, hear, see, smell and taste; verbs used to convey psychological or emotional state—assume, believe, consider, detest, fear, hate, hope, imagine, know, like, love, mean, mind, notice, prefer, regret, remember, suppose, think, understand, want and wish. In this paper, after the 12 stative verbs in the first category tagged with VB0, VBDR, VBDZ, VBI, VBR, VBZ, VH0, VHD, VBM, VVI, VBI and VHI, these 12 tagged codes and 38 stative verbs in the other three categories were available for retrieval of the two preprocessed Group WECCL 1.0 and Group WECCL 2.0 respectively by using modal verbs as context words.

Afterward, modal sequences overused and underused were merged according to the typical sentence patterns of epistemic and deontic modal sequences listed in Table 1. For instance, "PPSI2 should (we should)" conforms to "animate subject + VM" pattern, thus falling into deontic modal sequences, while "should VB0 (should be)" conforms to "VM + stative verbs" pattern, accordingly falling into epistemic modal sequences. As for the patterns of "VM + epistemic modality adverb" and "The subject of guide word + VM", follow-up studies will be undertaken in the future.

4. Research Findings

4.1 Classification of Modal Sequences

A number of keywords clusters were obtained by analyzing the keywords in 2–8-word cluster lists, from which the top 20 positive keywords, that is, learners' overused modal sequences were selected (Long, 2009, 2011). Then, data of modal sequences overused were classified into two types according to the difference in numbers of sentences before and after modal verbs.

1) Sequence "subject + MV"

Sequence "subject + MV" can be broadly subdivided into three types: the first personal pronoun (in plural form) + modal verbs; the second personal pronoun + can; the third personal pronoun (in plural form) + can/should; nouns (both in single and plural form) +can/should. Or to put it another way, it can be summed up as "we + can/will/must", "you + can", "NN1/NN + can/should", and "he/ she/ it/they + can/should".

2) Sequence "subject + MV"

Sequence "subject + MV" can be subdivided into various types: can (should/will/may/must) + verb without markup of tense-aspect (e.g., "MV + make" other than "MV + have made") , can + verb without markup of tense-aspect + determiner (the/your); can + verb without markup of tense-aspect that carries complex object; can + adverb + verb without markup of tense-aspect; should + verb without markup of tense-aspect + to + verb without markup of tense and aspect; will/must + verb without markup of tense-aspect. In other words, these sequences can be further summed up as "can (should/will/may/must) (+ adverb) + verb without markup of tense-aspect (+ determiner—the/your)/ (+ us + verb without markup of tense-aspect)", and "should + verb without markup of tense-aspect + to (+ verb without markup of tense-aspect)".

Top 20 negative modal sequences were defined in the same way (see Long, 2009, 2011).

Negative keywords are indicator of language traits frequently reflected by native speakers in their written English but rarely seen in English learners' language. The observation shows that modal sequences composed of "could" and "would (esp.)" are seldom used in learners' language. On the other hand, nouns, demonstrative pronoun "it", and proper names for place are mainly used by native speakers as the subject before the modal verbs "could" and "would", while dynamic and stative verbs (e.g., make, be), perfective aspect of verb, passive voice, and adverb (epistemic modality) after the modal verbs. With regard to verbs markup, verbs with markup such as passive voice and perfective aspect are favored (since "be" and "have" are the essential component of perfective aspect, progressive aspect and passive voice).

4.2 Relationship Between the Tendency to Use Modal Sequences and Students' Study Time at School

To determine the relationship between students' tendency to use modal sequences and their college campus time, MSA and MSB were adopted as search terms respectively to retrieve two groups of learners' argumentation texts, and the frequencies obtained were analyzed by independent sample test. The result demonstrates no significant difference in the variance of frequencies of MSA in the compositions of Group WECCL 1.0 and Group WECCL 2.0 (the homogeneity test of variances: sig = 0.796 > 0.05, F = 0.055, df = 38, comparison of means: t = 0.245, sig = 0.759 > 0.05), which reveals that the difference between two groups in terms of frequencies of MSA fails to reach significantly. Similarly, no significant difference is detected in frequencies of MSB between two groups' compositions (the homogeneity test of variance: sig = 0.857 > 0.05, F = 0.014, df = 38, comparison of means: t = -0.737, sig = 0.432 > 0.05), which indicates that there is no striking difference either in frequencies of MSB between two groups.

4.3 Relationship Between Students' Tendency to Use Epistemic and Deontic Modal Sequences and Their College Campus Time

4.3.1 Relationship Between Students' Tendency to Use "Modal Verb + Stative Verb" and Their College Campus Time

In order to work out if verbs (VVI) are dynamic from leaners' overused CAN VVI, PPY CAN VVI, NN1 CAN VVI, PPHS2 CAN VVI, SHOULD VVI, PPIS2 SHOULD VVI, NN2 SHOULD VVI, WILL VVI, MAY VVI, PPIS2 MUST VVI, the author retrieved the verbs used after the modal verbs in two corpora (native and non-native), and then classified the results in accordance with their semantic features. The result shows that verbs used after the modal verbs are mostly dynamic. The most commonly-used verbs are listed in Table 4 (only the top 20 are illustrated here according to the frequencies).

Table 4. The most commonly-used verbs after modal verbs (Top 20)

frequency	verb	frequency	verb	frequency	verb	frequency	verb
8020	**be**	1148	get	677	**find**	407	bring
1750	make	837	take	522	use	387	**become**
1589	**have**	770	give	511	say	321	**think**
1466	learn	754	help	484	**know**	313	tell
1460	do	381	**see**	483	pay	292	feel

Note: bold words are stative verbs.

Of all the above commonly-used verbs, only 8 ones, namely "be", "have", "see", "find", "know", "become", "think" and "feel" can be used as stative verbs, while the rest are usually used as dynamic verbs. Compared with non-English majors who just take the verbs "be", "have", "see", "know" and "think" as the stative verbs, English majors have evidently increased a few more stative verbs (Liang, 2008), the frequency of which is lower in the table.

Likewise, 12 tagged codes in the first category together with 38 stative verbs in the other three categories are available for retrieval of the two merged preprocessed Groups by using modal verbs as context words. The result reveals that sequences of "modal verb + stative verb" are used 244,273 times by learners while 24,433 times by native speakers, accounting for 11.35 percent of the learner corpus and 9.35% of native speakers' corpus respectively. Furthermore, of all the stative verbs in the first three categories, the frequency in learner corpora is 30/38, a little higher than that in native speakers' corpora, 27/38. The relative ratio of English majors, however, is remarkably lower than that of native speakers: $30 \div (1,005,607 + 1,147,327) = 1.93 \times 10^{-5}$, $27/264,041 = 1.02 \times 10^{-4}$, indicating that English majors tend to use stative verbs less frequently than native speakers although frequency of tagged codes in the first category reaches 100/100.

In addition, the result reveals that the underused modal sequences like WOULD VVI, WOULD VBI, WOULD VHI, COULD VBI, WOULD RR, WOULD VHI VVN, WOULD RR VBI, WOULD XX, WOULD VHI TO, WOULD VVI AT, WOULD VBI AT1, WOULD VVI II and COULD VBI VVN belong to typical sequences of epistemic modality, from which we can draw a conclusion that, compared with non-English majors (Liang, 2008), English majors boast more types of the sequences of "modal verb + stative verb".

To examine whether there is any significant difference between the frequency of the sequence of "modal verb +stative verb" and students' study time at school, frequencies (including percentage) were preconditioned after two preprocessed sub-corpora were retrieved respectively, then an independent sample test was administered. The result shows no remarkable difference in the variances of frequencies of modal sequence "modal verb + stative verb" in students' composition between Group WECCL 1.0 and Group WECCL 2.0 (the homogeneity test of variances: sig = 0.863 > 0.05, F = 0.024, df = 38, comparison of means: t = -0.056, sig = 0.946 > 0.05), suggesting that two groups have no marked difference in the frequency of modal sequence "modal verb + stative verb".

4.3.2 Relationship Between Students' Tendency to Use "Animate/Inanimate Subject + Modal Verb" and Their College Campus Time

An important basis to judge semantic features is modal sequence "animate/inanimate subject and modal verb". If the subject before a modal verb is animate, the modal sequence expresses deontic modality in general (Coates, 1983; Warnsby, 2003). An observation of learners' overused modal sequences may suggest that "personal pronouns ("I", "we", "you" and so on) + modal verb" are the most commonly used modal sequences by learners. Since personal pronoun is typical animate subject, it is believed that this structure is typical deontic modal sequence and heavy use of this structure is another prominent feature of learners' language, including English majors (Liang, 2008). Table 5 shows the differences in frequencies and standardized frequency of using personal pronouns before a modal verb between leaner corpora and native speakers' corpora.

Table 5. Comparison in frequency of "personal pronouns + modal verb" between native speakers and learners

Modal Sequence	Native Speakers		Learners	
	Frequencies	Standardized Frequency (per 10,000)	Frequencies	Standardized Frequency (per 10,000)
They + VM	287	5.43	6,235	14.10
We + VM	202	3.82	12,950	28.50
You + VM	111	2.10	5,727	12.98
I + VM	126	2.38	1,721	3.90
She + VM	68	1.28	79	1.79
He + VM	200	3.79	1,357	3.07
Total	994	18.80	28,096	63.60

Note: The frequency is analyzed based on the tagged texts, i.e., the frequencies of native speakers and learners are 528,180 and 4,411,145 respectively; VM=modal verb.

As can be seen from Table 5, the frequency of using "personal pronouns + modal verb" of learner corpora is 3.382 times that of native speakers' corpora. Besides, the frequency of "modal verb + we/you" in the former corpora is several times higher than in the latter. The difference of frequency of using "personal pronouns + modal verb" between learners and native speakers shows again that native speakers use more epistemic modal sequences than learners. Compared with the results of Liang Maocheng's study (Liang, 2008), however, the proportion of English majors' using this sequence has decreased considerably, especially the proportion of the first personal pronouns—about the same as that of the native speakers do. The phenomenon is indicative of a progress, suggesting that English majors have a further comprehension and a better command of the concept of

epistemic modality that modal verbs contain.

For further exploring the relationship between the frequency of "personal pronouns + modal verb" and students' study time at school, the author compared the frequency of this kind of sequences in argumentations between two groups of English majors via independent sample T test. The result does not confirm the significant relationship between the frequency of "personal pronouns + modal verb" and students' study time at school (the homogeneity test of variances: sig = 0.757 > 0.05, F = 0.083, df = 10, comparison of means: t = -0.059, sig = 0.956 > 0.05). It is believed that the more students use "personal pronouns + modal verb", the lower their writing proficiency turns out to be (Liang 2008). If so, we can conclude here that, compared with non-English majors, English majors' English proficiency is closer to native speakers' level.

With respect to the relationship between the frequency of two typical deontic modal sequences in learners' compositions and students' study time at school, our results tall with the claims put forward in previous studies (Holmes 1988; McEnery & Kifle, 2002; Liang, 2008) that compared with non-English majors, English majors' comprehension and mastery of modal verbs are closer to native speakers.

5. Discussion

There is no relationship between students' study time at school and the frequency of using SMA, probably because of lower-level learners' desire to avoid possible mistakes which leads to their heavy use of SMA with monotonous sentence pattern and phrasing inconsistent with argumentation style. In terms of SMB, the reason must be that this kind of sequence is rarely used by both groups of learners in their argumentations. According to the statistics, there are only 3,205 SMB in learners' argumentation corpora consisting of 7,312 articles. What's more, not a single case of using SMB is found in 4,761 articles (accounting for 64% of the total), 22% higher than that of non-English majors. In a sense, this result implies that even if they are English majors, their command of English is not good enough for them to properly use modal sequences made up of "could" and "would" to express subjunctive and euphemism mood. On the whole, there is no considerable change over time in English majors' comprehension and command of epistemic and deontic modality of modal verbs. This finding corroborates our first hypothesis.

Further, this result can be attributed to the fact that although continuous teaching reforms have been implemented during learners' 18-year study in high school, no substantive changes can be seen in high school in faculty and facilities (the relatively younger teaching staff for foreign language teaching slows down the outdated process of knowledge), textbook compilation mode, rigidified traditional teaching method and teaching approaches of colleges (this basically confirms our second hypothesis). This might be an interpretation for why the way foreign language learners comprehend epistemic and deontic modality remains roughly the same over time.

Perhaps even more importantly, there is an undeniable fact that two corpora were collected during different time periods. In WECCL 1.0 (Wen et al., 2005), argumentations of learners from four grades, i.e.， Grade 1996, Grade 1997, Grade 2000 and Grade 2003, were collected during the years from 1996 to 2003 whereas in WECCL 2.0 (Wen et al., 2008), STU1 of argumentations from nine grades, i.e., Grade 1999–Grade 2007, were collected after the expansion of undergraduate enrollment during the years from 2003 to 2007. The two corpora were formulated with the application of sub-corpus generator to retrieve the texts with the heading STU1 from tagged WECCL2.0. For another, the line of the college enrollment expansion was blurred, and it is particularly true of the years after 1999. According to the statistics, the number of the argumentation before the year of 1999 (including 1997) is 1,177, while the number after the year of 1999 is 6,006, covering the overwhelming majority of the corpora. As Table 6 shows, the big difference in sample size seriously affects the results and the overlapping time of the year of 2000 in two corpora results in the less distinguishable difference of modal verbs acquisition over time.

Table 6. The number of argumentations and enrollment time of two groups of English majors

Study Time	WECCL 1.0	WECCL 2.0	Total
1996	60		60
1997	1049		1049
1999		68	68
2000	841	53	894
2001		182	182
2002		71	71
2003	1077	656	1733
2004		932	932

2005		1155	1155
2006		626	626
2007		345	345
Total	3026	4087	7115

Notes: In WECLL 1.0, the actual number of argumentations is 3,053 (see footnote 1), but the number turned out to be 3,026 after classified by sub-generator, an attached software to WECCL 2.0. WECCL 1.0 was still dealt with based on the number of 3,053. Likewise, in WECCL 2.0, the actual number of argumentations (STU1) is 4,359, but the number turned out to be 4,087 after classified by sub-generator. WECCL 2.0 was still dealt with based on the number of 4,359.

Probably, beyond all that is the deep cause whereby we can stay closer to the truth: (1) the failure to consciously highlight the use of epistemic modality to express subjunctive mood when compiling textbooks, (2) the failure to explicitly get students informed of the native speakers' usage characteristics of modal verbs and consciously do some pattern drills, (3) the failure to deliberately illustrate epistemic modal sequences with examples during after-class practices so as to cultivate students' awareness of sensitivity to modal verbs with high automaticity, and (4) the failure to emphasize the appropriateness of meaning of epistemic modal verbs in class, without giving full play to students' initiative by self-discussing and analyzing the contexts modal verbs as well as their social and cultural implications.

6. Conclusion

The transformation from deontic modality to epistemic modality is conceived as a manifestation of the cognitive development law, which implies that this process seems to be automatic and learning in advance is not a prerequisite, however, conscious teaching and explicit learning would undoubtedly help save learners from detours. Accordingly, this paper proposes that while the learner's cognitive law should be followed in textbook compiling, classroom teaching and even after-class summarizing, the role that syntax sequence of modal verbs plays should be consciously highlighted. Specified suggestions are as follows:

1) We should bear in mind when compiling textbooks that more exposure to epistemic modal verbs with euphemism modality for students is needed in early senior high textbooks. Detailed usage of modal sequences with euphemism modality such as "could" and "would" should be summarized and be made part of the revision sections. Spiral method with repeated examples can be applied to the texts followed to help students consolidate and digest the knowledge.

2) Native speakers' tendency to use modal verbs should be explicitly clarified in class, e.g., native speakers tend to use more personal pronouns (in plural form) and inanimate subject before the modal verbs while verbs with markup of tense and aspect after the modal verbs; they prefer to use stative verbs to convey speakers' assessment on the proposition. Meanwhile, a variety of sentence patterns of modal sequences should be consciously practiced both in and after class with reference to how they are used by native speakers.

3) To develop students' sensitivity to modal verbs with high automaticity, examples of epistemic modal verbs that native speakers tend to use should be consciously presented both in and after class, particularly in their language output practices like argumentation writing.

4) The proper pragmatic meaning of modal verbs, the basic value view and social philosophy of Anglo-American Culture involved as well as the differences in cultural tradition and value between East and West should be underlined in English modal verbs teaching. On the other hand, the students should be given more chances of self-discussing and analyzing the modal verbs' contexts as well as their social and cultural implications.

On the basis of the previous studies, this research attempts to further probe into the relationship between Chinese English majors' tendency to use modal sequences and their college campus time. The results suggest that students' tendency to use modal verbs is not related to their college campus time, and their tendency to use epistemic and deontic modality are not related to their college campus time, either. It is expected that the findings of the study would shed some light on how Chinese students acquire modal verbs and provide helpful implications for the teaching of modal verbs, oral English and writing.

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