

Article

## “Can,” “Could,” or “May” in Chinese? A Usage-based Perspective Gleaned from Diachronic Corpus Analysis

**Lihong Huang**

Georgetown University, USA

### Abstract

This study analyzes four linguistic forms related to modality in Chinese: 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ*. They have overlapping functions and posit great challenges to Chinese as second language (L2) learners. Through examining diachronic corpus data, this study finds that the functions associated with 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ* generally fall into three categories: 能 *néng* indicates agent-oriented modality, 可能 *kěnéng* expresses epistemic modality, and 可以 *kěyǐ* denotes enabling conditions or speaker-oriented modality. The boundaries of these three types of modality overlap; hence, selecting the most appropriate form is challenging for L2 Chinese learners. 可 *kě* requires special treatment due to its unique syntactic features such as its occurrence in passive voice constructions and set phrases. The results of the corpus analysis can help with teaching and learning these four modal words in a more precise way.

### Keywords

Modality, Chinese modal markers, corpus, diachronic development, category

## 1 Introduction

Modality as a semantic category revolves around the notions of ability, desire, possibility, obligation, permission, etc. Modals, although frequently used, pose difficulties even to advanced L2 learners (Tyler, 2012). Not only are modals highly polysemous, the speaker attitude expressed by modals is abstract and situated in a particular social, cultural context. Bybee et al. (1994) propose a diachronic and dynamic approach to modal verbs. They believe modal verbs are best viewed as a set of diachronically developed and related functions. Tapping into both historical and contemporary corpora, this study employs a diachronic methodology, specifically, the framework of modality proposed by Bybee et al. (1994), to investigate the Chinese modals—能 *néng* ‘can, could, may,’ 可能 *kěnéng* ‘can, could, may,’ 可 *kě* ‘can, could, may,’ and 可以 *kěyǐ* ‘can, could, may.’

## 2 Theoretical Background

Much of the research on modality has focused on lexical items, especially modal verbs (Mortelmans, 2007; Sweetser, 1990). Cross-linguistically, lexical modal items are ambiguous between root senses, which concern real-world obligation, permission or ability, and epistemic senses such as probability or possibility (Sweetser, 1990). The modal verb *must* in “John *must* be home” can convey root permission sense, in the context that John’s parent would not let him go out, or epistemic possibility sense, in the context that the speaker saw John’s coat at home (Sweetser, 1990). Sweetser analyzes this root/epistemic polysemy in linguistic modality as a metaphorical extension from the real-world (root) domain to the domain of reasoning (epistemic sense). Whether this extension should be analyzed as metaphoric, metonymic or another process has invited many discussions (see Mortelmans, 2007).

Langacker (1991, 1999) views the process by which expressions pertaining to physical likelihood come to refer to social norms, and to epistemic reasoning as subjectification, i.e., “a shift from a relatively objective construal of some entity to a more subjective one” (1999, p. 297). “John *must* be home” can be construed from a social regulation perspective or from a more subjective reasoning perspective. Langacker’s subjectification approach to modality, although a method of shifting of construal synchronically, is also based on the insights from the historical development of modals. Langacker (1991) points out that in analyzing modals, “a certain amount of diachronic perspective should greatly clarify the synchronic analysis” (p. 269).

Talmy (2000) approaches modality as a syntactic category that corresponds to the semantic category of force dynamics. In other words, linguistic modal items (or modals) are the grammaticalized encodings of the ways that entities “are conceived to interrelate with respect to the exertion of force, resistance to force, the overcoming of such resistance, barriers to the exertion of force and the removal of such barriers” (Talmy, 2000, p. 219). Based on Talmy’s force-dynamic framework, the English modal verbs *can* and *may* in “John *can/may* not leave the house” both express the same force-dynamic configuration (i.e., the root modality) in which the main force, the subject’s tendency toward the action expressed by the verb, is blocked by an opposing force. The difference between *can* and *may* lies in the opposing force. Specifically, the opposing force associated with *can* is “some factor,” while the opposing force linked to *may* is limited to “an authority” (Talmy, 2000, p. 441).

Furthermore, many studies exploring polysemous linguistic items have taken a diachronic approach (e.g., Amaral, 2006; Chen, 2017; Jansegers & Gries, 2020). As Bybee et al. (1994) note, “it may be impossible to come up with a succinct characterization of the notional domain of modality and the part of it that is expressed grammatically” (p. 176) from a synchronic perspective. Bybee et al.’s (1994) framework of modality emphasizes the types of modality and categorizes expressions into different types of modality. The following three types of modality are relevant to this study:

- Agent-oriented modality: “Agent-oriented modality reports the existence of internal and external conditions on an agent with respect to the completion of the action expressed in the main predicate.”
- Speaker-oriented modality: Speaker-oriented modality informs a speaker’s attitude or evaluation about the existence of enabling conditions with regard to a particular situation described in the context, including “directives as well as utterances in which the speaker grants the addressee permission.”
- Epistemic modality: “Epistemic modality applies to assertions and indicates the extent to which the speaker is committed to the truth of the proposition.”

(Adapted from Bybee et al., 1994, pp. 177-179)

Note that Bybee et al.’s definition of speaker-oriented modality is expanded in this paper to cover more situations that can be categorized into this type in Chinese. The diachronic perspective is represented by

the development paths of modalities in Bybee et al.’s framework. Related to this study are the following development paths.

Diagram 1

*Paths of Development for Modalities (Adapted from Bybee et al., 1994)*

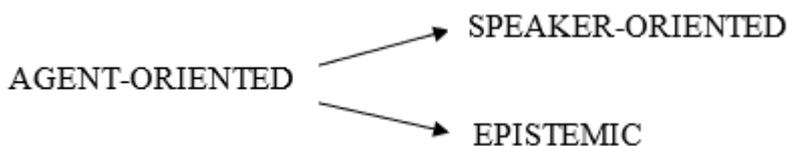
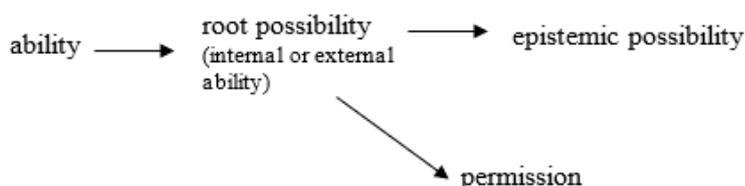


Diagram 2

*The Path of Development from Ability (Adapted from Bybee et al., 1994)*



Bybee et al. propose that agent-oriented modality generally is at the early stage of grammaticalization, while speaker-oriented modality and epistemic modality are generally at later stages of diachronic development or are more grammaticalized (Diagram 1). For example, it is observed in different languages that words signaling agent-oriented “ability” sense generalize to root possibility (i.e., internal or external ability), and subsequently extend to express “epistemic possibility” sense and speaker-oriented “permission” sense (Diagram 2). These development paths are generalizations of Bybee et al.’s study of world languages, and are used as a reference for the current study. This study’s findings on Chinese modality may further verify these proposed development paths or modify them to reflect the specific features of Chinese.

### 3 Chinese Modal Verbs

The aforementioned pioneering works have inspired many cognitive linguistics (CL)-based studies on modals in other languages like French, German and Spanish. Chinese modals have also received considerable attention. For instance, Yao (2020) analyzed the Chinese modal verb 会 *huì* ‘will’ using three models: the force-dynamic model, psychological space model, and dynamic evolutionary model. Zhang (2011) compared the Chinese modal verb 必 *bì* ‘must’ and the English modal verb *must*. Li’s (2003) dissertation offered a comprehensive typological comparison of modality in English and Chinese. Wang (2018) conducted a cognitive-pragmatic study of two modal verbs of possibility, 可以 *kěyǐ* and 能 *néng*, in conversational Taiwan Mandarin. Meisterernst (2008) focused on 可 *kě* and 可以 *kěyǐ* in Han-period Chinese. Yang (2020) tried to explain the order of co-occurrence of Chinese modal verbs, such as (应) 该可以 (*yīng*)*gāi* *kěyǐ* ‘should be able to’ and 会要 *huì* *yào* ‘will want,’ from a cognitive linguistics perspective. These previous studies have enriched our understanding of modality in Chinese. However, it is still rare to find research that focuses specifically on the challenging modals in Chinese as a second or foreign language (CFL) classrooms and can offer finding to inform pedagogical grammar.

A widely adopted Chinese as a second language (L2) textbook in the United States, *Integrated Chinese* (Liu et al., 2017), lists both 可以 *kěyǐ* and 可能 *kěnéng* as modal verbs with similar glosses ‘can, may’ for 可以 *kěyǐ* and ‘may’ for 可能 *kěnéng*. Inappropriate or incorrect uses of these modals, therefore,

are frequently observed in L2 Chinese learners' oral and written productions. For example, in cases where 可以 *kěyǐ* should be used, learners often misuse 可能 *kěnéng*, and vice versa, as illustrated in the examples below.

(1) ?a. 你 **可能** 从生活中学很多东西, 当然你还 **可能** 从书上和在学校里学到知识。

Nǐ **kěnéng** cóng shēnghuó zhōng xué hěnduō dōngxī, dāngrán nǐ hái **kěnéng**  
you **may** from life middle study many things, of course you also **may**  
cóng shū shàng hé zài xuéxiào lǐ xué dào zhīshi.  
from book on and be school in study arrive knowledge.

'You **can** learn many things from life, and of course you **can** also acquire a lot of knowledge from books and at school.'

\*b. 你游泳的时候可以死。

Nǐ yóuyǒng de shíhòu **kěyǐ** sǐ.  
You swim of when **can** die.  
'You **may** die while swimming.'

Without appropriate pedagogical grammar, L2 learners will not be able to use these Chinese modals correctly based on the English glosses that are also highly polysemous themselves. There is a pressing need for research that can inform pedagogical grammar on modality in Chinese. Armed with theoretical advances in the domain of modality, this study focuses on four modal items in Chinese: 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ*.

## 4 Literature Review on 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ*

This section reviews the discussions on 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ* in three important books by Wang (1957/2018), Lü (1980/1999), and Li and Thompson (1981). Wang (1957/2018) focuses on the functions of 能 *néng*, 可 *kě*, and 可 - 以 *kě-yǐ* in ancient times (pre-Qin period, i.e., before 221 BCE). Lü (1980/1999) analyzes the meanings and syntactic features of the four modal markers in modern Chinese. Li and Thompson (1981) direct more attention to discussing the status of 可能 *kěnéng*, i.e., whether 可能 *kěnéng* should be classified as a modal verb. It is not controversial that 可 *kě* and 可以 *kěyǐ* can function as a modal verb. The modal verb status of 能 *néng* and 可能 *kěnéng* has been challenged by the fact that 能 *néng* and 可能 *kěnéng* can be modified by intensifiers or adverbs, such as 很 *hěn* 'very,' in certain situations. The discussion in this session will give an overview on how these four modal forms serve different syntactic roles and semantic functions in the Chinese language.

### 4.1 Wang Li (1957/2018)

Wang (1957/2018) focuses on the early uses of 能 *néng*, 可 *kě*, and 可 - 以 *kě-yǐ*. He notes that 能 *néng* originally is a verb which can take an object. Consider the following example.

(2) 非曰能之, 愿学焉。 (《论语·先进》)

Fēi yuē **néng** zhī, yuàn xué yān.  
not say **be capable of** it/them, willing study YAN.

'I do not say that I **am capable of** handling them, but I am willing to learn.'

In example (2), 能 *néng* is a verb taking an object expressed by the pronoun 之 *zhī* 'it, them.' 能 *néng* as a verb has the sense of 'to be capable; to have the ability to do something.'

Wang points out that 能 *néng* can also be used as a modal verb, as shown in example (3).

## (3) 事父母，能竭其力；事君，能致其身（《论语·学而》）

Shì fùmǔ, néng jié qí lì; shì jūn, néng zhì qí shēn  
 serve parents, **can** exhaust his/her strength; serve ruler, **can** devote his/her body

‘If, in serving his parents, he **can** exert his utmost strength; if, in serving his prince, he **can** devote his life.’ (English translation by James Legge)

In example (3), 能 *néng* appearing before the verbs 竭 *jié* ‘exhaust’ and 致 *zhì* ‘devote’ has the sense of ‘can.’ Wang further claims that in pre-Qin classical texts, the concept of ‘possibility’ is often expressed by 能 *néng* or 可 *kě*. Specifically, 能 *néng* expresses the ‘possibility’ enabled by ability. Unlike 能 *néng*, when 可 *kě* denotes the sense of ‘possibility,’ it generally appears in a passive voice construction, as illustrated in examples (4) and (5).

## (4) 道不可闻，闻而非也；道不可见，见而非也；道不可言，言而非也。（《庄子·外篇·知北游》）

Dào bù kě wén, wén ér fēi yě; dào bù kě jiàn, jiàn ér fēi yě;

Dao not **can** hear, hear ER not YE; Dao not **can** see, see ER not YE;

Dào bù kě yán, yán ér fēi yě.

Dao not **can** speak, speak ER not YE.

‘The Dao **cannot** be heard; what can be heard is not It. The Dao **cannot** be seen; what can be seen is not It. The Dao **cannot** be expressed in words; what can be expressed in words is not It.’ (English translation by James Legge)

## (5) 锲而不舍，金石可镂。（《荀子·劝学》）

Qiè ér bù shě, jīn shí kě lòu.

carve and not give up, metal stone **can** engrave.

‘If one carves without stop, even metal and stone **can** be engraved.’

According to Wang, the expression 可 - 以 *kě-yǐ* in classical texts is different from the disyllabic modal verb 可以 *kěyǐ* ‘can’ in modern Chinese. In classical grammar, 可 - 以 *kě-yǐ*, as illustrated in example (6), is a combination of two words 可 *kě* ‘can’ and 以 *yǐ* ‘to use.’

## (6) 良弓难张，然可以及高入深；良马难乘，然可以任重致远。（《墨子·亲士》）

Liáng gōng nán zhāng, rán kě yǐ jí gāo rù shēn;

good bow hard stretch, but **can use** reach high enter deep;

liáng mǎ nán chéng, rán kě yǐ rèn zhòng zhì yuǎn.

Good horse hard ride, but **can use** bear heavy reach far.

‘Good bows may be hard to draw, but one **can use** them to reach great heights and pierce deeply.

Fine horses may be hard to ride, yet one **can use** them to carry heavy burdens and make long journeys.’

Note that in Chinese, the object of a sentence can be moved to the sentence initial position to be treated as the topic of the sentence and to form a topic-comment structure. In (6), 良弓 *liáng gōng* ‘good bow’ is the topic of the first sentence, which is also the object of the second clause in the first sentence. Similarly, 良马 *liáng mǎ* ‘good horse’ is the topic of the second sentence, which is also the object of the second clause in the second sentence.

Wang further notes that there are two differences between 可 *kě* ‘can’ and 可 - 以 *kě-yǐ* ‘can use something.’ First, the verb after 可 *kě* ‘can’ appears in passive voice, whereas the verb following 可 - 以 *kě-yǐ* exists in active voice. Second, the verb after 可 *kě* ‘can’ cannot take an object, whereas the verb after 可 - 以 *kě-yǐ* ‘can use something’ often takes an object. It can be seen that the two descriptions are

related. In a passive voice sentence, the receiver of an action, which usually is the object in an active voice sentence, becomes the subject. Thus, if the verb after 可 *kě* ‘can’ is in passive voice, there is no object after the verb. Likewise, in active voice, it is common for the verb to take an object. Therefore, if the verb following 可 - 以 *kě-yǐ* ‘can use something’ is in active voice, an object can be expected.

In Wang’s analysis, the distinctions among 能 *néng* ‘can,’ 可 *kě* ‘can,’ and 可 - 以 *kě-yǐ* ‘can use something’ were clear-cut and strict in pre-Qin ancient times, with 能 *néng* ‘can’ for active voice, 可 *kě* ‘can’ for passive voice, and 可 - 以 *kě-yǐ* ‘can use something’ representing a combination of a modal verb and a verb. However, the functions of these three linguistic forms gradually became mixed together as the language evolved. According to Wang, the modal verb 可 以 *kěyǐ* ‘can’ in modern Chinese was developed later from the construction of 可 - 以 *kě-yǐ* ‘can use something.’

#### 4.2 Lü Shuxiang (1980/1999)

According to Lü (1980/1999), 可 *kě* ‘can’ as a modal verb has two functions—expressing ‘permission’ or ‘possibility,’ as shown in (7a) and (7b), and conveying the sense of ‘worthiness,’ as shown in (7c).

(7) a. 不可分割

bù-kě-fēn-gē,

not-**can**-divide-cut

‘cannot be divided; inseparable’

b. 可去可不去

kě qù kě bú qù

**can** go **can** not go

‘**can** go or not’

c. 北京可游览的地方不少。

Běijīng kě yóulǎn de dìfāng bù shǎo.

Beijing **can** visit NOM place not few.

‘There are many places to visit in Beijing.’ / ‘There are many places that one **can** visit in Beijing.’

Lü claims that when expressing the sense of ‘permission’ or ‘possibility,’ the modal verb 可 *kě* ‘can’ is the same as the modal verb 可以 *kěyǐ* ‘can.’ However, the monosyllabic modal verb 可 *kě* ‘can’ is mostly used in formal written language, e.g., (7a). When 可 *kě* ‘can’ is used in spoken language, it only exists in an antithetical construction, e.g., (7b). Moreover, as shown in (7c), 可 *kě* ‘can’ in the sense of ‘worthiness’ must exist in a “可 *kě* + verb + 的 *de*” construction that modifies a noun or in the function of nominalization. Note that in addition to the modal verb function, 可 *kě* has other functions, e.g., as an adverb emphasizing the tone or forming a question, or as a conjunction word meaning ‘but, however.’ These functions associated with 可 *kě* are not within the scope of this study and will not be discussed in this paper, although the diachronic development of these functions is worth investigating.

Lü also proposes six senses for the modal verb 能 *néng* ‘can,’ expressing: (8a) ‘having the ability or condition to do something;’ (8b) ‘being good at doing something;’ (8c) ‘having a certain use;’ (8d) ‘possibility;’ (8e) ‘permission in a particular social context;’ (8f) ‘permission in a particular physical context.’ Below are the corresponding examples for the six senses associated with 能 *néng* ‘can.’

(8) a. 他的腿伤好多了，能慢慢走几步了。

Tā de tuǐ shāng hǎo duō le, néng màn man zǒu jǐ bù le.

he GEN leg injury good much CRS, **can** slow slow walk several step CRS.

‘His leg injury is much better, and he **can** walk a few steps slowly.’

- b. 他很**能**团结周围的人。  
 Tā hěn **néng** tuánjié zhōuwéi de rén.  
 he very **can** unite around ASSOC people.  
 ‘He really **can** unite people around him.’
- c. 大蒜**能**杀菌。  
 Dàsuàn **néng** shā jūn.  
 garlic **can** kill bacteria.  
 ‘Garlic **can** kill bacteria.’
- d. 满天星星，**哪能**下雨？  
 Mǎn tiān xīngxīng, nǎ **néng** xià yǔ?  
 full sky star, how **can** rain?  
 ‘How **can** it rain if the sky is full of stars?’
- e. **不能**只考虑个人，要多想集体。  
 Bù **néng** zhǐ kǎolǜ gèrén, yào duō xiǎng jí tǐ.  
 not **can** only consider individual, should more think collective.  
 ‘One **cannot** just think about oneself but should think more about the collective.’
- f. 这条裙子**不能**再紧了，再紧就没法穿了。  
 Zhè tiáo qúnzi bù **néng** zài shòu le, zài shòu jiù méi fǎ chuān le.  
 this CL dress not **can** again tight CRS, again tight then not way wear CRS.  
 ‘The dress **cannot** be tighter anymore, otherwise there is no way to put it on.’  
 (Adapted from Lü, 1980/1999.)

Lü defines 可能 *kěnéng* as an adjective and an adverb. As an adjective, 可能 *kěnéng* ‘possible’ can be used to modify a noun as in (9a). As an adjectival predicate, 可能 *kěnéng* in (9b) conveys the sense of ‘a possibility to become factual.’

- (9) a. 在**可能**的条件下给予照顾。  
 Zài **kěnéng** de tiáojiàn xià jǐyǔ zhàogù.  
 be **possible** NOM condition under provide care.  
 ‘Provide care under **possible** conditions.’
- b. 他临时改变计划，这完全**可能**。  
 Tā línshí gǎibiàn jìhuà, zhè wánquán **kěnéng**.  
 he ad hoc change plan, this completely **possible**.  
 ‘It is entirely **possible** that he changed his plan suddenly.’  
 (Adapted from Lü, 1980/1999.)

When 可能 *kěnéng* is used as an adverb, it expresses ‘reckoning’ or ‘possibility.’ Consider examples in (10):

- (10) a. 他**可能**知道这事儿。  
 Tā **kěnéng** zhīdào zhè shìer.  
 he **probably** know this thing.  
 ‘He **may** know this.’ / ‘It’s **likely** that he knows this.’
- b. 我想他**可能**会同意的。  
 Wǒ xiǎng tā **kěnéng** huì tóngyì de.  
 I think he **probably** will agree DE.

‘I think he **might** agree.’ / ‘I think he **probably** will agree.’

(的 *de* in this sentence is used to add emphasis.)

c. 可能大家还记得这件事。

**Kěnéng** dàjiā hái jìdé zhè jiàn shì.

**probably** everyone still remember this CL thing.

‘**Maybe** everyone still remembers this.’

(Adapted from Lü, 1980/1999.)

Note that according to Lü, 可能 *kěnéng* in (10a) is an adverb; however, it also behaves like a modal verb ‘may, might,’ as Chinese modal verbs and adverbs both typically appear before the verb. This issue is not discussed in Lü’s book. Nevertheless, 可能 *kěnéng* in (10c) cannot be a modal verb because it precedes the subject 大家 *dàjiā* ‘everyone,’ which is a position only works for adverbs. The situation in which 可能 *kěnéng* appears right before the modal verb 会 *huì* ‘will’ in (10b), syntactically speaking, can only be analyzed as an adverb as well.

### 4.3 Charles N. Li and Sandra A. Thompson (1981)

To Li and Thompson (1981), 能 *néng* and 可以 *kěyǐ* are modal verbs. Both 能 *néng* and 可以 *kěyǐ* can convey the sense of ‘be able to,’ but 可以 *kěyǐ* can also express the idea of ‘has permission to’ or ‘may.’

Regarding whether we should treat 可能 *kěnéng* in example (10a) as a modal verb, Li and Thompson (1981) offer three reasons why it cannot be classified as a modal verb. First, 可能 *kěnéng* can be modified by intensifiers, such as 很 *hěn* ‘very,’ as in (11).

(11) 他很可能知道这事儿。

Tā **hěn** kěnéng zhīdào zhè shìer.

he **very** possible/probably know this thing.

‘It’s **very** likely that he knows this.’

\*‘He **very** may know this.’

Li and Thompson believe that auxiliary verbs or modal verbs such as English *may* or *will* cannot be modified by intensifiers, i.e., adverbs such as 很 *hěn* ‘very’ or 更 *gèng* ‘even more.’ However, Lü thinks that some Chinese modal verbs can be modified by intensifiers or adverbs, as shown in example (8b). This points to the potential syntactic differences between English and Chinese modal verbs.

Secondly, Li and Thompson suggest that 可能 *kěnéng* can be nominalized with 的 *de* to form a noun that occurs after 是 *shì* ‘be,’ but a modal verb cannot. For instance,

(12) a. 那种冲突是可能的。

Nèi zhǒng chōngtū shì **kěnéng** de.

that kind conflict is **possible/probably** NOM.

‘That sort of conflicts is a **likely** one.’

\*b. 那种冲突是能的。

Nèi zhǒng chōngtū shì **néng** de.

that kind conflict is **be capable of/can** NOM.

‘That sort of conflicts is a **likely** one.’

\*c. 那种冲突是可的。

Nèi zhǒng chōngtū shì **kě** de.

that kind conflict is **can** NOM.

‘That sort of conflicts is a **likely** one.’

It is worth noting that when “是 *shì*... 的 *de*” construction is not used to nominalize a phrase but to emphasize a predicate, certain modal verbs can function as the predicate appearing in the “是 *shì*... 的 *de*” construction, as shown in (13).

- (13) 只要你给金鱼喂食，它们是不会同类相残的，但是如果你长时间不给它们喂食，它们是会的。

Zhǐyào nǐ gěi jīnyú wèi shí, tāmen shì bú huì tóng-lèi-xiāng-cán de,  
as long as you give goldfish feed food, they SHI not will be cannibalistic DE,  
dànshì rúguǒ nǐ cháng shíjiān bù gěi tāmen wèi shí, tāmen shì huì de.  
but if you long time not give them feed food, they SHI will DE.

‘As long as you feed the goldfish, they won’t be cannibalistic, but if you don’t feed them for a long time, they **will**.’

The third reason that 可能 *kěnéng* cannot be classified as a modal verb is because 可能 *kěnéng* can occur in a sentence-initial position before the subject, as in (10c). Li and Thompson analyze 可能 *kěnéng* in this case as an adjectival verb that semantically may take a clause as its subject. Thus, sentence (10c) should be understood as ‘It is **likely** that everyone still remembers this.’ In contrast, Lü defines 可能 *kěnéng* in this case as an adverb, and subsequently, sentence (10c) can be interpreted as ‘**Maybe** everyone still remembers this.’

In summary, the previous studies provide important findings on the various functions and syntactic features of the four lexical words used to indicate modality in Chinese. However, there are several unsettled questions in the literature, such as how to classify 可能 *kěnéng*, how to understand the situations in which 能 *néng* and 可能 *kěnéng* can be modified by intensifiers or adverbs, and how to better describe the differences between 能 *néng*, 可 *kě*, and 可以 *kěyǐ*. To address these issues, the current study will closely examine their uses in both historical and contemporary corpora and explore the following research questions.

1. How do we understand the situations in which 能 *néng* and 可能 *kěnéng* can be modified by intensifiers or adverbs?
2. How do we characterize 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ*, so that they can be learned and used more accurately by L2 Chinese learners?

## 5 Data Sources

In terms of data, this study takes a usage-based perspective, i.e., investigating linguistic items through real usage events. A usage event refers to “an actual instance of language use, in all its complexity and specificity” (Langacker, 2008, p. 220). Thus, instead of using made-up data, corpus data are used to invoke evidence from actual language use for linguistic analysis. The *Analects of Confucius*, also known as the *Analects* (论语, r. 480 BCE-350 BCE), is selected as the data set to study the early uses of 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ*, because as a well-known and well-studied ancient text, the meanings of these words are clear, and its content and language have an enduring linguistic and cultural impact. To my knowledge, no studies have focused on the modality in the text of the *Analects*. Since the *Analects* is a small corpus, the four target items were examined in a near-exhaustive fashion. The data for studying the functions of the four target modals in modern Chinese is obtained from the modern Chinese corpus of the Center for Chinese Linguistics (CCL) at Peking University. The CCL corpus is one of the largest corpora of Chinese. It contains 581,794,456 characters. For each of the four target modals, the first token in every 50 tokens in the CCL modern Chinese corpus was examined, and a total of 50 of such tokens were included for analyses.

## 6 Findings

### 6.1 Early uses of 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ*

In this section, all of the English translations of the examples are adopted or adapted from James Legge's translations accessed via Chinese Text Project (<https://ctext.org/>).

#### 6.1.1 Findings on 能 *néng* in the *Analects*

Sixty-nine tokens of 能 *néng* are identified in the text, among which there is one case of 可能 *kěnéng*. In the *Analects*, 能 *néng* is used as a noun meaning 'ability' or 'person with ability,' as a verb denoting 'have the ability to do something' or 'enable somebody to do something,' and as a modal verb meaning 'be able to, can' and highlighting the agent's ability in completing the action expressed by the main verb. Based on Bybee et al.'s (1994) framework of modality, this modal verb function of 能 *néng* belongs to agent-oriented modality. The modal senses represent the most frequently used function of 能 *néng*, with 49 tokens or 71% of the total uses, followed by the verb senses of 能 *néng*, with 11 tokens or 15.9% of the total uses, and the noun senses of 能 *néng*, with 9 tokens or 13% of the total uses. See Table 1 for detailed information.

Table 1

能 *néng* in the *Analects*

		No. of Tokens	Frequency of Use
noun (13%)	'ability'	5	7.2%
	'person with ability'	4	5.8%
verb (15.9%)	'have the ability to do something'	8	11.6%
	'enable somebody to do something'	3	4.3%
modal v. (71%)	'be able to, can'	49	71%

Here are corresponding examples for the senses and functions associated with 能 *néng*.

(14) a. 君子病無能焉 (n. 'ability')

Jūnzǐ bìng wú **néng** yān

moral man worry no **ability** YAN

'The superior man is distressed by his want of **ability**.'

b. 以能問於不能 (n. 'person with ability')

Yǐ **néng** wèn yú **bù néng**

use **person with ability** ask at **person without ability**

'**Gifted with ability**, and yet putting questions to **those who were not so**'

c. 月無忘其所能 (v. 'have the ability to do something')

Yuè wú wàng qí suǒ **néng**

month not forget he/she SUO **has the ability to do**

'[He], from month to month does not forget what he **has the ability to do**.'

d. 知及之，仁不能守之；雖得之，必失之。(v. 'enable somebody to do something')

Zhī jí zhī, rén bù **néng** shǒu zhī;

knowledge attain it/them, virtue not **enable** conserve it/them;

suī dé zhī, bì shī zhī.

although gain it/them, must lose it/them.

‘When a man’s knowledge is sufficient to attain, and his virtue is not sufficient to **enable** him to hold, whatever he may have gained, he will lose again.’

e. 人能弘道，非道弘人。(modal v. ‘be able to, can’, agent-oriented)

Rén **néng** hóng dào, fēi dào hóng rén.

person **can** enlarge Dao, not Dao enlarge person.

‘A man **can** enlarge the principles which he follows; those principles do not enlarge the man.’

Below is the only instance of 可能 *kěnéng* in the *Analects*; however, it is not a single word, but a combination of a modal verb 可 *kě* and a verb 能 *néng*.

(15) 孟莊子之孝也，其他可能也；其不改父之臣，與父之政，是難能也。

Mèng Zhuāng Zǐ zhī xiào yě, qítā **kě néng** yě;

Meng Zhuang Zi of filial piety YE, other **can achieve** YE;

qí bù gǎi fù zhī chén, yǔ fù zhī zhèng, shì nán néng yě.

he/she not change father of minister, and father of government, is hard achieve YE.

‘The filial piety of Meng Zhuang, in other matters, was what other men **can achieve**, but, as seen in his not changing the ministers of his father, nor his father’s mode of government, it is difficult to be attained to.’

No tokens of 可能 *kěnéng* as one word are identified in the *Analects* (r. 480 BCE-350 BCE). To investigate historic uses of 可能 *kěnéng*, I extended the analysis to other historical periods after the *Analects* using the corpus of the Chinese Text Project. In this extended corpus search, no tokens of 可能 *kěnéng* were found in texts from the Wei, Jin and North-South periods (220 CE-589 CE), and only 4 tokens of 可能 *kěnéng* were found in texts from the Sui and Tang periods (581 CE-907 CE). I therefore hypothesize that 可能 *kěnéng* as one word was created much later than 能 *néng*, 可 *kě*, and 可以 *kěyǐ*.

### 6.1.2 Findings on 可 *kě* in the *Analects*

There are over 100 tokens of 可 *kě* found in the *Analects*, which include another target word, 可以 *kěyǐ*. Excluding 可以 *kěyǐ*, which will be studied separately, the first 100 tokens of 可 *kě* are examined. As shown in Table 2, 可 *kě* is mainly used as a modal verb in this particular data set, representing 82% of the total uses of 可 *kě*. As a modal verb, 可 *kě* has the sense of ‘may, can’ focusing on the speaker’s attitude or evaluation about the existence of enabling conditions with regard to a particular situation, i.e., speaker-oriented modality. 可 *kě* in this function often appears in a passive voice sentence (e.g., 16a) or a topic-comment sentence (e.g., 16b).

(16) a. 三年無改於父之道，可謂孝矣。(passive voice sentence)

Sān nián wú gǎi yú fù zhī dào, **kě** wèi xiào yǐ.

three year not change from father of Dao, **can** call filial YI.

‘If for three years he does not alter from the way of his father, he **may** be called filial.’

b. 賜也，始可與言詩已矣！(topic-comment sentence)

Cì yě, shǐ **kě** yǔ yán shī yǐ yǐ!

Ci YE, begin **can** with talk poem already YI!

‘With one like Ci, I **can** begin to talk about the odes.’

Table 2

可 *kě* in the *Analects*

		No. of Tokens	Frequency of Use
modal v. (82%)	passive	67	67%
	active	4	4%
	topic-comment (passive/active)	11	11%
verb (phrase) (18%)	passive	1	1%
	active	17	17%

In the *Analects*, 可 *kě* is also identified as a verb which functions as a predicate and expresses a speaker's attitude or evaluation about a particular situation described in the context. As a predicate, the senses of 可 *kě* depend on context, as shown in (17).

(17) a. 人而無信，不知其可也。(verb)

Rén ér wú xìn, bù zhī qí kě yě.

person if no truthfulness, not know he/she *get on* YE.

'I do not know how a man without truthfulness is to *get on*.'

b. 聖人，吾不得而見之矣；得見君子者，斯可矣。(verb)

Shèngrén, wú bù dé ér jiàn zhī yǐ;

sage, I not get to see him/her YI;

dé jiàn jūnzǐ zhě, sī kě yǐ.

get see moral man ZHE, then **would satisfy me** YI.

'A sage it is not mine to see; could I see a man of real talent and virtue, that **would satisfy me**.'

In certain contexts, the speaker's attitude or evaluation can involve permission, as shown in (18). However, among the 100 tokens of 可 *kě*, only two tokens convey the sense of 'permission,' and both of them are in the form of 不可 *bù kě* '[you] may not do so.'

(18) 顏淵死，門人欲厚葬之，子曰：「不可。」

Yán Yuān sǐ, ménrén yù hòuzàng zhī, Zǐ yuē: "Bù kě."

Yan Yuan die, disciple wish bury with full honours him, Master say: "not may do so."

'When Yan Yuan died, the disciples wished to give him a great funeral, and the Master said,

"[You] may not do so."

### 6.1.3 Findings on 可以 *kěyǐ* in the *Analects*

There are 33 tokens of 可以 *kěyǐ* in the *Analects*, and all of them are modal verbs 'can, may' expressing speaker's attitude or evaluation about the existence of enabling conditions with regard to a particular situation described in the context, i.e., speaker-oriented modality. In contrast with 可 *kě*, which appears mainly in a passive voice construction in modal functions, 可以 *kěyǐ* as a modal verb is more frequently used in an active voice construction (see Table 3).

Table 3

可以 *kěyǐ* in the *Analects*

		No. of Tokens	Frequency of Use
modal v. (100%)	passive	7	21.2%
	active	26	78.8%

Here are examples of 可以 *kěyǐ* in an active voice sentence and a passive voice sentence respectively.

(19) a. 温故而知新，可以为师矣。(active voice sentence)

Wēn gù ér zhī xīn, **kěyǐ** wéi shī yǐ.

review old so that know new, **may** be teacher YI

‘If a man keeps cherishing his old knowledge, so as continually to be acquiring new, he **may** be a teacher of others.’

b. 可以託六尺之孤，可以寄百里之命 (passive voice sentence)

**Kěyǐ** tuō liù chǐ zhī gū, **kěyǐ** jì bǎi lǐ zhī mìng

**can** entrust six chi of orphan, **can** entrust hundred *li* of command

‘**can** be entrusted with the charge of a young orphan prince, and **can** be commissioned with authority over a state of a hundred *li*’

(In this sentence, 里 *lǐ* is a unit of area.)

## 6.2 Contemporary uses of 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ*

### 6.2.1 Findings on 能 *néng* in the CCL modern Chinese corpus

There are 902,860 tokens of 能 *néng* in the modern Chinese corpus of the CCL, which include both 能 *néng* and 可能 *kěnéng*. 能 *néng* will be discussed first, and 可能 *kěnéng* will be analyzed separately in the next section. Table 4 summarizes the findings on 能 *néng*.

Table 4

能 *néng* in the CCL Modern Chinese Corpus

		No. of Tokens	Frequency of Use
noun	‘ability, skill, function’ 能力、技能、功能、机能、职能、智能	17	34%
	‘person with ability’	1	2%
modal	‘can, be able to’ (agent-oriented) 能、能够	30	60%
	‘cannot’ (permission)	1	2%
others	难能可贵	1	2%

As shown in Table 4, 能 *néng* in this data set is mainly used as a modal marker meaning ‘can, be able to’ for agent-oriented modality. Notably, this modal function is also played by words formed with 能 *néng*, such as 能够 *nénggòu* ‘can-enough, can.’ Here are corresponding examples.

(20) a. 所谓有效，是指行动能满足来访者的需要。

Suǒwèi yǒuxiào, shì zhǐ xíngdòng **néng** mǎnzú láifǎng zhě de xūyào

so-called effective, is refer action **can** satisfy visitor GEN needs

‘The so-called effective means that the action **can** meet the needs of visitors.’

b. 很难设想一个没有受过系统的学校教育的人能够参加工作和做好工作。

Hěn nán shèxiǎng yí ge méiyǒu shòu guò xìtǒng de xuéxiào

vey hard imagine one CL not receive EXP systematic NOM school

jiàoyù de rén **nénggòu** cānjiā gōngzuò hé zuò hǎo gōngzuò.

education NOM person **can** participate work and do well job

‘It is difficult to imagine that a person who has not received a systematic school education **can** serve in a position and do a good job.’

As a modal marker, 能 *néng* in modern Chinese can also be used to convey the sense of ‘permission,’ i.e., a type of speaker-oriented modality. However, this function is one of the less frequently used functions associated with 能 *néng* and is only found in the negative form 不能 *bù néng* ‘cannot’ in the data set.

(21) 一定**不能**让我们的青少年作资本主义腐朽思想的俘虏。

Yídìng **bù néng** ràng wǒmen de qīngshàonián zuò zīběn zhǔyì fǔxiǔ sīxiǎng de  
certainly **not can** let we GEN youngster be capitalism decadent idea NOM  
fúlǚ, nà juéduì bùxíng.  
captive, that absolutely not okay.”

‘We certainly **cannot** allow our young people to be the captives of the decadent ideas of capitalism.’

In modern Chinese, the noun category for ‘ability’ includes several words formed with 能 *néng*, such as 能力 *nénglì* ‘ability,’ 技能 *jìnéng* ‘skill,’ 功能 *gōngnéng* ‘function,’ 机能 *jīnéng* ‘function,’ 职能 *zhínéng* ‘function, role,’ 智能 *zhìnéng* ‘intelligent,’ etc. 能 *néng* as a noun referring to ‘person with ability’ appears in the idiom 选贤任能 *xuǎnxiánrènnéng* ‘select the virtuous and appoint the able.’ Additionally, 能 *néng* is found to form other words that function like adjectives, e.g., 难能可贵 *nánnéngkěguì* ‘commendable, valuable.’

### 6.2.2 Findings on 可能 *kěnéng* in the CCL modern Chinese corpus

There are 170,979 tokens of 可能 *kěnéng* in the CCL corpus. The part of speech information for the first three items of 可能 *kěnéng* in Table 5 is left blank, as it is under debate whether 可能 *kěnéng* in these constructions should be considered a modal verb, an adverb, or an adjective. We will revisit this issue in the discussion section.

Table 5

可能 *kěnéng* in the CCL Modern Chinese Corpus

		No. of Tokens	Frequency of Use
	可能 + verb	19	38%
	不可能 + verb	9	18%
	很可能 + verb	1	2%
adverb	可能 + modal verb + verb	3	6%
adjective	‘possible’	9	18%
noun	‘possibility’	9	18%

Regardless of whether certain uses of 可能 *kěnéng* should be categorized as a modal verb or not, 可能 *kěnéng* conveys modality, especially epistemic modality, i.e., “possibility, probability, and inferred certainty” (Bybee et al., 1994, p. 179). By using 可能 *kěnéng*, it indicates “something less than a total commitment by the speaker to the truth of the proposition” (Bybee et al., 1994, p. 179). Without 可能 *kěnéng*, the speaker would make a total commitment to the truth of the proposition and sound much certain. Compare the difference in tone between examples (22a) and (22b):

(22) a. 他**可能**怀有个人仇怨，可是他更加重视国家的利益。

Tā **kěnéng** huáiyǒu gèrén chóuyuàn,  
he **may** harbor personal grudge,

kěshì tā gèngjiā zhòngshì guójiā de liyì.  
but he more value country NOM interest.

‘He **may** harbor personal grudges, but he cares more about the interests of the Country.’

- b. 他怀有个人仇怨，可是他更加重视国家的利益。

Tā huáiyǒu gèrén chóuyuàn,  
he harbor personal grudge,  
kěshì tā gèngjiā zhòngshì guójiā de liyì.  
but he more value country NOM interest.

‘He harbors personal grudges, but he cares more about the interests of the country.’

In addition to the disputable modal verb functions, 可能 *kěnéng* can also function like an adverb meaning ‘probably, possibly,’ when 可能 *kěnéng* appears before the modal verb 会 *huì* ‘will,’ as in example (23a). 可能 *kěnéng* in modern Chinese sometimes serves as an adjective or noun. In example (23b), 可能 *kěnéng* is an adjective meaning ‘possible,’ which modifies the noun 组合 *zǔhé* ‘combinations.’ As a noun, 可能 *kěnéng* ‘possibility’ is found in set phrases such as 有可能 *yǒu kěnéng* ‘has possibilities’ and 尽可能 *jǐn kěnéng* ‘exhaust possibilities, try one’s best.’

- (23) a. 中央银行向银行体系提供大量的外部流动性**可能会**引发急速上升的通货膨胀。

Zhōngyāng yínháng xiàng yínháng tǐxì tígōng dàliàng de wàibù  
central bank to bank system provide big amount NOM external  
liúdòng xìng **kěnéng huì yǐnfā** jíxù shàngshēng de tōnghuò péngzhàng.  
liquidity **probably will** trigger rapid rise NOM inflation.

‘The central bank’s provision of large amount of external liquidity to the banking system **may** trigger rapid inflation.’

- b. 11种颜色**可能**的组合在2000种以上。

11 zhǒng yánsè **kěnéng** de zǔhé zài 2000 zhǒng yǐshàng.  
11 type color **possible** NOM combination be 2000 type over.

‘There are more than 2000 **possible** combinations of these 11 colors.’

### 6.2.3 Findings on 可 *kě* in the CCL modern Chinese corpus

There are 886,015 tokens of 可 *kě* found in the CCL corpus, which include the other two target words formed with 可 *kě*, i.e., 可以 *kěyǐ* and 可能 *kěnéng*, and a non-target word, 可是 *kěshì* ‘but.’ Since 可以 *kěyǐ* and 可能 *kěnéng* are two of the four target forms, they were analyzed separately and excluded from the study of 可 *kě*. The word 可是 *kěshì* ‘but’ was also excluded, as it is outside the scope of this study. Table 6 shows the results.

Table 6

可 *kě* in the CCL modern Chinese corpus

		No. of Tokens	Frequency of Use
modal	passive	21	42%
	active	8	16%
	passive/active	2	4%
words formed with 可 <i>kě</i>	不可逾越、不可或缺、不可缺少 不可避免、不可分割、高不可攀	18	36%

无利可图、由此可见  
 可行性、可视化  
 可靠、可贵、可恶  
 宁可、认可

others	有 + noun + 可 + verb	1	2%
--------	---------------------	---	----

In this modern Chinese data set, 可 *kě* is mainly used as a modal verb or a component to form other words or set phrases. Notably, as a modal verb, 可 *kě* largely appears in a passive voice construction, and most of the words or set phrases formed with 可 *kě* retain a passive voice reading when used in a sentence. Additionally, 可 *kě* is found to form the “有 + noun + 可 + verb” construction, which also holds a passive voice reading. Here are examples in which 可 *kě* is used as a modal verb, to form a word/set phrase, and to form the “有 + noun + 可 + verb” construction, respectively.

(24) a. 汉语一般可分为七大方言

Hànyǔ yībān **kě** fēn wéi qī dà fāngyán  
 Chinese generally **can** divide into seven big dialect  
 ‘Chinese **can** generally be divided into seven major dialects.’

b. 对于那些仍然要来的东西才只好认为是不可避免的

Duìyú nàxiē réngrán yào lái de wùcái cái zhǐhǎo rènwéi shì **bù-kě bìmiǎn** de  
 for those still will come arrive NOM thing  
**can-not avoid** DE  
 ‘For those things that are still coming, [one] has to think that it is **inevitable**.’  
 ‘For those things that are still coming, [one] has to think that it **cannot be avoided**.’

c. 孩子们有书可读

Háizimen **yǒu shū kě dú**  
 children **have book can read**  
 ‘Children **have books to read**.’  
 ‘Children **have books that can be read**.’

Additionally, in this particular data set, two tokens of 可 *kě* appear in constructions that can be interpreted as passive or active.

(25) 据《说文解字》的解说和所引小篆字形可知,“幻”字在东汉以前是将“予”字倒写而形成的。

Jù “shuō wén jiě zì” de jiěshuō hé suǒ yǐn xiǎozhuàn zìxíng  
 according to *Shuo Wen Jie Zi* NOM explanation and SUO quote small seal character form  
**kě-zhī**, “huàn” zì zài Dōng Hàn yǐqián shì jiāng “yǔ” zì  
**can-know**, “huan” character in Eastern Han before SHI JIANG “yu” character  
 dào xiě ér xíngchéng de.  
 upside down write ER form DE.

‘According to the explanation of *Shuo Wen Jie Zi* and the form of the small seal character quoted, **it can be known** that before the Eastern Han dynasty the character “幻” was formed by writing the character “予 *yǔ*” upside down.’

‘According to the explanation of *Shuo Wen Jie Zi* and the form of the small seal character quoted, **we know** that before the Eastern Han dynasty the character “幻” was formed by

writing the character “予 *yǔ*” upside down.”

(In this example, the “是 *shi*... 的 *de*” structure is used to emphasize the predicate between “是 *shi*” and “的 *de*.”)

#### 6.2.4 Findings on 可以 *kěyǐ* in the CCL modern Chinese corpus

There are 277,786 tokens of 可以 *kěyǐ* in the modern Chinese corpus of CCL. The results of the data set used for this paper are summarized in Table 7.

Table 7

可以 *kěyǐ* in the CCL Modern Chinese Corpus

		No. of Tokens	Frequency of Use
modal	‘can’ (enabling conditions, active)	27	54%
	‘can’ (enabling conditions, passive)	17	34%
	‘can’ (enabling conditions, topic-comment)	1	2%
	‘can’ (permission, active)	3	6%
	‘could’ (possibility, active)	1	2%
predicate	‘okay, fine’	1	2%

In the corpus data of modern Chinese, 可以 *kěyǐ* is essentially a modal verb meaning ‘can.’ As a modal verb, 可以 *kěyǐ* ‘can’ mainly expresses the existence of internal enabling conditions in the agent and/or external physical and social enabling conditions with respect to the action described in the sentence (e.g., example [26a]). 可以 *kěyǐ*, as a modal verb, is also found to express the senses of ‘permission’ and ‘possibility,’ as shown in examples (26b) and (26c) respectively. The ‘permission’ sense associated with 可以 *kěyǐ* comes from external social enabling conditions. However, instead of using 可以 *kěyǐ*, the ‘possibility’ sense in [26c] might be better expressed by 可能 *kěnéng*. In addition to the modal verb function, 可以 *kěyǐ* is also used as a predicate meaning ‘okay, fine,’ as illustrated in example (26d).

(26) a. 经过上面简要的分析，我们可以对什么是教育进行科学的说明了。

Jīngguò shàngmiàn jiǎnyào de fēnxī, wǒmen **kěyǐ**

through above brief NOM analysis, we **can**

duì shénme shì jiàoyù jìnxíng kēxué de shuōmíng le.

to what is education conduct scientific NOM explanation CRS.

‘After the brief analysis above, we **can** make a scientific explanation of what education is.’

b. 儿子可以不和你商量卖掉那块土地吗？

Érzi **kěyǐ** bù hé nǐ shāngliáng mài diào nà kuài tǔdì ma?

son **can** not with you discuss sell off that CL land MA?

‘**Can** your son sell that piece of land without discussing with you?’

(吗 *ma* is a sentence final particle to form a question.)

c. 他们所处不利社会地位招致的无形的、不确定的、无限制的、随时可以遭遇到的各种无情的剥削

Tāmen suǒ chǔ búli shèhuì dìwèi zhāozhì de wúxíng de,

they SUO reside disadvantaged social status incur NOM intangible NOM,

bú quèdìng de, wú xiànzhì de, suíshí **kěyǐ** zāoyù dào de

uncertain NOM, unrestricted NOM, at any time **can** encounter NOM

gè zhǒng wúqíng de bōxuē

various kind relentless NOM exploitation

‘the various intangible, uncertain, unrestricted and relentless exploitation that they **can** encounter at any time due to their disadvantaged social status’

d. 只要你觉得画和看到的不一样就可以了。

Zhǐyào nǐ juéde huà hé kàndào de bù yíyàng jiù kěyǐ le.

as long as you feel painting and see NOM not same then **fine** CRS.

‘As long as you feel the painting is different from what you see, it **is fine.**’

## 7 Discussions

The study’s first research question asked how to understand the situations in which 能 *néng* and 可能 *kěnéng* can be modified by intensifiers or adverbs. While Lü (1980/1999) claims that some Chinese modal verbs can be modified by adverbs (e.g., 很能 *hěnnéng* ‘lit. very can, really can’ in example [8b]), Li and Thompson (1981) argue the opposite. Then, can 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ* all be classified as modal verbs in modern Chinese? The diachronic corpus data analysis suggests that all of the four linguistic items can convey modality. It is not controversial in the literature that 可 *kě* and 可以 *kěyǐ* can function as a modal verb. Although 能 *néng* and 可能 *kěnéng* can be modified by intensifiers or adverbs in certain cases, this modification is optional. When 能 *néng* and 可能 *kěnéng* are not modified by adverbs while appearing in a modal verb position in a sentence, their modal senses and syntactic features may qualify them as modal verbs. The phenomenon where 能 *néng* and 可能 *kěnéng* can be modified by adverbs in certain cases while appearing in a modal verb position might be a result of the considerable roles that 能 *néng* plays as a main verb in classical Chinese and 可能 *kěnéng* plays as an adjective in modern Chinese, as it is common for verbs and adjectives to be modified by adverbs.

The controversial 能 *néng* in example (8b) conveys agent-oriented modality. Bybee et al. explicitly point out that agent-oriented modality is not considered a modality in many frameworks, as it belongs to the propositional content of the clause. However, agent-oriented modality is an important part of Bybee et al.’s framework. They claim “these modal senses are the diachronic sources of most senses that do qualify as modality” (Bybee et al., 1994, p. 177) in other frameworks. From this agent-oriented modality, 能 *néng* has developed the modal function of expressing permission (i.e., speaker-oriented modality) in modern Chinese. The development of the modal functions associated with 能 *néng* is in line with the paths of development for modalities proposed by Bybee et al. However, the permission function associated with 能 *néng* is less frequently used (2% of the total uses of 能 *néng* in the modern Chinese data of CCL) and mostly appears in the negative construction of 不能 *bù néng* ‘cannot.’ The agent-oriented modality associated with 能 *néng* remains the dominant or the most frequently used function of 能 *néng* from ancient times (71% of the total uses of 能 *néng* in the Analects) to today (60% of the total uses of 能 *néng* in the modern Chinese data of CCL).

In addition to 能 *néng*, 可能 *kěnéng* can also be modified by an intensifier or adverb. According to the results of the CCL modern Chinese corpus analysis, 可能 *kěnéng* is the most flexible in terms of linguistic functions among the four target items. 可能 *kěnéng* can be used as a noun meaning ‘possibility,’ as an adjective meaning ‘possible,’ before a modal verb, or before a verb expressing epistemic modality. Epistemic modality represents the degree of the speaker’s commitment to the truth of the proposition (Bybee et al., 1994). The epistemic modality conveyed by 可能 *kěnéng* is that the proposition may possibly be true. It was found that 3.4% of the instances of “可能 *kěnéng* + verb” were modified by intensifiers (e.g., 很 *hěnnéng* ‘very’). When 可能 *kěnéng* is modified by an intensifier, it behaves more like an adjectival predicate that takes the verb clause as its subject.

For example, 他很可能已经到中国了 *Tā hěn kěnéng yǐjīng dào zhōngguó le* ‘It is **very possible** that he has already arrived in China.’ However, when 可能 *kěnéng* is not modified by intensifiers in the construction of “可能 *kěnéng* + verb”, the modal senses and syntactic features suggest a modal verb interpretation for 可能 *kěnéng*. This may indicate that 可能 *kěnéng* is in the process of grammaticalization from an adjectival verb to modal verb. In Chinese, an adjectival verb can be used as the main verb in a sentence. It is commonly accepted that one path of historical evolution of modals is from main verbs to modals (Langacker, 1991).

Additionally, the word 可能 *kěnéng* is formed by 可 *kě*, highlighting speaker-oriented modality and 能 *néng*, focusing on agent-oriented modality, and was created long after the establishment of the modal functions of 可 *kě* and 能 *néng*. This may suggest that the epistemic modality expressed by 可能 *kěnéng* is built on top of agent-oriented modality and speaker-oriented modality. Thus, the general paths of development for modalities proposed by Bybee et al. (1994) may be modified as follows to reflect the specific features of Chinese.

### Diagram 3

*Development Path for Epistemic Modality in Chinese—the case of 可能 *kěnéng**



Another challenging question is the differences between 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ* in modern Chinese. This is related to the second research question: How do we characterize 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ* so that they can be learned and used more accurately by L2 Chinese learners? The corpus data analysis shows that unlike 能 *néng*, focusing on agent-oriented modality, and 可能 *kěnéng*, indicating epistemic modality, 可以 *kěyǐ* highlights the enabling conditions for an agent to perform an action. If the enabling conditions are imposed by the speaker, it constitutes speaker-oriented modality (Bybee et al., 1994), that is, the ‘permission’ sense associated with 可以 *kěyǐ*. Diagram 4 shows the relationship among 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ* in modern Chinese. Although each word highlights a different type of modality, there are overlaps. Namely, there are no clear boundaries among the three types of modality. There are prototypical cases for each type, and bordering cases, e.g., example (26c) discussed above. Relating to the teaching and learning of these modal items in CFL classrooms, Table 8 further illustrates the differences between the three types of modality and between the prototypical and bordering cases for each type, provided with simple sentences that most beginning- to intermediate-level learners of Chinese can understand.

### Diagram 4.

*The Relationship Between 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ* in Chinese Modality*

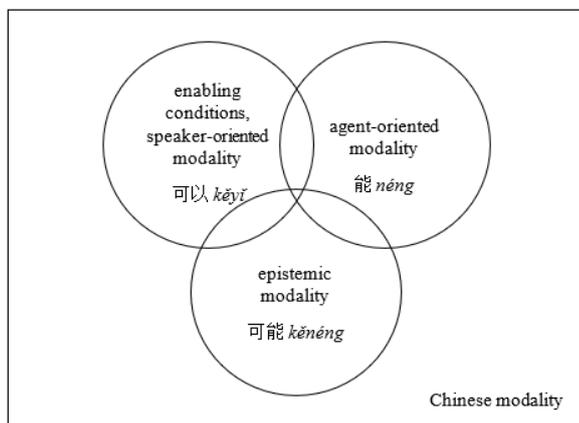


Table 8

## Prototypical and Bordering Examples for the Three Types of Modality

	<b>Agent-oriented modality</b> (focusing on the conditions on the agent to complete an event)	<b>Enabling conditions / Speaker-oriented modality</b> (focusing on the speaker's evaluation of the enabling conditions of an event or the speaker's directives)	<b>Epistemic modality</b> (focusing on possibility or probability of an event)
Prototypical examples	这个聚会我能来。 他能帮上忙吗？	我们可以开始上课了。 我要一杯可乐，可以吗？	这套公寓可能对他很合适。 今天的考试可能比较难。
Bordering examples	他可以帮上忙吗？ 他可能帮上忙吗？	你能看手机，但别聊天。 学生也可能自己决定。	天气挺好的，怎么能下雨？ 虽然不常见到，但真的可以说错、写错、看错、听错。

In addition to 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ*, there are other words or linguistic forms that can express modality in Chinese. 可 *kě* has been used to convey modality in Chinese since ancient times, but it is not commonly taught in Chinese as a foreign language classes. One possible reason is that, as shown in the analysis of the diachronic corpus data, 可 *kě* occurs mostly in passive voice construction, while modern Chinese tends to avoid using passive voice. Moreover, in modern Chinese, 可 *kě* often occurs in set phrases (see Table 6), such as 不可或缺 *bùkěhuòquē* ‘indispensable,’ 高不可攀 *gāobùkěpān* ‘unattainable,’ 无利可图 *wúlikětú* ‘unprofitable,’ 由此可见 *yóucikějiàn* ‘it can be seen that,’ etc. It is therefore not of priority to extract 可 *kě* from these set expressions and teach it to learners as a marker expressing modality.

## 8 Conclusion and Implications for Teaching

I have examined 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ* using diachronic corpus data. Among the four target linguistic forms, 可能 *kěnéng* is only identified as one word in later time periods (about Sui and Tang, 581 CE-907 CE), while the other three words have been used as modal verbs since the pre-Qin period (i.e., before 221 BCE). This study posits that 可能 *kěnéng* is in the process of grammaticalizing from an adjectival verb to a modal verb. Moreover, the findings in the corpus data show that 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ* represent three types of modality—agent-oriented modality, epistemic modality, and enabling conditions/speaker-oriented modality, respectively. The boundaries of the three types of modality represented by 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ* overlap with each other. This categorization has implications for teaching and learning Chinese modality. First, using English glosses to show the overlaps between the three types of modality can be confusing. For example, the Chinese L2 textbook Integrated Chinese (Liu et al., 2017) glosses 能 *néng*, 可以 *kěyǐ*, and 可能 *kěnéng* with ‘can, be able to,’ ‘can, may’ and ‘may,’ respectively. This is not helpful for differentiating their meanings and functions. The focus should be turned to the non-overlapping parts of the three types of modality, which requires teaching and learning activities that can raise learners’ awareness of the differences between the

three types of modality. Helping learners understand the essential features of the three types of modality represented by 能 *néng*, 可能 *kěnéng*, and 可以 *kěyǐ* can help them select the most appropriate word to use based on the situation and the modality to be expressed. Second, syntactic analysis and frequency information might be useful in dealing with overlaps or bordering cases in teaching. For example, to express the speaker-oriented modality ‘permission,’ both 可以 *kěyǐ* and 能 *néng* can be used. However, the use of 能 *néng* in this function is less frequent (2% of the total uses of 能 *néng* in the CCL data set), compared with the use of 可以 *kěyǐ* (6% of the total uses of 可以 *kěyǐ* in the CCL data set), and mainly occurs in the negative form 不能 *bù néng* ‘cannot.’ Another example is that although 可以 *kěyǐ* can be used to indicate the epistemic modality ‘possibility,’ this function is extremely limited, representing only 2% of the total uses of 可以 *kěyǐ* in the corpus data. The majority of the modal uses of 可以 *kěyǐ* focus on the enabling conditions. Thus, when teaching Chinese modality, teachers can incorporate the frequency information and suggest that the learners should not consider 可以 *kěyǐ* as the first choice to express ‘possibility.’ As Verspoor and Tyler (2009) point out, it is necessary to inform teaching by collecting usage-based information about how native speakers choose among an array of linguistic resources to convey a particular perspective, and how these resources are conventionally used to create a particular interpretation. They suggest, “Taking a usage-based perspective might help students realize that even though their word choice, sentence structure, or essay organization may not be incorrect in a technical sense, it may vary enough from the target L2 prototype” (Verspoor & Tyler, 2009, p. 169).

This study has several limitations. First of all, most of the well-preserved and available pre-Qin (before 221 BCE) texts are philosophy works. The *Analects* (论语, r. 480 BCE-350 BCE) and other texts used to study the early uses of the target linguistic forms are restricted to literary-philosophical discussions, as compared to the various types of genres available in the modern CCL corpus. Secondly, this study did not explore the relationship between modality and temporality. Specifically, the following questions are worth pursuing: Is the ‘possibility’ marker 可能 *kěnéng* predisposed to a future time reference when no other time reference is present? How does the use of 可能 *kěnéng* interact with the use of 会 *huì* ‘can, will’? Do the four target words 能 *néng*, 可能 *kěnéng*, 可 *kě*, and 可以 *kěyǐ* interact with time references in the same way? If not, what do the differences suggest, and how can the finding be utilized in promoting more accurate teaching and learning of Chinese modality? Answers to these questions will advance research on Chinese modality to higher levels and benefit the teaching and learning of modality in CFL classrooms.

## Abbreviations

ASSOC = associative

CL = classifier

CRS = current relevant state (了 *le*)

GEN = genitive

NOM = nominalizer

## Annotations

焉 *yān*: a sentence-final particle expressing affirmation. (Examples 2, 14)

而 *ér*:

1. a grammatical maker expressing an assumption. (Example 4)
2. a conjunction meaning ‘and.’ (Example 5)

3. a conjunction connecting an adverbial element to a verb. (Example 25)

也 *yě*:

1. a sentence-final particle denoting affirmation. (Example 4)
2. a sentence-final particle indicating a judgement. (Examples 15, 17)
3. a particle used in the middle of a sentence, marking off a sentence element about which there is to be a statement. (Example 16)

所 *suǒ*: a structural particle forming a nominal construction. (Examples 14, 25, 26)

矣 *yǐ*: a sentence-final particle, similar to 了 *le*. (Examples 16, 17, 19)

者 *zhě*: a particle after a word, phrase or clause to mark a pause, as in giving definitions or comments. (Example 17)

将 *jiāng*: a preposition used in the same way as 把 *bǎ*. (Example 25)

## Note

1. The examples from the Analects are in traditional Chinese characters in accordance with the original forms of the characters in the book. The examples from the modern Chinese corpus of CCL are in simplified Chinese characters.

## References

- Amaral, P. M. (2006). The polysemy of *mal* in European Portuguese: A diachronic analysis. *Journal of Historical Pragmatics*, 7(1), 1–37. <https://doi.org/10.1075/jhp.7.1.02mat>
- Bybee, J., Perkins, R., & Pagliuca, W. (1994). *The evolution of grammar: Tense, aspect, and modality in the languages of the world*. The University of Chicago Press.
- Center for Chinese Linguistics PKU (北京大学中国语言学研究中心). [http://ccl.pku.edu.cn:8080/ccl\\_corpus/](http://ccl.pku.edu.cn:8080/ccl_corpus/) [Accessed from January to May, 2021].
- Chen, I-H. (2017). The polysemy network of Chinese ‘one’-phrases in a diachronic constructional perspective. *Constructions and Frames*, 9(1), 70–100. <https://doi.org/10.1075/cf.9.1.03che>
- Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. Cambridge University Press.
- Ellis, N. C. (2008). The dynamics of second language emergence: Cycles of language use, language change, and language acquisition. *Modern Language Journal*, 92(2), 232–249. <https://doi.org/10.1111/j.1540-4781.2008.00716.x>
- Ellis, N. C., & Robinson, P. (2008). (Eds.). *Handbook of cognitive linguistics and second language acquisition*. Lawrence Erlbaum Associates.
- Jansegers, M., & Gries, S. Th. (2020). Towards a dynamic behavioral profile: A diachronic study of polysemous *sentir* in Spanish. *Corpus Linguistics and Linguistic Theory*, 16(1), 145–187. <https://doi.org/10.1515/cllt-2016-0080>
- Langacker, R. (1987). *Foundations of cognitive grammar*, Vol. 1. Stanford University Press.
- Langacker, R. (1991). *Foundations of cognitive grammar*, Vol. 2. Stanford University Press.
- Langacker, R. (1999). *Grammar and conceptualization*. Mouton de Gruyter.
- Langacker, R. (2008). *Cognitive grammar: A basic introduction*. Oxford University Press.
- Li, C. N., & Thompson, S. A. (1981). *Mandarin Chinese: A functional reference grammar*. University of

California Press.

- Li, R. (2003). *Modality in English and Chinese: A typological perspective*. (Publication No. 3115451) [Doctoral dissertation, University of Antwerp]. ProQuest Dissertations Publishing.
- Li, S., & Taguchi, N. (2014). The effects of practice modality on pragmatic development in L2 Chinese. *The Modern Language Journal*, 98(3), 794–812. <https://doi.org/10.1111/modl.12123>
- Lin, J.W., & Tang, C.C.J. (1994). Modals as verbs in Chinese: A GB perspective. *The Bulletin of the Institute of History and Philology*, 66(1), 53–105.
- Liu, Y. H., Yao T. C., Bi, N. P., Ge, L. Y., & Shi, Y. H. (2017). *Integrated Chinese* (4th ed.). Cheng & Tsui Company, Inc.
- Lü, S. X. (1980/1999). 现代汉语八百词 (增订本) (*Modern Chinese: 800 words*. Revised Edition). 商务印书馆 (Commercial Press).
- Lü, Z. (2010). 关于能愿动词否定用法的偏误分析 (Error analysis of Chinese modal verbs in negation). 云南师范大学学报 (*Journal of Yunnan Normal University*), 8(6), 21–25.
- Meisterernst, B. (2008). Modal verbs in Han period Chinese Part I: The syntax and semantics of *kě* 可 and *kě yǐ* 可以. *Cahiers de Linguistique Asie Orientale*, 37(1), 85–120.
- Meisterernst, B. (2008). Modal verbs in Han period Chinese Part II: Negative Markers in combination with the modal auxiliary verbs *kě* and *kě yǐ*. *Cahiers de Linguistique Asie Orientale*, 37(2), 197–222.
- Meisterernst, B. (2017). Modality and aspect and the thematic role of the subject in Late Archaic and Han period Chinese: Obligation and necessity. *Lingua Sinica*, 3(10). <https://doi.org/10.1186/s40655-017-0027-2>
- Meisterernst, B. (2019). (Eds.). *New perspectives on aspect and modality in Chinese historical linguistics*. Peking University Press.
- Mortelmans, T. (2007). Modality in cognitive linguistics. In D. Geeraerts & H. Cuyckens (Eds.), *The Oxford handbook of cognitive linguistics* (pp. 869–889). Oxford University Press.
- Sweetser, E. (1990). *From etymology to pragmatics: Metaphorical and cultural aspects of semantic structure*. Cambridge University Press.
- Talmy, L. (2000). *Toward a cognitive semantics*. The MIT Press.
- Taylor, J. R. (2002). *Cognitive grammar*. Oxford University Press.
- The Analects of Confucius* (论语). <https://ctext.org/> [Accessed from January to May, 2021].
- Tyler, A. (2008). Applying cognitive linguistics to second language learning. In N. Ellis & P. Robinson (Eds.), *Handbook of cognitive linguistics and second language acquisition* (pp. 456–546). Lawrence Erlbaum Associates.
- Tyler, A. (2012). *Cognitive linguistics and second language learning: Theoretical basics and experimental evidence*. Routledge. <https://doi.org/10.4324/9780203876039>
- Tyler, A., Huang, L., & Jan, H. (2018). (Eds.). *What is applied cognitive linguistics? Answers from current SLA research*. Mouton de Gruyter.
- Verspoor, M., & Tyler, A. (2009). Cognitive linguistics and second language learning. In W. C. Ritchie & T. K. Bhatia (Eds.), *The new handbook of second language acquisition* (pp. 159–177). Emerald.
- Wang, L. (1957/2018). 汉语语法史 (*History of Mandarin grammar*). 北京联合出版公司 (Beijing United Publishing Co., Ltd.).
- Wang, P. Y. (2018). *A cognitive-pragmatic study on modal verbs of possibility in Chinese*. [Doctoral dissertation, The Pennsylvania State University].
- Yao, W. (2020). Cognitive system of Chinese modal verbs from the perspective of cognitive science. *IOP Conf. Series: Materials Science and Engineering*, 750, 012063. <https://doi.org/10.1088/1757->

899X/750/1/012063

- Yang, B., & Dong, Y. (2014). 现代汉语情态动词早期习得的个案研究 (Early acquisition of Chinese modal verbs: A case study). *外国语 (Journal of Foreign Languages)*, 37(1), 83–92.
- Yang, L. (2020). 汉语情态动词连用的认知阐释 (A cognitive explanation for the order of co-occurrence of Chinese modal verbs). *西安外国语大学学报 (Journal of Xi'an International Studies University)*, 28(2), 33–37.
- Zhang, L. (2011). 英汉情态动词的情态意义对比分析——以“must”和“必”为例 (A comparative analysis of the modal senses of English and Chinese modal verbs: The case of “must” and “必”). *西安文理学院学报: 社会科学版 (Journal of Xi'an University of Arts and Science, Social Sciences Edition)*, 14(5), 96–99.
- Zhu, Y. (1996). Modality and modulation in Chinese. In M. Berry, C. Butler, R. Fawcett, & G. Huang (Eds.), *Meaning and form: Systemic functional interpretations. Meaning and choice in language: Studies for Michael Halliday* (pp. 183–209). Ablex Publishing Corporation.

**Lihong Huang** is Assistant Teaching Professor in the Department of East Asian Languages and Cultures at Georgetown University, USA. Her areas of research interests include cognitive linguistics, historical linguistics, corpus linguistics, and language pedagogy.

# 汉语中的“能”、“可能”、“可”和“可以”——基于历时语料库的用法探析

黄丽红

乔治城大学, 美国

## 摘要

这项研究分析与中文情态相关的四个表达形式：“能”、“可能”、“可”和“可以”。它们在语义上有相似之处，对以汉语为第二语言的学习者构成巨大挑战。通过研究历时语料，本研究发现“能”、“可能”和“可以”的功能大致分为三类：“能”表达以行为者为导向的情态；“可能”表达认知判定情态；“可以”表达使能条件或以说话人为导向的情态。这三种类型的边界划分有重叠之处，因此，对以汉语为第二语言的学习者而言，选择最恰当的表达形式具有挑战性。“可”由于其独特的句法特征，例如存在于被动语态结构和固定短语中，而需要特殊对待。本研究结果有助于更准确地教授和学习这四个情态词。

## 关键词

情态, 中文情态标记, 语料库, 历史发展, 类型

## 作者简介

黄丽红博士现任美国乔治城大学东亚语言文化系助理教学教授。研究兴趣包括认知语言学、历史语言学、语料库语言学、语言教学法。