A Preliminary Semantic Corpus-Based Study on the Classifier 架 (*jià*) and Its Implications for Teaching Chinese Classifiers [1]

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Abstract

In this pilot study, diachronic semantic analysis is employed to probe the origin and semantic evolution of the classifier 架 (*jià*). The study aims to achieve three objectives. Firstly, it intends to probe the emergence and development of the Chinese classifier 架 (*jià*). Secondly, it seeks to attest to the perspective of the fundamental role of human cognition and perception in the classifier language system, as indicated by Tai and Wang (1990). Finally, it suggests pragmatic classifiers teaching approaches in alignment with cognitive linguistic perceptions. The preliminary analysis of this study signifies that the classifier 架 (*jià*) is not an arbitrary linguistic device. Instead, its utilization throughout history reflects human

categorization in reliance on the perceptual property of the supporting framework of the referents. To improve the efficiency of teaching Chinese classifiers and provide learners with a more natural and comprehensive acquisition mode, future studies on classifier acquisition are expected to align with the conceptual structure of the classifiers' domains and the cognitive linguistic approach.

Keywords: Chinese classifier; Etymological origins; Semantic description; Cognitive linguistic

Introduction

A multitude of unconnected and geographically dispersed languages worldwide manifest enormous similarities in using a nominal classification system. In some Indo-European languages, grammatical gender is employed to categorize nouns. According to Tai (1994), measure words can be found in every language, including English. From a cognitive perspective, some languages, such as Chinese and Thai, have classifiers that are employed to sort an object attributed to its prominent perceptual properties (Allan, 1977). Thereby, Chinese, Thai, and several other languages are designated as Classifier Languages (Chierchia, 1998; Tai, 1994). Over the past several decades, classifiers have allured substantial attention in a body of linguistic research and studies.

It is indisputable that Chinese is a language exceedingly abundant in the use of classifiers. For example, 兩個人 (*liǎng ge rén* "two countable-item people" [two people]) will be ungrammatical if the classifier 個ge is absent. As for its definition, a classifier "must occur with a number,

and/or a demonstrative, or certain quantifiers before a noun"
(Li & Thompson, 1981, p 104). Allan (1977) further
delineated a classifier as an independent morpheme that
"denotes some salient perceived or imputed characteristic of
the entity to which an associated noun refers (or may refer)"
(p. 285). Per Zhang (2007), classifiers are obligatory in
demonstrative expressions in Chinese and other classifier
languages. Moreover, it is noteworthy that almost the same
set of parameters are utilized for categorization classifiers in
these 'classifier languages,' such as material, shape,
consistency, size, or other inherent characteristics of the
referent (Allan, 1977). On the other hand, nouns among these
classifier languages are further categorized by classifiers,
particularly for Chinese classifiers. Nevertheless, Tai and
Wang (1990) pointed out that it is still nebulous "whether
they reflect conceptual structures or are merely arbitrary
forms without a conceptual basis" (p. 35).

Related Studies

Over the past decades, the classifier has been reckoned as a vast realm in Chinese linguistics. Researchers have explored classifiers from various perspectives, including semantics (Jiang, 2017; Tai & Chao, 1994; Tai & Wang, 1990; Yau, 1988), idiosyncrasies (Lakoff, 1986; Liu et al., 2020), discourse pragmatics (Li, 2001a, 2001b; Pu, 2008), grammaticalization (Kuo, 2020; Xing, 2012), among others. Nonetheless, limited attention has been given to the systematical study of the Chinese classifier system, especially from the cognitive point of view. Tai (1994) introduced the first cognition-based systematic study of classifier systems across Chinese dialects. The study's findings demystified the Chinese classifier systems strikingly reflect conceptual structures and human categorization. In light of the study, Tai (1994) argued that "the Chinese classifier systems are cognitively and semantically motivated and *not* arbitrary" (p.13).

In line with the Cognitive Linguistic Approach (CL approach) to Chinese classifier acquisition, Zhang and Jiang

(2016) compared a cognitive group with a traditional group to investigate the effect of the CL approach on the acquisition of Chinese classifiers among advanced-level Chinese language learners. They emphasized that individual Chinese classifiers have a semantic relation with associated nouns and that the functions of classifiers are related to a central sense. Their findings suggested that the CL approach, by illustrating polysemy networks and underlying motivations, can accelerate the acquisition of Chinese classifiers.

Furthermore, an embodied account of syntax, semantics, pragmatics, and value is considered essential for a comprehensive understanding of human cognition and language, as proposed by Johnson and Lakoff (2002). The embodiment perspective of language comprehension has been analyzed and discussed by several researchers (Barsalou, 1999; Casasanto & Boroditsky, 2008; Kompa, 2019; Zwaan, 2014). Johnson (1987) proposed that embodied experience gives rise to image schemas within the conceptual system. Image schemas, introduced by Talmy (1983) and further

studied by Johnson (1987), Lakoff (1987), and other scholars, are recurring dynamic patterns that structure our perceptual interactions and motor programs. Jiang (2017) argued that the image schema framework can be used to identify cognitive schemata for Chinese classifiers based on Chinese speakers' physical experience and to understand the conceptualization and categorization processes of Chinese classifiers.

However, there have been few studies that utilize the image-schema approach or the image-schema-based instruction in teaching Chinese classifiers. Wang (2011), by probing the corpus of the noun phrases (NPs) collocating with classifiers 雙 *(shuāng)* and 對 *(duì)*, concluded that the classifier 對 *(duì)* motivates "One-Pair schema" in that the features of NPs collocating with 對 *(duì)* signifying a mapping with the features–"[t]wo parts constitute a whole" and "[i]t emphasizes cooperation and combination" (p. 246) as shown in Figure 1, whereas the classifier 雙 *(shuāng)* motives "Two-Halves schema" since its features match the

attributes–"[a] whole is divided into two parts" and "[i]t emphasizes confrontation and division" (p. 246) as depicted in Figure 2.

Figure 1. Wang (2011) One-Pair   *Figure 2. Wang (2011)*
Schema   *Two-Halves Schema*
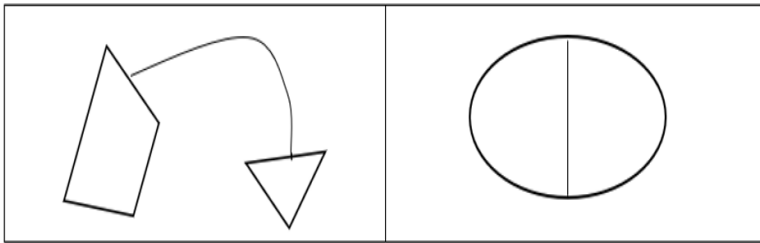
(Note: Adapted from "Study on dual classifiers 'shuang' and 'dui' in Chinese by image schema," by X.-Y. Wang, 2011, Proceedings of the 16th Conference of Pan-Pacific Association of Applied Linguistics, p. 246.)

    A most recent and relevant study is conducted by Zhou (2022). After comparing it with the traditional classifier teaching approach, such as rote memorization, he asserted that the cognitive approach that is "less time-consuming and more efficient over a long period" (p. 18) significantly

facilitates the Chinese classifier acquisition. He further indicated that learners might have a better performance if they are well trained and experienced in employing the image schema, and eventually, using the image-schema cognitive approach facilitated the Chinese classifier acquisition.

Image schemas derive from sensory and perceptual experiences as we interact and move about in the world. It is noteworthy that the same object may be viewed and profiled from different angles and perspectives. As remarked by Rovira (2004), from a cognitive standpoint, the exact condition may be characterized by the mind in the light of various parameters, as depicted in Figure 3.
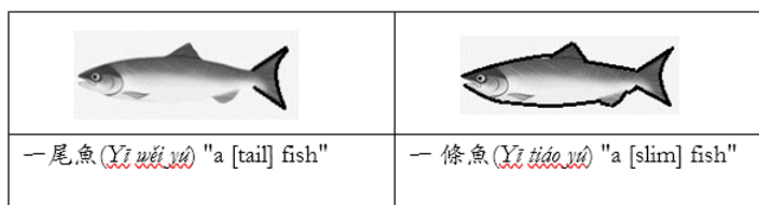

| 一尾魚 (*Yī wěi yú*) "a [tail] fish" | 一 條魚 (*Yī tiáo yú*) "a [slim] fish" |

Figure 3. Images of "一尾魚 (Yī wěi yú)" and "一 條魚 (Yī tiáo yú)"

The classifier 條 (*tiáo*) is in use while the object fish is perceived as a unified whole, whereas the classifier 尾 (*wěi*) is

utilized when the object is construed as the part of the fish.

Lakoff (1987) enumerated three structural elements, "a whole,

parts, and a configuration" (p. 273), that function as the

parameters of the part-whole schema. This image schema is

developed "through the possibility of manipulating and being

aware of our body parts, as well as through our empirical

perception of basic-level objects" (Stadler, 2020, p. 164).

Current Study

Through enumerating its origin and development, this

preliminary study is in an attempt to explore the following

research questions?

> a) How did the Chinese classifier 架 (jià) emerge and
>
> develop within the language system?
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> b) What pragmatic approaches can be suggested for
>
> teaching classifiers that align with cognitive linguistic
>
> perceptions?
>
> c) How can we provide evidence for the perspective
>
> that human cognition and perception play a

fundamental role in the classifier language system, as

remarked by Tai and Wang (1990)?

Data for the study were primarily derived from the Beijing Language and Culture University (BLCU) Corpus Center (hereinafter "BCC"), the Academia Sinica Balanced Corpus of Modern Chinese (hereinafter "Sinica Corpus"), and the Corpus of Center for Chinese Linguistics Peking University (hereinafter "CCL").

There are approximately hundreds of classifiers in Chinese, most of which can be traced back to their historical origins. Each individual classifier has its own semantic network. Additionally, as Jiang (2017) pointed out, the relationship between the nouns assigned to a classifier should not only reflect the synchronic semantic network of the classifier but also indicate its diachronic semantic development pattern. Therefore, a collaborative approach combining synchronic semantic analysis and diachronic development examination is suggested, as it can lead to more comprehensive and convincing observations (Jiang, 2017).

The choice of 架 (jià) as the focus of this pilot study is motivated by two reasons. Firstly, architecture is a significant symbol of Chinese civilization, and Chinese characters often originate from concepts related to buildings and structures (Jiang, 2017). Characters like 屋 (*wū*) meaning "house, room," 間 (*jiān*) meaning "room, interval," 座 (*zuò*) meaning "seat, base, stand, platform," 棟 (*dòng*) meaning "ridgepole, block," 架 (*jià*) meaning "frame, rack," and others reflect the cultural practices and worldview of Chinese people. Second, 架 (*jià*) is an interesting classifier as it overlaps with other typical classifiers, such as 臺 (*tái*) for a stand, support, or a table-like object, and 座 (*zuò*) for a large or fixed stand, base, or pedestal. Unlike some general classifiers such as 個 (*ge*) and 隻 (*zhī*), 架 (*jià*) has an intricate and extensive domain and cannot be simply defined as a classifier for things with a supporting structure. By examining such a classifier through a corpus study, the goal is to gain

insights into its emergence, development, and intricacy, and to support the idea of the fundamental role of human cognition and perception in the classifier language system, as suggested by Tai and Wang (1990).

As Jiang (2017) emphasized, the etymological meaning of Chinese characters plays a pivotal role in probing Chinese classifiers. This approach "offers a diachronic and synchronic view of classifier categories and provides us with a basis to generate principled explanations for the motivation and connection among the polysemic senses of classifiers" (Jiang, 2017, p. 78). Thus, the present study employs an etymological approach in an attempt to capture the semantic evolution of the classifier 架 (*jià*).

Origin and Development of 架 (*jià*)
Etymological Origins of the Character 架 (*jià*)
The character 架 (*jià*), as a later-formed phono-semantic compound, is composed of the semantic 木 (*mù* "wood") and the phonetic 加 (*jiā* "to add"). The character 架 (*jià*) is not

included in *Shuowen*說文 (completed around the Eastern Han Dynasty in the 2nd century C.E.)–the first dictionary reflecting the systematic study of Chinese script. Instead, its variant 枷 (*jiā*) is included. The 康熙字典 (*kāngxī zìdiǎn* [Kangxi Dictionary])–the standard Chinese dictionary during the 18th and 19th centuries–explains the character as follows: "杙也, 所以舉物" (*Yì yě, suǒyǐ jǔ wù* "little wooden stakes, so can lift or hold things" [架 (*jià*) means the frame used to hold up or support things]). Hence, 架 (*jià*) originally constituted a noun, referring to "a frame," "a shelf," "a rack," or "a stand" used to hold up things, as illustrated in (1) below:

(1)   凡以竿爲衣架者，多箷。《爾雅·釋器疏》

(dated back to 206 B.C.E., sourced from BCC)

Fán yǐ gān wèi yījià zhě, duō yí. 《*Ěr yǎ·shì qì shū*》

"Any use pole as a clothes hanger, name *yi*."

[Anything used as a pole to be a clothes hanger is called *yi*.]

Thence, it has been extended to encompass a corresponding verbal meaning of "to prop up (things with the frame, shelf, rack, or stand)." Subsequently, more precise verbal meanings of "to build" and "to construct" emerged, followed by increasingly abstract verbal meanings such as "to support" and "to help." The verbal function of 架 (*jià*) originated during the Pre-Qin period (3rd century B.C.E.). As Dong (2017) revealed, both its nominal and verbal meanings were concurrently utilized during the Han, Three Kingdoms, Jin, and Northern and Southern Dynasties (206 B.C.E.–589 C.E.), as demonstrated in examples (2) and (3) below:

(2) 鵲作巢，冬至架之，至春乃成。《詩·周南·鄭箋》 *(dated back to 206 B.C.E.–220 C.E., sourced from BCC)*

Què zuò cháo, dōngzhì jià zhī, zhì chūn nǎi chéng. 《Shī·zhōu nán·zhèng jiān》

"Magpie make nests, winter solstice builds it, till spring then complete."

[The magpie builds its nest, and it is not until the winter solstice that the framework is completed; it is not until spring that the nest is finished.]

(3)　蔓延，性緣不能自舉，作架以承之。《齊民要術》 *(dated back between 265–420 C.E., sourced from BCC)*

Màn yán, xìng yuán bùnéng zì jǔ, zuò jià yǐ chéng zhī. 《Qí mín yào shù》

"Spread, nature reason not can self-lift, make rack to hold it."

[(Grape's) vine slowly expands, (because of its) nature that it cannot raise up itself, (so) make a rack to hold/support it.]

Thereafter, the character 架 (*jià*) evolved into a classifier. Its classifier function was progressively developed during the Three Kingdoms, Jin, and Northern and Southern Dynasties (220–589 C.E.), as shown in example (4) below:

(4)   既立宅宇，而所起五間六架。《宋書·五行

志》 *(dated back between 420-479 C.E., sourced from*

BCC)

Jì lì zhái yǔ, ér suǒ qǐ wǔ jiān liù jià. 《Sòng shū·wǔ xíng

zhì》

"Just construct residence place, then be up five rooms

six structures."

[Once the residence place was constructed, there were

five rooms and six rafters erected.]

Diachronic Development of the Classifier 架 (*jià*)

As aforementioned, its classifier function apparently evolved

and developed during the Han, Three Kingdoms, Jin, and

Northern and Southern Dynasties. Afterward, from the Tang

Dynasties (618–907 C.E.), the usage of 架 (*jià*) as a classifier

was applied extensively, particularly indicating referents that

need support or bone structural items as well as racks for

putting and hanging items like bells and chimes, as

exemplified in (5) and (6) below:

(5) 一架長條萬朵春，嫩紅深綠小窠匀。《唐詩·

薔薇》 *(dated back between 618–907 C.E., sourced from*

BCC)

Yī jià cháng tiáo wàn duǒ chūn, nèn hóng shēn lǜ xiǎo kē

yún. 《Tángshī·qiángwēi》

"A long strip of ten thousand spring, tender red, deep

green, small, symmetrical buds."

[A long and narrow trellis bears ten thousand

blossoms of spring, tender red and deep green, in a

small and even nest.]

(6) 陳鍾十二架，當十二辰之位。《唐文拾遗续

拾》 *(dated back between 618–907 C.E., sourced from*

BCC)

 Chén zhōng shí'èr jià, dāng shí'èr chén zhī wèi. 《Táng wén

shíyí xù shí》

 "Twelve bell chimes, represent twelve-time position."

[There are twelve bell chimes, each representing a

position for twelve two-hour time increments.]

Prior to the Tang Dynasties, 架 (*jià*) had been employed to categorize referents with a larger size or heavier weights, whereas 架 (*jià*) in the example (5) was used to depict the light-weighted flower branch. Apparently, it revealed a newly emerging trend of the classifier架 (*jià*)–generalization.

Thence, during the Song and Yuan Dynasties (960–1368 C.E.), the classifier 架 (*jià*) was experiencing a continuation of the process of generalization. As a result, even though the primary semantic function of the classifier 架 (*jià*) remained unaltered, its utilization was generalized to more intangible referents. Examples (7) and (8) are provided in the following:

(7)　陰陰一架紺雲涼。　《全宋词·鷓鴣天》 *(dated back between 960–1279 C.E., sourced from BCC)*

Yīnyīn yī jià gàn yún liáng. 《Quán sòngcí·zhègū tiān》

"Dark one patch dark purple cloud cool"

[One shady dark purple color cloud brings coolness.]

(8) 碧羅亂縈小帶，翠虬寒、一架清香。 《全宋
詞·聲聲慢》 *(dated back between 960–1279 C.E., sourced from BCC)*

Bì luó luàn yíng xiǎo dài, cuì qiú hán, yī jià qīngxiāng. 《
Quán sòngcí·shēng shēng màn》

"Bright vine messily entangle small belt, green small dragon cold, one whiff delicate fragrance."

[The green vines linger messily around the skirt, the incense on the incense burner carved with the green scorpion pattern is burned out, and there are still strands of fragrance in the room.]

In examples (7) and (8), 架 (*jià*) is metaphorically used through rhetorical expressions to quantify "cloud" and "fragrance" respectively. These objects are visible yet intangible, and they do not require literal support from a rack, frame, or shelf. When compared to the expressions "一縷清香 (*Yī lǚ qīngxiāng*) [a wisp of fragrance]" and "一片雲 (*Yī piàn yún*) [a patch of clouds]," the usage of "一架清香 (*Yī jià*

qīngxiāng) [a *frame* of fragrance]" and "一架雲 (*Yī jià yún*) [a *frame* of clouds]" embodies a unique aura, imparting a sense of texture, specificity, tangibility, solidity, and three-dimensionality to the intangible objects and abstract concepts of "fragrance" and "clouds." This type of expression offers readers a vivid three-dimensional visual impact. According to Lakoff (1987), metaphor implies a cross-domain mapping in the conceptual system. Thus, in this context, based on one well-established existing conceptual domain, "we use our embodied experiences to form more complex conceptual structures in order to understand other things" (Jiang, 2017, p. 19). Moreover, Jiang (2017) suggested that the metaphor extension in the case of Chinese classifiers contributes to the development of intricate networks of interconnected categories conveyed through a single word.

Soon after, per Dong (2017), Ming and Qing Dynasties (1368–1912 C.E.) witnessed the heyday of the utilization of a number of classifies including the classifier 架

(*jià*). The number of its referents considerably surpassed any previous dynasties. Two examples (9) and (10) are displayed as follows:

(9)   正中間設一架紙爐。   《西遊記》 *(dated   back between 1368–1644 C.E., sourced from BCC)*

Zhèng zhòng jiān shè yī jià zhǐ lú. 《Xī yóu jì》

"Right middle set up one frame/rack paper stove."

[There is a paper stove in the middle.]

(10)   兩架食盒不算輕。《劉墉傳奇》   *(dated   back between 1644–1912 C.E., sourced from BCC)*

Liǎng jià shí hé bù suàn qīng. 《Liúyōng chuánqí》

"Two rack food boxes not count light."

[Two food containers/boxes are not light.]

Ultimately, as a classifier, 架 (*jià*) was fully developed in the Ming and Qing Dynasties. It was used for a variety of referents with a supporting framework involving plants, musical   instruments,   machines,   equipment,   tools,

architectures, furniture, appliances, household items, and so

forth.

Diachronic Semantic Evolution Summary

Per Jiang (2017), "each individual extension of the uses of a

classifier has its own historical cognitive basis that can result

in a very complicated domain" (p. 185). Thereby, a diachronic

semantic analysis, as summarized in Figure 4, is employed to

probe the origin and semantic evolution of 架 (*jià*).

Figure 4. Semantic Evolution Summary Chart of the Chinese Classifier

架 *(jià)*
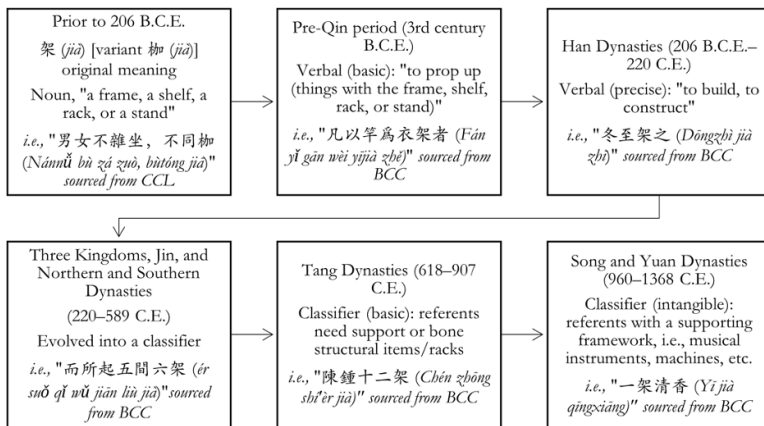
It originally was a noun referring to "a frame," "a shelf," "a rack," or "a stand" used to hold up things. Afterwards, it has been extended a corresponding verbal meaning of "to prop up (things with the frame, shelf, rack, or stand)," and then more precise verbal meanings such as "to build" and "to construct." Later, it took on more abstract verbal meanings like "to support" and "to help." Through the Han, Three Kingdoms, Jin, and Northern and Southern Dynasties, 架 (*jià*) evolved into a classifier, and then its classifier function obtained a preliminary development. From the Tang Dynasty onwards, the utilization of 架 (*jià*) as a classifier could be found extensively–primarily indicating referents that need support or bone structural items as well as racks for putting and hanging items like bells and chimes. Such a generalized process proceeded through the Song and Yuan Dynasties. In consequence, its applications were generalized to more intangible referents. Later, compared with the previous periods, Ming and Qing Dynasties witnessed a full

development with the broadest application scope of the classifier 架 (*jià*) as well as the highest numbers of its referents.

Implications for Teaching Chinese Classifiers

Chinese classifiers have been scrutinized from cognitive perspectives in a profusion of studies (Gao & Malt, 2009; Jiang, 2017; Pu, 2008; Tio, 2020; Zhang & Jiang, 2016). However, there is relatively little attention on how to make a pragmatic connection between the cognitive linguistic theories and Chinese classifier teaching approaches. Hence, this preliminary study aims to shed light on the pragmatic classifier teaching approaches in alignment with cognitive linguistic perceptions.

Drawing from my own experience of learning classifiers in primary and secondary schools, most teachers instructed me to memorize the 'classifier + noun' pattern and imparted that "這是固定搭配 (*Zhè shì gùdìng dāpèi* [this is a fixed combination or collocation])" without further

explanation. When I started teaching Mandarin Chinese at the post-secondary level, I observed that the meanings and usage of Chinese classifiers are predominantly introduced by presenting a set of rules and several prototypical examples in most novice to intermediate-level Chinese textbooks and learning materials. For instance, 件 *(jiàn)* is associated with "shirts, dresses, jackets, coats," 篇 (*piān*) with "essays, articles," and so forth. Consequently, learners are baffled while stumbling across sentences such as "我正在处理這件事 (*Wǒ zhèngzài chǔlǐ zhè jiàn shì*) [I'm working on this matter]" in a higher-level class, as 事 *(shì)* refers 'thing, matter, issue' with no direct relation to any prototypical examples provided in the novice-level textbook. Needless to say, due to the absence of comprehensive and efficient explanations of meanings and usages, it becomes "a heavy burden" (Zhou, 2022, p. 2) for most learners while facing multitudinous and intricate collocations of Chinese classifiers. Since each individual extension of the Chinese classifier has its own historical

cognitive basis, Jiang (2017) proposed that classifiers should be acquired empirically, and he further underscored that "it is impossible for rules based on prototypical examples to be extended to all class members" (p. 442).

Teaching Chinese Classifiers from Cognitive Perspective

Semantic Descriptions of Chinese Classifiers through the Cognitive Linguistic Approach

Ungerer and Schmid (1996) defined cognitive linguistics as "an approach to language that is based on our experience of the world and the way we perceive and conceptualize it" (p. 36). From a cognitive linguistic perspective, language development aligns with cognitive processes. As noted by Lakoff (1987), our concepts are internally structured and interconnected, enabling us "to reason, to comprehend, to acquire knowledge, and to communicate" (p. 267). He further emphasized that the theory of cognitive models is in alignment with the conceptual structure (p. 267). Similarly, Jiang (2017) asserted that cognitive linguistics posits that language conceptualization is derived from "the experience,

the external world, and the way we relate to the world" (p. 13). Regarding Chinese classifiers, he revealed that they epitomize Chinese people's understanding of the individual human embodiment, the natural world, constructed environments, and social settings. His study highlighted that the derived extensions of Chinese classifiers, which can be traced back to motivations, are "not an arbitrary list of distinct senses" (Jiang, 2017, p. 185). Based on cognitive analysis, he emphasized that providing semantic descriptions of Chinese classifiers using the cognitive linguistic approach not only offers a heuristic and systematic account of Chinese classifiers but also yields a fundamental principle for the development of teaching materials and approaches for Chinese classifiers. Consequently, Jiang (2017) proposes a three-step introduction for a classifier:

> (a) revealing the central sense, the etymological meaning of the classifier; (b) introducing each of the polysemic senses with a comprehensive list of nouns classified by the classifier; and (c) disclosing the

> motivations and extension tendencies behind the
>
> classifier category. (p. 186)

Using 架 (*jià*) as an example, its etymological meaning refers to "a frame," "a shelf," "a rack," or "a stand" used to support objects. Therefore, its central sense pertains to objects with supporting frameworks. Nevertheless, as Jiang (2017) recommended, the domain of 架 (*jià*) and its experiential-based conventions should be learned and comprehended individually, with each relevant example presented, as illustrated in Table 1. A total of 136 valid results were derived from the Sinica Corpus.

Table 1. Summary List of Nouns Classified by 架 (jià)

Associated Nouns	Token Frequency	Percentage (%)	Example from Sinica Corpus
aircraft	112	81.75	六架飛機 (Liù jià fēijī) "six planes"
piano	8	5.84	三百架鋼琴 (Sān bǎi jià gāngqín) "three hundred pianos"

telescope	5	3.65	一架望遠鏡 　　　(Yī 　　　jià wàngyuǎnjìng) "a telescope"
phone	2	1.46	幾架卡式公用電話 (Jǐ jià kǎ shì gōngyòng diànhuà) "several public payphones"
machine	2	1.46	一架隧道開掘機 (Yī jià suìdào kāijué jī) "a tunnel boring machine"
swing	1	0.73%	幾架磨秋 　　(Jǐ 　jià 　　móqiū) "several swings"
camera	1	0.73	一架照像機 (Yī jià zhàoxiàngjī) "a camera"
ladder	1	0.73	一架梯子 (Yī jià tīzi) "a ladder"
projector	1	0.73	一架放影機 (Yī jià fàngyǐngjī) "a projector"
bike	1	0.73	一架破風車 (Yī jià pòfēngchē) "a cycling road bike"
trident	1	0.73	一架三叉戟 (Yī jià sānchājǐ) "a trident"
armillary sphere	1	0.73	銅渾儀四架 (Tónghúnyí sì jià) "four bronze armillary spheres"

It is worth noting that almost all the associated nouns listed above share a common characteristic: they are three-dimensional concrete objects with anchored, solid, or steady supporting framework or base. For instance, the majority of aircraft are equipped with robust tricycle landing gears. Similarly, public payphones are typically situated on fixed racks or shelves. In the case of other associated nouns such as 'telescope,' 'camera,' and 'projector,' the classifier架 (*jià*) is not used to portray the shape of these objects; instead, it refers to the tripod–the three-legged stand that supports the apparatus. Interestingly, it is surprising to find that架 (*jià*) can also serve as a classifier for a two-wheel cycling road bike. 辆 (*liàng*) is typically used for the 'bike' category. Nevertheless, this extension may evoke different perceptual images. A salient perceptual feature–an image of a bike with a kickstand–may naturally be perceived in most Chinese native speakers' minds when架 (*jià*) is used, whereas the 'bike' class classified by辆 (*liàng*) does not illuminate this feature. As

bespoke by Zhu (2021), the Chinese classifiers acquisition triggers the predominant dimensions of an object and subsequently elicits differences in identification, recognition, and categorization. These features indicate that 架 (*jià*) is semantically and cognitively grounded, rather than being an arbitrary linguistic device for noun classification.

In essence, when introducing the classifier 架 (*jià*) to learners, especially beginners, it is advisable to provide them with its central sense and specific examples. Furthermore, based on the summary result, the 'aircraft' class, which includes planes, gliders, UFOs, and space shuttles, exhibits the highest token frequency (112) and percentage (81.75%) in the current database. Given that, those high-frequently associated nouns should be instantiated and underscored during the instruction of Chinese as a second or foreign language in the classroom.

Furthermore, as noted by Jiang (2017), Chinese classifiers can be interpreted and acquired through cognitive

mechanisms, for instance, image-schema transformation, metaphorical or metonymic extension, and others. Therefore, when most advanced learners encounter conventional or contemporary metaphors insinuating humor, irony, repartee, sarcasm, satire, wit, and so on, the acceptability of the classifiers is expected to hinge on discourse and their implications. Per Lakoff and Johnson (1999), conceptualization may require more significant cognitive effort when processing a meaning that is less basic and more abstract. In line with this, Wang (2016) also argued that, instead of solely focusing on accuracy, advanced learners should pay more attention to how to expressively use these classifiers, and the teaching should emphasize the rhetorical function of the classifiers. Two examples (11) and (12) are shown as follows:

> (11) 駕一葉之扁舟，舉匏樽以相屬。 《前赤壁賦》 (dated back to late 4th century to early 5th century, sourced from BCC)

Jià yī yè zhī piānzhōu, jǔ páo zūn yǐ xiāng zhǔ. 《Qián

chìbì fù》

"Steer a small leaf-like boat, hold up a wine gourd to
urge each other to drink."

[Riding on a small leaf-like boat, holding up a wine
gourd to urge each other to drink.]

(12) 一串串打擊接踵而來。 《作家文摘(1994)》

(dated back to 1994, sourced from CCL)

Yī chuàn chuàn dǎjī jiēzhǒng ér lái. 《Zuòjiā wénzhāi

(1994)》

"A series of attack one after another and come."

[Ceaseless calamities come one after another.]

葉 (*yè*) originally means leaf. However, in example (11), it
delineates a scene of a small, thin, and light boat floating on
open water. In a metaphorical manner, the tiny boat is likened
to a leaf, emphasizing its smallness in comparison to the
vastness of the water. This interpretation can also be
understood as an image-schema transformation, drawing
upon the small and thin shape of a leaf, as illustrated in Figure

5 below.

Figure 5. Image of a Small, Thin, and Light Boat Floating on Open

Water
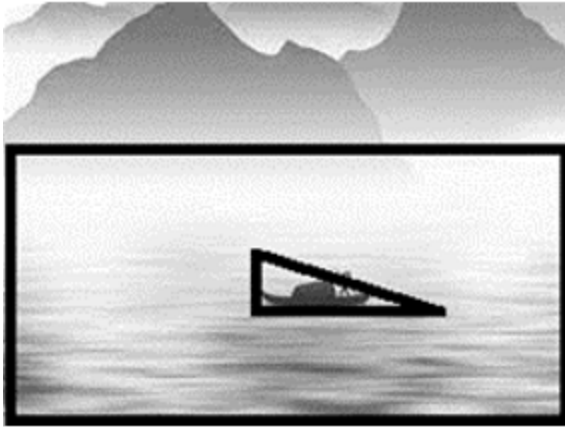
In example (12), 串 (*chuàn*) typically describes a string, chain,

or series of objects. 打擊 (*dǎjí*) literally means 'strike,' 'attack,'

'hit,' or 'blow.' This collocation evokes a sense of

wonder–how someone's life could be so miserable under an

unending series of calamities. Apparently, these metaphorical

and metonymical extensions of Chinese classifiers play a

crucial role in not only amplifying emotional coloring and

adding literary flavor but also vividly portraying objects in a

picturesque, theatrical, and impressive manner.

Conclusion and Discussion

To address the aforementioned research questions, it is worth

noting that the diachronic semantic evolvement and

development pattern of the Chinese classifier架 (*jià*) not only

reveal the inherent semantic network of Chinese classifiers

but also demonstrate the cognitive and perceptual

development of the Chinese people. Indeed, these conceptual

structures and cognitive perceptions have profoundly rooted

themselves in ancient civilization, cultural practices, and,

above all, people's daily lives. This preliminary study

demonstrates that the classifier 架 (*jià*) is not an arbitrary

linguistic device; rather, its historical usage reflects human

categorization in reliance on the perceptual property of the

supporting framework of the referents.

　　Secondly, the teaching approaches for Chinese

classifiers, such as the cognitive approach and the use of

image schemas, are rooted in the understanding of the

cognitive and semantic motivations underlying the Chinese

classifier system. These approaches emphasize the semantic

connection and central sense that characterize the functions of individual classifiers and their relationship with associated nouns. Hence, there are several implications for acquiring Chinese classifiers in the context of teaching Chinese as a second or foreign language. These implications include: a) presenting the etymological meaning of the classifier and the conceptual structure of the classifier's domain, along with concrete examples, to assist learners in developing a comprehensive and systematic list of noun references associated with the classifier; b) providing learners with an understanding of the extension mechanisms and experiential-based usages of the classifier, enabling them to acquire a deeper mastery of its usage; and c) enhancing the acquisition and interpretation of Chinese classifiers through cognitive linguistic approaches and mechanisms, such as image-schema cognitive approach, metaphorical or metonymic extension, conventional imagery, functional association, and others. It is anticipated that future studies on classifiers acquisition will align with the conceptual structure

of the classifiers' domains and employ cognitive linguistic approach. These advancements will contribute to improving the efficiency of teaching Chinese classifiers and providing Chinese language learners with a more natural, comprehensive, and efficient process of acquisition.

Last but not least, the cognitive approach and the use of image schemas are not unique to the Chinese language but can be applied to other languages with similar semantic structures, such as Thai. Languages that employ classifiers, like Chinese, often rely on the categorization and conceptualization of objects based on shared characteristics and cognitive patterns. The cognitive approach emphasizes the cognitive processes and conceptual structures involved in classifier systems, which can be applicable to other languages with similar systems. Similarly, the use of image schemas, which are recurring dynamic patterns derived from sensory and perceptual experiences, can also be found in other languages. Image schemas provide a cognitive framework for understanding and categorizing objects and their

relationships. These schemas are not limited to a specific language but are based on general human cognitive processes and embodied experiences. Therefore, the teaching approaches that draw on cognitive linguistic principles, such as the cognitive approach and the use of image schemas, can be generalized to other classifier languages with fairly comparable semantic structures. By exploring the cognitive motivations and conceptual structures underlying classifier systems in different languages, instructors can facilitate the acquisition and understanding of classifiers by learners studying those languages. It is important to note that while these teaching approaches can provide valuable insights and strategies for understanding classifier systems in other languages, there may still be language-specific variations and nuances that need to be taken into account. Adapting these approaches to specific languages requires careful analysis and consideration of the unique characteristics of each language's classifier system.

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