

The Acquisition of Mandarin Modal Verbs by English Speakers*

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Abstract—This article aims to investigate the acquisition of Chinese modals by native English speakers based on the production materials in written discourse. The results show that the functional category is accessible to the L2 learners. Their knowledge of the semantic properties of the modals is impaired, as exemplified by the errors: omission, redundancy, word order and misuse. The finding is in conformity with the Interface Hypothesis (Tsimpli & Sorace, 2006). Finally, the article explores the implications of this study for teaching Chinese as a foreign language.

Index Terms—mandarin modal verbs, second language, English speakers

I. INTRODUCTION

The extensive studies reveal that modality is difficult for both first and second language learners to master (Bloor & Bloor, 1991; Holmes, 1988). The reasons for the well-observed phenomenon are two-fold. To begin with, many modals are polysemous, that is, they can simultaneously convey different clusters of meanings. Take the Chinese modal Hui for example, it can express a range of different meanings: ability, disposition, futurity, generic modality and epistemic modality (Tsai, 2015). On the other hand, an interesting fact is that above-mentioned modal meaning can be expressed by many different modal verbs.

The present study will examine the acquisition of the Chinese modal verbs by English speakers by analyzing the errors committed in their compositions. The results lead to the conclusion that the universal grammar is accessible to the L2 acquisition and the interface knowledge of the L2 learners is severely impaired.

II. LITERATURE REVIEW

A. *The Modal Verbs in Chinese and English*

There are two approaches for the syntactic study of Chinese modal verbs. The first one regards the modals as verbs (Hu, 2015; Lin & Tang, 1995). Lin & Tang (1995) claim that modals take a CP as complement and that epistemic modals, obligation *yīnggāi*, and permission *keyi* are raising verbs, while other root modals are control verbs. Hu (2015) proposes that epistemic and deontic modal verbs are one-place raising verbs which take one event argument and could occur in the sentence initial position. The dynamic modal verbs are two-place control verbs, which take one event argument and an agent argument. According to Hu (2015), the two kinds of verbs are different from each other with respect to argument structure, semantic restriction, negation and passivation.

The second one is called the cartographic approach, which assumes that the modal verbs are functional head, to be specific, the head of modal phase (MP). Tsai(2015) proposes a three-layer analysis of Chinese modal projections following Rizzi (1997). Epistemic modality is located on the complementizer layer, deontic modality on the inflectional layer, and dynamic modality on the lexical layer, as illustrated in (1).

(1) MP_{epistemic} > IP > MP_{deontic} > vP > MP_{dynamic} > VP

Epistemic modals are related to the information structure in the left edge area. They are discourse-oriented, because they deal with the speakers' commitment to the truth of proposition. The deontic modals are related to the event structure encoded by IP. They concerned with the necessity or possibility of the acts performed by the subject, thus, they are subject-oriented. Finally, dynamic modals are related to the argument structure. As a consequence, they are essentially agent-oriented, because they deal with the ability or willingness of the agent in the argument structure.

In Standard English, modal auxiliaries include *might, must, may, can, could, will, would, should, ought (to)*, etc. (see Palmer (1990) and Coates (1983) for detailed discussion). One of the hot debates concerning the English Modality is how to split the epistemic modals and the root modals. The epistemic modality concerns the speakers' judgments on actual or possible situations in the world; root modality deals with the relation between a subject and a predicate.

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There are various accounts for the epistemic/root distinction. The first approach is syntactic in nature. Picallo (1990) suggests epistemics are encoded in the IP level, and roots, somewhere within the VP. McDowell (1987) claims that epistemics appears in C in LF and roots in VP. The second analysis believes that the distinction is lexical in nature. Ross (1969) claims that epistemics are one-place predicates, resembling raising verbs, while roots are two-place predicates, in resemblance with control verbs. The third approach concerns the semantic/pragmatic component of grammar. Some researchers proposed that the distinction is in the semantic/pragmatic component (Kratzer, 1977, 1981, 1991; Papafragou, 1998). Butler (2003) proposed an explanation of the syntactic and semantic behavior of the English modals from the perspective of the syntax–semantics interface. The epistemic modal is encoded in the CP phrase, and the root modal in the vP phrase.

One of the crucial differences between the Chinese and English modals lies in the interaction between negation and modal verbs. In English all the modal verbs precede the negation, in Chinese the opposite holds.

B. The Acquisition of Chinese Modals by English Learners

There are extensive studies concerning the acquisition of Chinese modal verbs by English speakers. Based on large amount of production materials, Tong (1986) classified the errors into 3 categories, namely the misuse, the omission and semantic errors. Chen (2002) focuses on two modal verbs *Neng* and *Hui*. The study indicates the semantic overlapping gives rise to the errors committed by the learners. Lai (2006) addressed the same question from the perspective of functional grammar, and arrived at the conclusion that the negative first language transfer is the root of the various errors.

To date, there is no research conducted in the framework of universal grammar, which is very influential in the second language acquisition. Most of the aforementioned studies are summary of the errors of the learners, however, there is no in-depth discussion of the root of the errors.

C. The Theories Accounting for the Modal Acquisition

Gregg (1993) pointed out the scientific study of second language acquisition (SLA) needs to address two basic questions: what is the knowledge of the L2 learner and how is that knowledge obtained? Therefore, an ideal learnability model for adult SLA should be established aiming to account for both the two aspects. The theory of Universal Grammar (UG) is the only well-developed theory of language, which can explain the knowledge possessed by the L2 learners and how the ultimate attainment is obtained.

One of the hot debates in generative SLA concerns the extent to which the process of acquiring a non-native language resembles first language acquisition. There are two opposing positions on the access of UG in L2 acquisition. The no UG access hypothesis argues for the availability of UG only in L1 acquisition. The UG access hypothesis maintains that the UG is operative in both first and second language acquisition.

There is ample evidence supporting the fact that the final attainment of L2 is different from that of L1. Sorace (2006) proposes the Interface Hypothesis accounting for the selective impairment of the L2 learners' knowledge. She argues that structures which require the combination of syntactic component with other grammatical domains are more complex than structures which involve syntactic component alone. More recently, Sorace (2011) established a distinction between internal interfaces and external interfaces. The former are usually acquired with ease, on the other hand, the latter usually imposes great difficulty to the L2 learners.

According to the previous studies, Chinese modal verbs are functional categories, which head the modal phrase. On the other hand, according to Kratzer (1977), both epistemic and root interpreted modals express either some kind of necessity or some kind of possibility relating to the proposition P / predicate p they operate over. In sum, the modal verbs involve the interface between the syntax and semantics/pragmatics, which may impose great difficulty to the L2 learners, according to the Interface hypothesis.

III. THE RESEARCH DESIGN

The present study aims to explore the error types of Chinese modality in English learners' written discourse. This was achieved through a learner interlanguage corpus comprised of the learners' writing. The subjects are 25 in total. All the learners are native English speakers, who have learned Chinese more than 2 years in China. The corpus is comprised of 125 compositions, each of which are more than 150 characters. The study specifically examined the errors of the modal devices used to express the concept of modality.

The study was guided by the following two research questions:

1. What are the errors committed by the English CFL learners when they aim to express the concept of modality?
2. What are the reasons for the errors?

IV. RESULTS AND DISCUSSION

A. Omission of the Modals

The first error type is the omission of the obligatory epistemic modals, as illustrated in (2). (2a) is intended to express the proposition that “I think it will rain tomorrow”. However the meaning conveyed by (2a) is a statement that “It rains tomorrow” owing to the lack of the necessary epistemic modal “*Hui*” or “*Yao*”. (2b) and (2c) both are unacceptable because the omission of the epistemic modals.

(2) a **Jintian de tianqi bu hao, wo xiang mingtian xiayu.*

Today De weather not good, I think tomorrow Rain
Today it is bad, I hope it rains tomorrow.

Intended meaning: Today it is bad, I think it will rain tomorrow.

b **Zuijin Tianqi zongshi bu hao, Dao shenmeshihou tianqi hao?*
Lately weather always not good till when weather good
Lately it is always bad, when is it good.

Intended meaning: Lately it is always bad, when will it get better?

c **Zai zhongguo, ruguo bu hui shuo hanyu,*
In China if not can speak Chinese
ni dao nali juede hen kunnan.
you be everywhere feel very difficult

In China, if you cannot speak Chinese, you feel very awkward everywhere.

Intended: In china, if you cannot speak Chinese, you will feel very awkward everywhere.

The second is the omission of the necessary deontic modals. (3a) is intended to ask for permission, in which the deontic modal “*neng*” or “*keyi*” are required. Without the modal, the sentence is a question to ask for the statement is true or false. (3b) is aimed to express the obligation. Because of the omission of the modal, the sentence is unacceptable to the native speakers. (3c) and (3d) are both illicit due to the lack of the indispensable deontic modals.

(3) a **Wo yong nide qiche ma?*

I use your car Q
I use your car?

Intended meaning: can I use your car?

b **Women dou juede bangzhu ta.*
We quantifier think help him.

We all think that we help him.

Intended meaning: we all think that we should help him.

c **Kaoshi de shihou renzhen jiancha.*

Exam RC marker time carefully check.

We check the answer carefully in the examination.

Intended meaning: we should check the answer carefully in the examination.

d **Fumu bensen jiushi yimianjingzi, suoyi yishenzuoze.*

Parents themselves are a mirror so make themselves an example

Parents is like a mirror, so they make themselves an example

Intended meaning: Parents is like a mirror, so they should make themselves an example

The third type is the omission of the dynamic modals, exemplified in (4)

(4) **Wo xihuan shuo zhongwen, keshi wo zhi shuo yidianer.*

I like speaking Chinese but I only speak a little

I like speaking Chinese, but I only speak a little.

Intended meaning: I like speaking Chinese, but I can only speak a little.

(4) is intended to convey the meaning that my spoken Chinese is limited, in other words, the sentence is about the ability of speaking Chinese. Without the dynamic modal, the sentence is a statement that I speak little Chinese, probably not because of the limited spoken ability.

As previously discussed, the modals are the functional category. Do the aforementioned errors lead support to the global impairment hypothesis (Meisel, 1997), according to which L2 is fundamentally different from L2, and in L2 there is no functional category. Seemingly the data discussed above can support this hypothesis. Nevertheless, further examination indicates that the hypothesis cannot hold water. For example, although (2c) is illicit, it does contain a dynamic modal “*hui*”. The evidence in next section can also prove that in L2, the modals are abundant. We assume that the omission of the obligatory modals is due to the fact that the L2 learners are conservative. When they are uncertain of the knowledge of the modal verbs, they tend to omit them.

B. The Redundancy

The redundancy refers to the situation that the modals are used in the position where they are prohibited. In other words, the use of the modals renders the sentence illicit. Examples of the redundancy of the modals are listed in (5).

- (5) a Dao sansui qian, Ta hai mei qu youeryuan, nashi,
to three years before he still not be kindergarden that time
ta cong nali yao xiqu suo xuyao de jingyan.
He from where will learn SUO need De experience
*He did not go to school until 3 years old, then where did he will get the experience?
Intended meaning: He did not go to school until 3 years old, then where did he get the experience?
- b Keshi women zong yao dei chifan.
But we always will must eat.
*But we will must eat something.
Intended meaning: But we must eat something.
- c Buguan xianzai duofu de guojia, gan kending you zheyangde jingyan.
No matter now how rich DE country, dare must have this experience
*No matter how rich the country is, there dare must be such experience.
Intended meaning: No matter how rich the country is, there must be such experience.
- d Shi ta rang wo you yigu yao qiangda de xinxin
Is he let I have a will strong De confidence
qu miandui weilai de yiqie zhangai.
go face future De all obstacles.
*It is him who made me dare strongly confident to face all the obstacles in the future.
Intended meaning: It is him who made me strongly confident to face all the obstacles in the future.

In (5a) the dynamic modal “*Yao*” is unnecessary, because the sentence is intended to convey a proposition that *he cannot get the necessary experience*. With the addition of “*yao*”, the sentence is ungrammatical because the meaning of the sentence is that *he is willing to get the necessary experience*. In (5b), the dynamic modal “*yao*” renders the sentence illicit because in the sentence there is a deontic modal “*dei*”, which is incompatible in meaning with the dynamic modal. In (5c) the dynamic modal “*gan*” should be deleted because the sentence is not about whether the subject has the courage to do something. (5d) is unacceptable because of the dynamic “*yao*”, which should be deleted.

The errors of redundancy can indicate that the functional category is accessible to our L2 learners. They make errors because their knowledge of specific semantic properties of the modals is impaired, which is in conformity with prediction of the Interface Hypothesis (Tsimplici & Sorace, 2006). According to IH, a particular linguistic structure must meet the requirements set by more than one modules of the grammar, in which syntax-semantics, syntax-morphology and phonology-morphology are internal interfaces in the grammatical system. This kind of interface knowledge is difficult to the L2 learners, while the syntactic knowledge is relatively less demanding.

C. Word Order Errors

The word order errors refer to the situation in which the modals are positioned to the wrong places in the sentences. The first type of error is related to the VP adverbs as illustrated in (6). In (6) all the adverbs are VP adverbs, which are within the VP; and the modals are epistemic modals “*hui*” in (6a), deontic modals “*keyi*” in (6b) and deontic modals “*yao*”. According to Tsai (2010), epistemic and deontic modals are higher than the VP structurally. Therefore linearly the modals should precede the VP adverbs.

- (6) a* Wo tingshuo hanyu hennan, mei xiangdao zheme hui nan.
I hear Chinese difficult not think so will difficult
Intended meaning: I heard that Chinese is difficult to learn, however to my surprise, it is so difficult.
- b* Women bijiao rongyi keyi gen zhongguoren liaotian.
We rather easy can with Chinese chat
Intended meaning: we can chat with Chinese with less difficulty.
- c* Fumu yu zinv hui biancheng haopengyou, xianghu yao lijie.
Parents with children will become friends each other should forgive
Intended meaning: parents and children can be friends, they should forgive each other.

The second type of errors is related to the negation word. In Chinese, the negation words always precede the modal verbs. In (7) the dynamic modal “*ken*” and “*neng*” precede the negation word “*bu*” and “*mei*”, therefore they are both unacceptable to the native speakers. We assume that probably the mother language transfer give rise to this kind of errors because in English the modal verbs are higher than the negation word structurally. Because of the negative L1 transfer, the L2 Chinese learners wrongly assume that in Chinese the same word order is true.

- (7) a* Wode meimei zongshi gen bu shuo hanyu.

My sister always will not speak Chinese

Intended meaning: my sister is always unwilling to speak Chinese.

b* Laoshi neng mei xiuxi.

Teacher can not rest.

Intended meaning: the teacher cannot have had a rest.

The third word order error is related to the subject, as the case in (8). In (8), the deontic word “yinggai” should not be placed to the position before the subject. The deontic modals are TP-internal, and the subject occupies the [Spec, TP], therefore linearly the subject should precede the subject. This error happens probably because the L2 learners’ knowledge about the position of the deontic modals is impaired. However there is a second possibility that the L2 learners mistakenly hold that the deontic modal “yinggai” in (8) are epistemic modals, which are superior to the subject structurally.

(8) * Weile jiankang, yinggai wo yundong.

For health should I do sport

Intended meaning: we should do sport for the sake of health.

D. Misuse

The misuse errors are made when the context require the use of a modal, the L2 learners replace it with another modal with similar semantic properties. However to the native-speakers the substitution runs counter to the grammatical rules. The first error concerns the use of “yinggai” in (9). In (9a) the deontic modal “keyi” should be replaced with the epistemic modal “yinggai”, because the former is incompatible with the dynamic modal “neng” in meaning. The modals “yinggai” in (9b) should be changed to “keneng”, because only the latter can be used to convey a negative prediction. (9c) is ungrammatical because the deontic modal “yinggai” indicates that the event has not happened, however the verb particle “Le” in the sentence suggests that the event has happened in the past.

(9) a* Wo 21 sui, suoyi keyi neng hejiu le.

I 21 age, so may can drink alcohol Perf.

Intended meaning: I am 21, therefore I can have alcoholic drink.

b* Ruguo bu liaojie, jiehun hou yingai fasheng maodu.

If not know marriage after should happen conflict

Intended meaning: If you do not have a good knowledge (of something important), it is likely that some conflict will arise after marriage.

c* Zuo lvxing baogao de shihou,

Do travel report DE time,

ta yinggai gei women kan le ta pai de zhaopian.

he should for us see perf he take De photos.

Intended meaning: When doing the report, he should have made us see the photos he took.

The second misuse is exemplified by the two modals “hui” and “neng”.

(10) a* Wo jintian bixu ba zheben shu kan wan, napa bu hui shuijiao.

I today must BA this book look over even not can sleep.

Intended meaning: I must finish this book today, even though I cannot sleep.

b* Ta bu neng youyong, Yiqian mei xueguo.

He not can swim before not learn

Intended meaning: he can not swim, because he has not learned before.

c* Zhehe wenti zhende hennan,

This question really difficult

bieshuo xuesheng bu neng zuo, jishi laoshi ye bu neng zuo.

Let alone student not can do even teacher too not can do

Intended meaning: This question is really difficult. The student can not solve it, even the teacher can not either.

Both of the two dynamic modals can mean the ability. Nevertheless there are subtle differences between them. The dynamic “hui” means the ability which is learned through training and learning after birth. The dynamic “neng” means different kinds of abilities: inherent ability, learned ability, the recovered ability. With this difference in mind, we can easily detect the errors in (10). In (10a) the modal should be replaced with “neng”, because the context requires a modal which expresses the situation in which the objective condition make somebody cannot do something. The “neng” in (10b) and (10c) should be replaced with “hui”, because the latter is more appropriately employed to mean the learned ability.

E. General Discussion

In sum, the aforementioned findings can lead to the conclusion that the functional category modal is accessible

to the L2 learners. Although the L2 learners omit the obligatory modals in some cases, they do produce sentences which include modals. Thus the findings do not support the global impairment hypothesis (Meisel, 1997). However the L2 learners' knowledge of the category modal is not perfect, as illustrated by the omission of the obligatory modals, the wrong word order with other functional category, such as Tense and negation. The most prominent error is related to their impaired knowledge about the semantic features of the modals, as exemplified by the misuse and redundancy. The second finding can be accounted for by the Interface Hypothesis (Tsimpli & Sorace, 2006). According to IH, it is not the syntax per se but the interface knowledge that is impaired.

Another finding is that the first language hinders the acquisition of the word order of modals. In English the modals always precede the negation words, in Chinese the opposite is true. The negative transfer is an important factor to the L2 learning.

The findings are instructive for teaching Chinese as a foreign language. When teaching Chinese modals, the teacher should put emphasis on the semantic properties of the specific modal verbs. At the same time, the teacher should raise the learners' awareness about the syntactic differences of modals between the two languages, especially the structural order.

V. CONCLUSION

The main finding presented in this paper is that Chinese modal verbs impose great difficulty to the L2 learners. The errors include omission, redundancy, word order, misuse. Given the fact that the modal are head of functional category, it naturally follows that the functional head is operative in the L2 acquisition. On the other hand, most of the errors of the L2 learner in present study are the manifestation of the interface knowledge impairment, which gives support to the IH (Sorace, 2006). Theoretically, the results bear on the claim that the IH is universal constraints regulating the L2 build-up. In practice, the study has implications for teaching Chinese as a foreign language.

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