Acquisition of the Chinese Indefinite Determiner "One + Classifier" and English Articles in Two-Way Learner Corpora

Zhang Zheng, Laurence Newbery-Payton, and Sho Fukuda

Abstract This paper presents findings concerning use of classifiers and articles in learner corpora and the effect of learners' native languages on their acquisition of a second language. First, we use data from the Learners' Corpus of Chinese, an error-tagged two-way learner corpus of intermediate and advanced learners' written production, developed by Tokyo University of Foreign Studies (TUFS) in collaboration with National Taiwan Normal University. The corpus data reveals that English L1 learners of Chinese overuse the "one + classifier" structure for indefinite reference, analogous to English indefinite articles, whereas Japanese L1 learners show underuse of this structure, despite Chinese and Japanese both being regarded as "classifier languages". Second, data from the TUFS Learners' Corpus of English reveals that Chinese L1 learners use the definite article in a more native-like way than Japanese L1 learners. Third, analysis of the International Corpus of Japanese as a Second Language reveals that Chinese L1 learners of Japanese use the "one + classifier" structure more frequently than native speakers. Similarities and differences between L1 and L2 can supersede ostensible typological similarities, such as the classification of both Chinese and Japanese as classifier languages.

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1 Introduction

This study investigates the acquisition of the "one + classifier" structure by Japanese native learners of Chinese (henceforth, "JLC") and compares it with English native learners of Chinese (henceforth, "ELC"). It reveals that underuse of the "one + classifier" structure preceding nouns is more prevalent in written essays by JLC. Typical errors of omission are given below.[1]

(1) 日本 是 <φ→一个> 岛国， 四面 环海， 所以 海洋 资源 很 丰富。
Riběn shì <φ→yí ge> dǎoguó， sìmiàn huánhǎi，suǒyǐ hǎiyáng zīyuán hěn fēngfù.
(2013_146_TUFS_CH_059)
Japan is an island nation surrounded by the sea, so is rich in marine resources.

(2) <φ→一个> 团体 有 这样 的 信赖 关系 的话， 做 什么
<φ→Yí ge> tuántǐ yǒu zhèyàng de xìnlài guānxi de huà， zuò shénme
工作 都 会 成功 的。
gōngzuò dōu huì chénggōng de. (2013_233_TUFS_CH_051)
If an organization has this kind of relationship of trust, it will succeed no matter what it does.

(3) 我 妈妈 在 菲律宾 买 了 <φ→一块> 土地，我 想 帮 她 盖
Wǒ māma zài Fēilǜbīn mǎi le <φ→yíkuài> tǔdì， wǒ xiǎng bāng tā gài
<φ→一栋> 美丽 的 住房。
<φ→yí dòng> měilì de zhùfáng. (2014_057_TUFS_CH_038)
My mother bought a plot of land in the Philippines. I'd like to help her build a beautiful house there.

(4) 机场 的 旁边 有 <φ→一个> 公园。
Jīchǎng de pángbiān yǒu <φ→yí ge> gōngyuán. (2014_134_TUFS_CH_099)
There is a park by the airport.

There is a park by the airport.

English native speakers, on the other hand, are less likely to omit "one + classifier", instead displaying a slight tendency to overuse the structure, as in the following examples.

(5) 这 是 我 第一次 看到 <一座→φ> 很 大 的 雪山。 (E-B1-0140)
Zhè shì wǒ dì yī cì kàndào <yí zuò→φ> hěn dà de xuěshān.
This is the first time I have seen a tall snow-topped mountain.

(6) 恭喜！恭喜！ 我 听说 你 已经 找到 <一份→φ> 工作 了。 (E-A2-0008)
Gōngxǐ! Gōngxǐ! Wǒ tīngshuō nǐ yǐjīng zhǎodào <yí fèn→φ> gōngzuò le.
Congratulations! I heard you've already found a job.

[1] Errors are shown in the form " < error → correction > ".

Table 1 Three types of "one + Classifier"

[+referential]		[-referential]
[+specific]	[-specific]	
(7) a. 他 去年 买 了 Tā qùnián mǎi le 一 幢 房子。 yí zhuàng fángzi b. 彼は 去年 Kare-wa kyo-nen he-TOP last year 家を （1 軒） ie-o (ik-ken) house-ACC one-CL 買った。 kat-ta buy-PST c. He bought a house last year	(8) a. 他 想 买 一 幢 Tā xiǎng mǎi yí zhuàng 房子，什么 房子 fángzi，shénme fángzi 都行。 dōu xíng b. 彼は 家を Kare-wa ie-o he-TOP house-ACC （1 軒） 買いたい (ik-ken) kai-tai one-CL buy-AUX と 思っている。 to omot-teiru COMP think-DUR どのような家でも 良い。 donoyona ie-demo yoi any house-CONJ be fine c. He wants to buy a house, any house is fine	(9) a. 他 是 一 个 买卖人。 Tā shì yí ge mǎimàirén b. 彼は （??1 人の） Kare-wa (hito-ri-no) he-TOP one-CL-POSS ビジネスマン です。 bijinesu-man desu business person COP c. He is a business person

The uses of "one + classifier" can be classified into three types, based on the features of referentiality and specificity.[2] Table 1 shows examples of each alongside equivalent Japanese and English sentences. Example (7a) is a [+referential, + specific] usage. Example (8a) shows a [+referential, –specific] usage. Example (9a) is a non-referential usage and can be considered the most grammaticalized of the uses of "one + classifier".

The Japanese sentences in (7b) and (8b) may include the form "*ik-ken*", similar to the Chinese "one + classifier". However, whereas the classifier is typically required in Chinese, this is not obligatory in Japanese. The function of "one + classifier" is less grammaticalized in Japanese than it is in Chinese; the former is used mainly to express number, which restricts the scope for positive transfer in cases where "one + classifier" is not used to express purely numeral information. The non-referential use of "one + classifier", which is not expressed with a similar form in Japanese, is expected to be particularly difficult for L1 Japanese learners to acquire.

[2] All three types in Table 1 include the feature [-definite], similar to the indefinite article in English.

In contrast, the use of the "one + classifier" structure to mark an indefinite noun phrase is similar to typical uses of the English indefinite article. There is therefore the possibility for positive transfer from L1 to occur and so we predict that the "one + classifier" is relatively easy for ELC to acquire.

To summarize, we hypothesize that ELC and JLC will exhibit contrasting trends in the use of the "one + classifier" and that these differences can be plausibly explained through consideration of L1 characteristics.

In the remainder of this section, we will give an overview of functional equivalents to articles in Chinese. Chen (2004) claims that in Chinese, the demonstratives 这 zhè and 那 nà have developed definite article-like uses such as in (10a). In (10a), by using "the house"/"这栋房子", the speaker assumes that the listener knows which house George bought. The "one + classifier" structure has also undergone some degree of grammaticalization and functions in a similar way to the English indefinite article in some cases (10b, as well as the examples in Table 1). In (10b), by using "a house" / "一栋房子", the speaker assumes that the house George bought cannot be identified as a particular house and that the listener does not know which one he or she is talking about.

(10) a. George finally bought the house.
乔治 终于 买 了 这 栋 房子。
Qiáozhì zhōngyú mǎi le zhè dòng fángzi.
b. George finally bought a house.
乔 治 终于 买 了 一 栋 房子。
Qiáozhì zhōngyú mǎi le yí dòng fángzi.

(Chen 2004 p.1131)

According to Chen (2004), "one + classifier" appears in five uses equivalent to the indefinite article in English (10a)–(10e).

(11) a. numeral
这 件 事 不 难 办，我 只 要 一 个 钟头 就 够 了。
Zhè jiàn shì bù nán bàn, wǒ zhǐ yào yí ge zhōngtou jiù gòu le.
this CL thing not hard do I only need one CL hour then enough CRS
'This is not hard. I only need one/an hour for it.'

b. presentative use
一 架 飞机 从 我们 头 上 飞 了 过去。
Yí jià fēijī cóng wǒmen tóu shang fēi le guòqu.
one CL airplane from we head above fly PFV go
'An airplane flew over us.'

c. nonidentifiable specific reference
他 去年 买 了 （一） 幢 房子。
Tā qùnián mǎi le (yí) zhuàng fángzi.
he last year buy PFV one CL house
'He bought a house last year.'

d. nonidentifiable specific reference
他想 买（一） 幢 房子，什么 房子 都 行。
Tā xiǎng mǎi (yí) zhuàng fángzi，shénme fángzi dōu xíng.
he want buy one CL house any house all do
'He wants to buy a house; any house will do.'

e. nonreferential use
他 是（一）个 买卖人。
Tā shì (yí) ge mǎimài rén.
he be one CL businessman
'He is a businessman.' (Chen 2003:1171)

In the analysis below, we focus on the use of "one + classifier", its similarities with English articles, and the consequences for L2 Chinese acquisition by JLC and ELC.

2 The Present Study

2.1 Corpus Data

This paper analyzes the acquisition of the "one + classifier" structure by using the corpus of written Chinese collected by Tokyo University of Foreign Studies (TUFS corpus: https://corpus.icjs.jp). The ELC written data is provided by Taiwan Normal University and consists of essays written as part of the Test of Chinese as a Foreign Language (TOCFL). The composition of the corpus used in this paper and its size are shown in Table 2.

2.2 Methodology

Instances of the "one + classifier" structure were manually extracted from the corpus. Correct and incorrect example sentences were then distinguished and categorized based on the type of error, the linguistic context in which the error was produced, and the learner's proficiency level. The following sections will discuss possible causes of learners' under- and overuse of the "one + classifier" structure.

Table 2 Composition and size of the corpora

Subcorpus	Proficiency level	Number of essays	Number of characters	Number of words
JLC	CEFR-A2	255	110,768	66,309
	CEFR-B1	96	37,774	23,791
	CEFR-B2	56	23,225	14,938
	Total	407	171,767	105,038
ELC	CEFR-A2	225	31,216	21,985
	CEFR-B1	287	119,032	81,221
	CEFR-B2	122	61,357	36,691
	Total	634	211,605	139,897

In Sect. 3, we provide quantitative and qualitative analysis of errors in the use of classifiers by Chinese L2 learners and show how L1 appears to affect L2 acquisition. We then provide supporting evidence in the form of case studies of English L2 article use and Japanese L2 "one + classifier" use in Sects. 4 and 5 respectively.

3 Results and Discussion

This section presents results of analyzes of error trends in the use of "one + classifier" in L2 Chinese. Quantitative and qualitative findings for JLC are reported in Sects. 3.1 and 3.2 respectively. Section 3.3 briefly highlights characteristic errors by ELC. These errors additionally display parallels with the L2 English article use that we cover in Sect. 4.

3.1 Quantitative Analysis of the Use of "One + Classifier" by Japanese and English L1 Learners of Chinese

Instances of "one + classifier" produced by JLC and ELC were extracted then compared using adjusted frequencies (per 10,000 words). The results are shown in Table 3.

Table 3 Comparison of the output of "one + classifier" by Japanese/English native learners

Corpora	Frequency of occurrence	Adjusted frequency (per 10,000 words)
JLC	277	17.78
ELC	1046	74.77

($\chi 2$ test: $p < 0.01$ there is a statistically significant difference between the two groups of data)

Table 4 The correct use and misuse of the "one + classifier" by JLC

JLC				
Chinese language level	Correct use	Misuse		
		Underuse	Overuse	Replace
CEFR-A2	125 (40.06%)	184 (58.97%)	1 (0.32%)	2 (0.64%)
CEFR-B1	76 (43.93%)	93 (53.76%)	3 (1.73%)	1 (0.58%)
CEFR-B2	41 (38.68%)	62 (58.49%)	3 (2.83%)	0 (0.00%)
Total	242 (40.95%)	339 (57.36%)	7 (1.18%)	3 (0.51%)

Table 5 The correct use and misuse of the "one + classifier" by ELC

ELC				
Chinese language level	Correct use	Misuse		
		Underuse	Overuse	Replace
CEFR-A2	159 (60.16%)	6 (2.93%)	10 (4.88%)	30 (14.63%)
CEFR-B1	677 (90.63%)	12 (1.61%)	8 (1.07%)	50 (6.69%)
CEFR-B2	210 (97.22%)	2 (0.93%)	4 (1.85%)	0
Total	1,046 (89.55%)	20 (1.71%)	22 (1.88%)	80 (6.85%)

Table 3 shows that ELC produced the "one + classifier" structure 74.77 times per 10,000 words, which is significantly higher than the 17.78 times produced by JLC. This suggests that Japanese learners avoid the use of "one + classifier", and/or English learners overuse the "one + classifier". In order to confirm the above hypotheses, errors were categorized as "Underuse" (i.e., omission of "one + classifier" where it is required), "Overuse" (i.e., use of "one + classifier" where it cannot appear), or "Replace" (using the wrong classifier). The results are shown in Tables 4 and 5.

As shown in Table 4, JLC at all three proficiency levels exhibit low levels of accuracy in the use of "one + classifier". The proportion of correct use in fact decreases slightly with increasing proficiency level. Regarding error type, we observe significant underuse of "one + classifier" at all levels. Instances of underuse account for more than 50% of the errors, and this proportion does not change significantly with increased proficiency or length of language study.

The patterns of correct use and misuse of the "one + classifier" structure by ELC as shown in Table 5 are notably different. The overall frequency of misuse by English L1 speakers is low, and the proportion of errors decreases as learners' proficiency level increases. By CEFR-B2 level, ELC can be said to have acquired the "one + classifier" structure. The breakdown by error type also differs from the JLC data. The majority of errors made by ELC are of the "replace" type, but its proportion also decreases as proficiency increases. There are also slightly more instances of overuse by ELC.

In summary, JLC and ELC exhibit contrasting trends in the acquisition of "one + classifier". JLC have difficulty in acquiring "one + classifier". Errors of omission of "one + classifier" are prevalent and do not reduce significantly with increasing proficiency. In contrast, acquisition of "one + classifier" by ELC occurs more smoothly. ELC already achieve higher accuracy levels at CEFR A2 level and accuracy further improves as proficiency rises to the B1 and B2 levels. They do, however, experience some difficulty in selecting the appropriate classifier. These error trends are predictable, given that JLC lack functional equivalents to "one + classifier", whereas ELC possess functional equivalents to "one + classifier" (the indefinite article) but do not have a highly developed system of classifiers in their native language.

3.2 Qualitative Analysis of the Use of "One + Classifier" by Japanese L1 Learners of Chinese

In the previous section we showed the contrasting use of the "one + classifier" structure by JLC and ELC. Use of the "one + classifier" structure appears to be a more problematic and persistent issue for JLC than it is for ELC. In this section, we therefore focus on underuse of "one + classifier" by JLC, considering the structure's different functions.

First, we review the syntactic positions in which "one + classifier" may appear in a sentence and its function in each instance. When placed in the subject position, "one + classifier" can marks either a referential specific (12a) or non-referential (in this case, generic) noun phrase (12b).

(12) a. 一 个 警察 在 追 小偷。
Yí ge jǐngchá zài zhuī xiǎotōu.
A policeman is chasing a/the robber.
(There is a policeman chasing a/the robber.)[3]

b. 一个 警 察 应该 具有 良好 的 身体 素质。
Yí ge jǐngchá yīnggāi jùyǒu liánghǎo de shēntǐ sùzhì.
A policeman needs to be in good physical shape.

When placed in the object position, "one + classifier" marks a referential specific noun phrase, as in the following examples.

(13) a. 墙 上 有 一 张 地图。/ 墙上 挂 着 一 张 地图。/
Qiáng shang yǒu yì zhāng dìtú./ Qiángshang guà zhe yì zhāng dìtú. /
墙 上 少 了 一 张 地图。
Qiáng shang shǎo le yì zhāng dìtú.
There's a map on the wall. / There's a map hanging on the wall. / One of the maps on the wall has disappeared.

b. 他 画 好 了 一 张 地图。/ 他 拿 出来 一 张 地图。
Tā huà hǎo le yì zhāng dìtú. / Tā ná chū lai yì zhāng dìtú.
He drew a map. / He picked up a map.

c. 他 送 给 我 一 张 地图。/ 他 昨天 跟 我 要 了 一 张 地图。
Tā song gěi wǒ yì zhāng dìtú. / Tā zuótiān gēn wǒ yào le yì zhāng dìtú.
He gave me a map. / He asked me for a map yesterday.

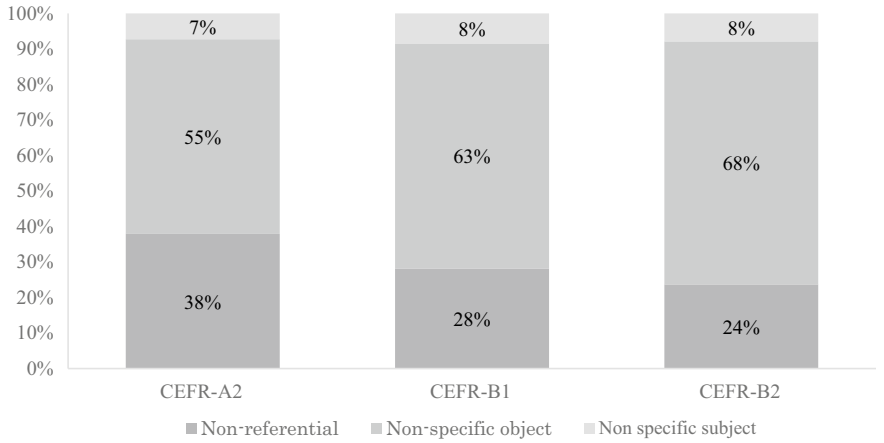

Fig. 1 Distribution of the correct use of "one + classifier" by Japanese L1 learners at each proficiency level

Finally, when used as a predictive component, "one + classifier" is used non-referentially, as in (14).

(14) 他 是 一 个 警察。
Tā shì yí ge jǐngchá.
He is a policeman.

We divided the correct uses of "one + classifier" by JLC following the above categories. The results are shown in Figs. 1 and 2. Figure 1 shows that the correct "one + classifier" structures produced by Japanese L1 learners are mainly found in cases where the indefinite noun phrase appears in object position, or in cases where it is used as a predictive element after the copula "是shi". The proportion of the former increases as proficiency increases. At all levels of proficiency, there are few instances of "one + classifier" appearing in subject position.

Figure 2 shows misuse of "one + classifier". By comparing the proportions of each use in Figs. 1 and 2, we can ascertain which uses prove to be relatively difficult at each level. First, we will consider uses of "one + classifier" in the subject position. At CEFR A2 level, these represent 7% of correct uses (Fig. 1) but 17% of omissions. At B1 and B2 levels, the proportions of correct use and omission are virtually the same. This suggests that the JLC had difficulty correctly including "one + classifier" in subject position at A2 level, but subsequently acquired this use.

Next, we will consider non-referential uses of "one + classifier". At A2 level, these uses represented a higher proportion of errors (47%, Fig. 2) than the proportion of correct use (38%, Fig. 1). As with "one + classifier" in subject position, the non-referential use, therefore, appears to be problematic at A2 level. At B1 and B2 level, the proportions are reversed, suggesting that non-referential uses of "one + classifier" become relatively unproblematic as proficiency increases.

Finally, we consider the uses of "one + classifier" in object position. In this position, "one + classifier" is used to express specific or non-specific referential

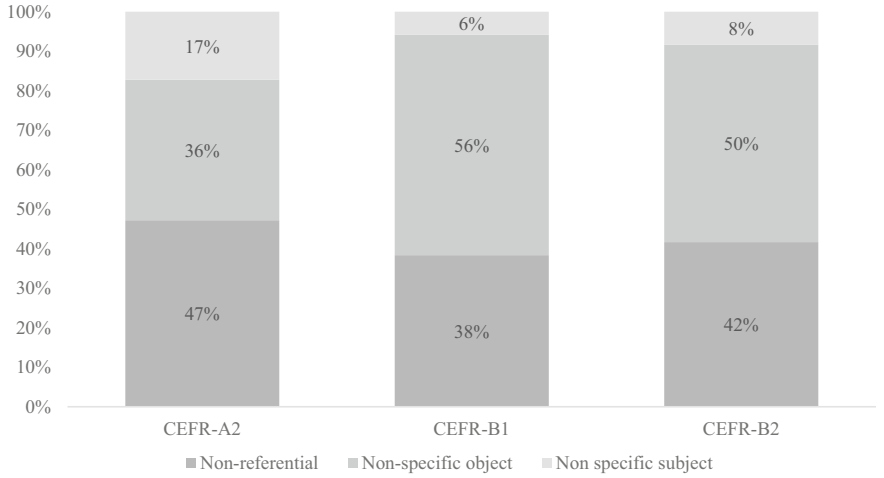

Fig. 2 Distribution of the instances of omission of "one + classifier" by Japanese L1 learners at each proficiency level

noun phrases (see Table 1 above for examples). It can perhaps be said to be the most prototypical of the uses of "one + classifier". This use represents a larger and larger proportion of total use, and misuse fluctuates around the 50% mark.

In this section we gave a breakdown of the types of sentence where "one + classifier" is used or omitted by JLC. In the following section, we turn to characteristic errors appearing in the ELC data.

3.3 Qualitative Analysis of the Use of "One + Classifier" by English L1 Learners of Chinese

In this section we briefly analyze errors made by English L1 learners of Chinese (ELC). As demonstrated in Sect. 3.1, ELC seem able to use "one + classifier" with greater ease than JLC. At intermediate (i.e., CEFR B1 and B2) levels in particular, ELC use "one + classifier" correctly in over 90% of instances. This contrasts with JLC, where the proportion of correct uses is low in elementary (A2) level learners and remains largely unchanged regardless of increases in proficiency.

Nonetheless, a small number of errors do occur in ELC production. Strikingly, errors of overuse are more prevalent than errors of omission. Examples are provided below. Superfluous uses of "one + article" are shown in brackets.

(15) 现在 我 的 家 没有 [一个] 电视， 所以 我 要 买 一个 新 电视。
Xiànzài wǒ de jiā méiyǒu [yí ge] diànshì, suǒyǐ wǒ yào mǎi yí ge xīn diànshì
I don't have a TV in my room, so I want to buy a new one.

(16) 明天 是 我 朋友 的 生日， 可是 我 还 没 给 他 买 [一个] 礼物
Míngtiān shì wǒ péngyou de shēngrì, kěshì wǒ hái méi gěi tā mǎi [yí ge] lǐwù
It is my friend's birthday tomorrow, but I haven't bought him a gift.

(17) 你也 可以 请 他 喝 [一杯] 茶、一起 打 球。
Nǐ yě kěyǐ qǐng tā hē [yìbēi] chá、yìqǐ dǎ qiú.
You can also invite him to have a cup of tea, and to play basketball.

(18) 然后 我们 可以 在 这个 电视 上 看 [一个] 节目。
Ránhòu women kěyǐ zài zhège diànshì shang kàn [yí ge] jiémù.
Then we can watch a program on this TV.

As is evident from the English translations of each sentence, ELC use "one + article" where an indefinite article would be required in English. Overall, this is an effective strategy, as "one + article" and the indefinite article are functionally equivalent in many cases, but it is inappropriate in (15–18). Note that none of these examples express realis events. (15–16) are negative sentences and (17–18) express future possibilities that may or may not occur. All four examples are incompatible with the individualizing function of "one + classifier". English articles are not affected by similar semantic considerations, so it is perhaps unsurprising that a one-to-one mapping of "one + classifier" and the indefinite article in the interlanguage of ELC would lead to overuse of the kind shown in (15–18).[3]

The results of this study are complementary to those of Crosthwaite et al. (2017), who analyzed the expression of definite discourse-new (so-called "bridging") reference by English, Korean and Japanese learners of Chinese. "Bridging" refers to

[3] Languages like Spanish require the definite article before generic noun phrases, as in (i). This contrasts with English, where a definite article, an indefinite article, or a bare plural noun phrase are all possible.

(i) *(Los) tigres comen carne.
The tigers eat meat
'Tigers eat meat.' Based on Chang (2016: 800).

On the other hand, languages like Dutch disallow articles in sentences like (14), i.e., in at least some nonreferential contexts, as in (ii).

(ii) Marie is leerkracht
Marie is teacher
'Marie is a teacher.' Based on Aguilar-Guevara, Le Bruyn & Zwarts (2014: 8)

Just as differences among "article-less languages" (i.e., differing degrees of grammaticalization of "one + classifier" in Chinese and Japanese) can affect L2 English article acquisition, differences among languages possessing articles may affect the ease of acquisition of particular uses of "one + article" in L2 Chinese. This is an empirical question that awaits further research.

situations where a new referent can be linked to a previous referent in the discourse. For example, in (19a), "waiter" can be marked with the definite article because its existence is implied by "restaurant" in the preceding sentence. Chinese does not mark definite discourse-new reference morphologically (19b), in contrast to standard uses of "one + classifier" to mark discourse new, noninferable reference, e.g., in (7–9) and (11).

(19) a. A man walks into a restaurant. The waiter gave him a menu.
b. 有 一 个 男孩 走 进 餐厅， 服务员 给 他 一 份 菜单。
Yǒu yí ge nánhái zǒu jìn cāntīng, fúwùyuán gěi tā yí fèn càidān.
'A boy entered a restaurant. The waiter gave him a menu.'
(Crosthwaite et al, 2017: 628)

ELC showed a tendency to use Chinese demonstratives and classifiers analogously to English articles. In other words, they used "demonstrative + classifier + noun" for bridging reference, and "one + classifier" for nonbridging reference (Crosthwaite et al., 2017: 644).[4] While article-like use of "one + classifier" may result in native-like use as attested in Sect. 3, in irrealis situations (the current study) or bridging situations (Crosthwaite et al.'s study), over-generalization of the functional equivalence between articles and "one + classifier" results in infelicitous use of the latter.

This section has shown how both the high level of overall acquisition of "one + article" and its overuse in specific circumstances can be explained if we assume that ELC associate "one + article" with the indefinite article in their L1. Whether this phenomenon is due to conscious strategies by individual learners, the result of L2 pedagogy or an unconscious association is a task for further research.

3.4 Analysis of the Use of "One + Classifier" by Korean L1 Learners of Chinese

In this section, we discuss the data relating to the use of "one + classifier" in essays written by Korean native learners of Chinese (henceforth, "KLC"). Table 6 shows that among instances of misuse of "one + classifier" (underuse: 78.40%, overuse: 16.00%, replace: 5.60%), the percentage of underuse (196: 78.40%) is remarkably high in the essays by KLC. This high proportion of underuse errors is similar to the results for the JLC data shown in Sect. 3.1. This may be due to the fact that Korean is typologically similar to Japanese.

[4] Native speakers of Korean in Crosthwaite et al's (2017) study did not make similar errors in their L2 Chinese.

Table 6 The correct use and misuse of the "one + classifier" by KLC

KLC (294 essays)	Correct use	Misuse			Total
		Underuse	Overuse	Replace	
	1125 (81.82%)	196 (14.25%)	40 (2.91%)	14 (1.02%)	1056 (100%)
		250 (18.18%)			
		196 (78.40%)	40 (16.00%)	14 (5.60%)	250 (100%)

That is, Korean, as well as Japanese, does not have a determiner position (DP) in syntax, which may have affected the underuse of "one + classifier". The following are some specific examples for misuse of underuse in KLC data.

(20) 几年前， 朝鲜 有 <φ→一个> 很 大 的 机会，就是 六个 国家 的 会谈，但是…。
Jǐniánqián, Cháoxiǎn yǒu <φ→yí ge> hěn dà de jīhuì, jiùshì liù ge guójiā de huìtán, dànshì….
(0051_20130311_PKU_IL_CH_008)
"A few years ago, there was a great opportunity in Korea. It was the Six-Nation Talk, but…"

(21) 所以 我 开始 了学习 汉语。 那 时候 隔壁 <φ→一个> 姐姐 的 专业 是 中文系，
Suǒyǐ wǒ kāishǐ le xuéxí Hànyǔ. Nà shíhou gébì <φ→ yí ge> jiějie de zhuānyè shì Zhōngwénxì,
除了 那 个 姐姐 教 我 汉语 以外，我 自己 学 了 汉语。
chúle nà ge jiějie jiāo wǒ Hànyǔ yǐwài, wǒ zìjǐ xué le Hànyǔ.
(0541_20130617_PKU_IL_CH_207)
"So I started to study Chinese. At that time, a girl who lived next door majored in Chinese, and except for her teaching me, I studied Chinese by myself."

The percentage of correct use is considerably higher in the KLC data than in the JLC data (KLC: 81.82%, JLC: 40.95%). This difference is presumably due to differing proficiency levels of the KLC and JLC learners. The Korean learners belonged to the Chinese language department of a university in China. In other words, they are learning Chinese not only in the classroom but also in their living environment, which means their Chinese level is likely to be higher. In contrast, Japanese learners were studying Chinese as a foreign language in Japan.

However, in spite of the higher Chinese level of KLC, the proportion of overuse is higher in the data of KLC (2.91%) than in the data of JLC (1.18%), which may be due to individual differences among learners. These errors are different from those of JLC, such as use of "one + classifier" in negative sentences, and are a potential area of future research.

(22) 我们 在 人生 的 路途 中， 总会 面对 很 大 的 危机。 但是 我 相信，
Wǒmen zài rénshēng de lùtú zhōng，zǒnghuì miànduì hěn dà de wēijī. Dànshì wǒ xiāngxìn,
拥有 <一个→φ> 梦 想 的人， 能够 克服 它。
yōngyǒu < yí ge →φ> mèngxiǎng de rén, nénggòu kèfú tā.
(0053_20130311_PKU_IL_CH_021)
"We will always face great crisis in our life. But I believe that people who have a dream can overcome it."

(23) 如果 怕 自己的 孩子 在 社会 上 淘汰，就要 让 孩子 一 上 学 就 开始 学
Rúguǒ pà zìjǐ de háizi zài shèhuì shang táotài, jiùyao ràng háizi yí shàng xué jiù kāishǐ xué
<一门→φ> 外语。
< yì mén →φ> wàiyǔ. (0062_20130311_PKU_IL_CH_045)
"If you are afraid that your child will be weeded out in society, you should have your child start learning a foreign language as soon as they enter school."

4 L2 English Article Use by Chinese L1 and Japanese L1 Learners

In this section we focus on the acquisition of articles in L2 English. In Sect. 4.4 we will refer back to error examples in Sect. 3.3, demonstrating how the presence or absence of a realis/irrealis distinction in the use of determiners affects L2 English as it does L2 Chinese. First, we introduce our data set and more general findings.

4.1 Background

In Sect. 3.1 we demonstrated how similarities and differences between L1 and L2 appear to contribute to contrasting trends in the use of the "one + classifier" in L2 Chinese. Specifically, the functional similarity between the English indefinite article and the Chinese "one + classifier" structure appears to be more conducive to the acquisition of the L2 form than the morphological similarity between "one + classifier" in Chinese and Japanese. In the following sections, we offer a preliminary investigation of similar processes in L2 article use by Chinese learners of English (CLE) and Japanese learners of English (JLE).

Research on the acquisition of English L2 articles is voluminous, with the majority of studies being based on forced elicitation tasks, self-paced reading tasks, or other experimental designs. Research has particularly focused on native speakers of "article-less" languages, including Chinese (Díez-Bedmar & Papp, 2008; Robertson, 2000; Snape, Leung, & Ting, 2006; Xu et al., 2016; Yang & Ionin, 2009) and Japanese (Butler, 2002; Hawkins et al., 2006; Snape, Leung, & Ting, 2006; Ogawa, 2007; Kume, 2016; Yamada, 2019).[5] Learners of these languages are believed to

[5] This is by no means intended to be a comprehensive list. Other "article-less" languages frequently analyzed include Korean and Russian.

find the acquisition of articles problematic due to an absence of equivalent features in L1. Nonetheless, there is little consensus about which particular uses of articles learners struggle with the most, and the underlying causes. It has been argued that learners' choices of article can be affected by factors including definiteness, specificity, countability, and reference salience. Some research has argued that individual learners whose native languages lack articles fluctuate in their L2 article use, although results are not uniform between or within languages. The differing results of previous studies have numerous potential causes, including mode- or task-related effects, learner proficiency, and even different analytical frameworks.[6]

One further factor, which will be the focus of the present study, is the influence of learners' native language. Specifically, we investigate whether L1 Chinese and L1 Japanese learners of English exhibit different patterns in their use and misuse of English articles. We introduce one study that is particularly pertinent to this research question below.

Crosthwaite (2016a) is a corpus study comparing article use by L1 Mandarin, L1 Korean and L1 Thai learners of English. While all three of these languages are regarded as "article-less", Crosthwaite (2016a: 78) asserts that in L1 language use Chinese speakers "appear to use overt syntactic means to signal (in)definiteness (e.g., overt or deliberately omitted numeral + classifiers, demonstratives) more often and in more clearly differentiated article contexts than Korean and Thai speakers". As a result, "the potential for positive L1 transfer of certain form/function relationships associated with the English article system appears to be greater" for Chinese L1 learners.

In Crosthwaite's (2016a) study, Chinese L1 learners indeed exhibited more target-like use of articles than Korean L1 and Thai L1 learners. Furthermore, Chinese L1 learners exhibited similar levels of accuracy for zero, definite and indefinite articles, in contrast to Korean and Thai L1 learners, for whom definite and indefinite articles proved to be more challenging than zero articles. Crosthwaite (2016a: 33) concludes that this phenomenon can be regarded as the effect of positive transfer, and as evidence that Chinese "does, in fact, have an article-like system". In summary, Crosthwaite's study demonstrates the practical effects on second language acquisition of the article-like uses of "one + classifier" and demonstratives noted by earlier studies (Chen, 2004; Gundel et al., 1993; Snape, Leung & Ting, 2006). It also demonstrates that differences among learners whose L1 lack articles can be observed not only in experimental contexts but also in natural language use as captured in learner corpora.

In the remainder of Sect. 4, we examine our own data for patterns similar to those observed by Crosthwaite (2016a) and parallel to the L2 Chinese data detailed in previous sections.

[6] For instance, there are at least two competing definitions of "specificity" in the context of Second Language Acquisition (SLA) research on article use. See, e.g., Ionin & Díez-Bedmar (2021) for discussion.

Table 7 Article use by Chinese L1 learners

		Correct form				
		zero	a	the	Other	**Total errors**
Original form	zero	*205*	68	60	8	**136**
	a	3	*480*	5	0	**8**
	the	24	35	*524*	30	**89**
	Total errors	**27**	**103**	**65**	**38**	**233**

4.2 Data Set

The data set referred to in the rest of Sect. 4 comprises another subsection of the three-way learner corpus developed at Tokyo University of Foreign Studies. There are two important caveats regarding this particular data set. First, we lack proficiency data of the type referred to above for the Chinese L2 data. The Japanese L1 learners were first-year English majors at the time of data collection, whereas the Chinese L1 learners were fourth-year English majors. Second, the data is taken from a translation task, in which learners translated equivalent texts from their L1 into English. The task was thus controlled for content but not for proficiency, so the results presented below cannot be compared directly to the analysis in Sect. 3.1. They can, however, be considered as another potential instantiation of L1 effects on the acquisition of L2 forms, and represent a task type that has not, to our knowledge, been employed in L2 acquisition studies concerning English articles.

4.3 Quantitative Analysis

Tables 7 and 8 show article use by CLE and JLE respectively. Raw figures have been used because both data sets consist of the same number of translations of the same source text (n = 40). Shaded cells represent correct use of either the zero, indefinite or definite article.[7]

Error patterns appear to be largely similar in the two groups of learners, with omissions of the indefinite article being most prominent, followed by omissions of the definite article. Examples of each error type are shown in (24) and (25) below.[8]

[7] "other" in Tables 6 and 7 refers to forms other than articles, such as possessive pronouns. We will not consider these forms in detail in the present paper.

[8] Abbreviations: JP = Japanese native speaker; CH: Chinese native speaker.

Table 8 Article use by Japanese L1 learners

		Correct form				
		zero	a	the	Other	**Total errors**
Original form	zero	*298*	97	71	30	**198**
	a	5	*574*	16	5	**26**
	the	13	32	*354*	18	**63**
	Total errors	**18**	**129**	**87**	**53**	**287**

(24) Omission of the indefinite article
a. My teacher would roll his quilt into (zero → a) strip like a rolled cake . (CH_38)
b. Hu put Longjing Green tea in the Chinese mug with (zero → a) lid and poured hot water from a vacant bottle. (JP_10)

(25) Omission of the definite article
a. I, at public expense by (zero → the) Chinese Government, furthered my study in Fudan University (CH_12)
b. It was at simple age but I remembered (zero → the) hospitality of the Prof. Hu vividly. (JP_39)

Furthermore, overuse of articles (i.e., where the correct form is zero) represent a very low proportion of total errors (approximately 12% for CLE and 6% for JLE). Examples for the definite article are given in (26) for reference.

(26) Article overuse:
a. the redness of the candy box was so bright that I nearly mistook it was for (the → zero) wedding candies. (CH_46)
b. his family treated me to Babaofan- (the → zero) decorated cakes made of glutinous rice with eight dried fruits. (JP_07)

The error trends illustrated above are expected, given that both Chinese and Japanese are regarded as article-less languages. Note, however, that JLE exhibit a higher total frequency of errors than CLE, and that the proportion of errors of omission is greater for JLE (69%) than it is for CLE (58%). This difference appears to mirror Japanese native speakers' omission of "one + classifier" in L2 Chinese, and also suggests that Japanese learners of English may be closer to Korean and Thai learners of English than they are to Chinese learners of English, in terms of their frequent omission of articles.

The data in Tables 7 and 8 were then used to calculate the Target Language Use (TLU) as proposed by Pica (1983) for the definite, indefinite, and zero articles. TLU takes into account both overuse and underuse of a target form and has been repeatedly adopted in previous studies on article use (Crosthwaite, 2016a, 2016b; Díez-Bedmar & Papp, 2008). TLU is calculated using the formula shown below. A TLU score of 1 represents entirely "target-like" use. The lower the TLU, the more problematic the form for learners.

(27) $$\text{TLU} = \frac{\text{no. of suppliances in obligatory contexts}}{(\text{no. of obligatory contexts}) + (\text{no. of suppliances in non-obligatory contexts})}.$$

Table 9 TLU of articles by Chinese L1 and Japanese L1 learners

	Chinese L1			Japanese L1		
	zero	a	the	zero	a	the
obligatory contexts	232	583	589	316	703	441
correct suppliances in obligatory contexts	205	480	524	298	574	354
suppliances in non-obligatory contexts	136	8	89	198	26	63
TLU	**0.56**	**0.81**	**0.77**	**0.58**	**0.79**	**0.70**

The TLU for each article is shown in Table 9. The patterns can be summarized as follows. First, for both groups of learners, TLU was lowest for the zero article and highest for the indefinite article. Comparison with Tables 7 and 8 shows that the low TLU for the zero article was due to "overuse" of the zero article, in other words, omission of the indefinite article and, to a lesser extent, omission of the definite article. Again, such errors of omission are expected given that both Chinese and Japanese lack articles. Despite this trend to omit the indefinite article, in the majority of cases learners' selection of the indefinite article was in fact appropriate. As a result, the indefinite article showed the highest TLU, for both CLE (TLU = 0.81) and JLE (TLU = 0.79).

Second, the TLU for the zero article and indefinite article was almost identical for CLE and JLE. In other words, the functional similarity between "one + classifier" and the indefinite article did not have an obvious positive effect on L2 article acquisition by CLE in the current data set.

In contrast, the TLU for the definite article was notably higher for CLE (TLU = 0.77) than for JLE (TLU = 0.70). The precise reason for this difference is not entirely clear, but it reflects a greater overall use of the definite article by CLE. Table 10, calculated from the figures in Tables 7 and 8, shows the proportion of articles used by each group of learners. In the Chinese L1 data, the definite article accounts for over 40% of overall article use, the highest of the three possible forms, whereas in the Japanese L1 data, the percentage is less than 30%, the lowest of the three possible forms in article position. Table 10 also shows that the L1 Japanese data exhibits a greater proportion of zero article use (32.8%) than that seen in the L1 Chinese data (23.6%). These figures refer to overall use irrespective of whether the usage is correct or incorrect, but they are suggestive of a tendency among JLE to avoid articles more generally.

Taken together, the data in tables from Tables 7, 8 and 9 and 10 suggest that CLE show greater mastery of articles in general and the definite article in particular compared to JLE. This may ultimately be due in part to the functional equivalence between the definite article and determiner-like uses of demonstratives in Chinese, though it is not clear why a similar phenomenon does not occur with the indefinite article in the current data set.[9] There may be task-related issues, so further studies should be conducted using different data sets to enable data triangulation.

[9] This is not to imply that CLE translated demonstratives in the source text as definite articles, and that JLE did not. We merely suggest that the propensity of use of demonstratives in L1 Chinese

Table 10 Proportion of use of each article

Article	L1 Chinese		L1 Japanese	
	Raw frequency	Percentage	Raw frequency	Percentage
zero	341	23.6	496	32.8
a	488	33.8	600	39.7
the	613	42.5	417	27.6
Total	**1442**		**1513**	

4.4 Qualitative Analysis

This section briefly discusses some concrete examples of article errors and suggests how these may have been influenced by learners' L1. As mentioned above, the current data set is a translation task and so L1 influence can potentially occur not only through learners' interlanguage, but explicitly through the source text. However, the text in question features few uses of either "one + classifier" or determiners, so L1 influence is likely to occur more generally. Below, we consider how the absence of "one + classifier" in L1 Chinese may lead to omission of articles in L2 English.

The examples in (28) show omission of articles by CLE, with the appropriate article added in brackets. These examples feature negation and are found almost exclusively in the CLE data. This is a reflection of the fact that the "one + classifier" structure is not required or even allowed in irrealis sentences such as negatives and conditionals. Crucially, this mirrors the erroneous use of "one + classifier" structure by ELC in irrealis sentences illustrated in Sect. 3.3. In other words, although "one + classifier" and articles have functional similarities and appear to be sources of positive transfer overall, restrictions on the use of the former to realize contexts appear to contribute to overuse of "one + classifier" by ELC and underuse of the indefinite article in particular contexts by CLE.

(28) a. At that time, teachers in Fudan University didn't have (∅ → an) individual laboratory (CH_57)

b. Since teachers dorm did not have (∅ → a) telephone, I mostly called without invitation. (CH_24)

Finally, we mention some other areas of difficulty for learners. Article errors are concentrated in three main areas: a. use of the definite article for bridging reference, b. non-referential use of the indefinite article, and c. inappropriate use of the definite article in bridging relations.

First, learners appear to have difficulty with the definite article used for bridging reference, i.e., where a new referent can be inferred from another referent. The translation task includes such pairs as "bed" and "futon", "box" and "lid", and "restaurant" and "menu". Learners frequently failed to mark "futon", "lid" or "menu" with

functionally similar to uses of the English definite article (Crosthwaite 2016a) primes CLE to mark definiteness grammatically with more regularity than JLE.

the definite article. In fact, these errors occur almost exclusively among Japanese learners. This is unsurprising, as Japanese neither marks bridging relations morphologically, nor distinguishes these from new referents (which are also unmarked morphologically). Therefore, even JLE who successfully use the definite article for previously mentioned referents may struggle with bridging reference. Instead, they use the indefinite article or omit the article altogether (29).

(29) Errors involving use of the definite article for bridging reference:
   a. The Professor used to give me individual tutorials, sitting on the bed with (∅ → the) "futon" rolling up like rolled cakes and turned into couch. (JP_31)
   b. Then, he took (a → the) lid off from a red candy box like a present given in a wedding ceremony (JP_43)
   c. After that, I always order Babaofan whenever I see it on (∅ → the) menu of Chinese restaurants and remember Omotenashi by Prof. Hu. (JP_42)

Second, both Chinese and Japanese learners tend to omit the indefinite article in non-referential situations. The irrealis sentences in (28) can be regarded as non-referential. In addition, there are frequent omissions of the indefinite article in contexts like those shown in (30). The example in (30a) refers to Chinese restaurants in general and the examples in (30b-d) do not to refer to actual concrete objects.[10]

(30) Omission of the indefinite article in non-referential contexts:
   a. After that Eight Treasures Rice was on my must-order list everytime I went to (∅ → a) Chinese restaurant (CH_35)
   b. When I attended the class, Mr. Hu always rolled the quilt with cotton wadding into a long strip like (∅ → a) Western cake (CH_17)
   c. Then, he would also uncap a red box, which looked like a gift for guests at (∅ → a) wedding reception, and offered me candies in it, smiling kindly. (JP_03)
   d. Private guidance of my paper carried out on his bed, which likes (∅ → a) jelly roll and imitate like (∅ → a) bench. (JP_08)

Finally, we comment briefly on errors where learners selected the definite article instead of the indefinite article. This represents the third most common error type among both groups of learners, following omission of the indefinite article and omission of the definite article (see Tables 7 and 8). This error type largely represents inappropriate use of the definite article in bridging relations. In other words, learners use the definite article for new referents despite their being no clear implication of the referents existence. For example, in (31a) there is no reason to assume the existence

[10] Note that (30b-d) all include *like* or similar expressions.

of a teacup, let alone one known to the reader, based on the text up to that point. Learners are therefore marking an indefinite, specific referent as if it were a definite, specific referent.

(31) Erroneous use of the definite article:
- a. After I sat down, my teacher would pinch some Longjing Tea to (the → a) traditional lidded Chinese teacup (CH_56)
- b. From then, I would order a Babao rice every time I came to (the → a) Chinese restaurant (CH_41)
- c. After I sat down, the teacher would first put some Longjing tea in a traditional Chinese style cup which with a lid and then poured hot boiling water from (the → a) thermos to make a cup of hot tea for me. (CH_32)
- d. Then, he took away the lid of (the → a) red candy box just like a gifts for guests at wedding ceremony (JP_32)
- e. When I sit down on the futon, Prof. Hu, firstly, put one pick of Longjing Green Tea into (the → a) Chinese mug cup with cover (JP_14)

Why, then, does this error trend emerge? We suggest that the presence of modifying elements (underlined in the examples above) gives learners the impression that there is enough information for the reader to identify the referent.[11] While this is an incorrect application of the English definite article, such behavior has been observed in previous studies. The current study, therefore, supports the idea that learners confuse the features of definiteness and specificity when choosing the appropriate English article.

Section 4 has provided some partial supporting evidence for the assertion that learners' native language affects acquisition of L2 forms. L1 influence is not uniformly positive or negative but can lead to both native-like and erroneous use of L2 forms, depending on a range of other factors. In the next section, we briefly turn to the acquisition of L2 Japanese.

5 Use of Japanese "One + classifier" in Compositions by L1 Chinese and English Learners

This section examines the use of "one + classifier" in Japanese compositions by Chinese L1 learners (CLJ) and English L1 learners (ELJ). The data used in this

[11] Nevertheless, examples like (31c) are not accompanied by modifying elements. Assuming that article choice is not random, there may be a cultural element at play. Errors with the referent "thermos" only appear among Chinese native speakers. Perhaps there is an assumption among Chinese native speakers that "tea" earlier in the narrative is sufficient for a bridging reference with "thermos". Native speakers of English may be more likely to accept "kettle" marked by the definite article in a similar context.

Fig. 3 Five-frame cartoon by I-JAS

Table 11 Modifier elements and frequency of occurrence with "inu" (dog)

Modifier for "inu" (dog)	Chinese L1	English L1	Japanese NS
zero form	421 (1539.08)	263 (2610.16)	111 (1901.66)
"one + classifier"	13 (47.53)	**0 (0.00)**	**0 (0.00)**
"aru" (a certain)	12 (43.87)	**0 (0.00)**	**0 (0.00)**
determiner	19 (69.46)	6 (59.55)	1 (17.13)
other	95 (347.30)	28 (277.89)	33 (565.36)

(Numbers in brackets indicate adjusted frequency per 100,000 words)

section is taken from the "Story writing 1" section (SW1)[12] of I-JAS.[13] We examined the use of modifying elements preceding the noun "inu" (dog) in the SW1 data for CLJ and ELJ and compared each to the use of modifying elements by native speakers of Japanese on the same task. The types of modifying elements used by L1 speakers of each language are summarized in Table 11. The table reveals the following two points.

First, Chinese L1 learners show a significantly higher frequency in the use of "one + classifier" (Chinese L1: 47.53, Japanese native: 0.00, $G^2 = 5.03$, $p = 0.025$) and of the indefinite element "aru" (Chinese L1: 43.87, Japanese native: 0.00, $G^2 = 4.64$, $p = 0.031$) as compared to Japanese native speakers. Second, in contrast to Chinese L1 learners, English L1 learners, like Japanese native speakers, do not exhibit overuse of

[12] Learners produce sentences to describe the story depicted in the five-frame cartoon shown in Fig. 3.

[13] I-JAS: "International Corpus of Japanese as a Second Language" (http://lsaj.ninjal.ac.jp/) (National Institute for Japanese Language and Linguistics),refer to Chap. 14 in this book.

"one + classifier" or "aru". Indeed, neither ELJ nor Japanese native speakers show any use of "one + classifier" or "aru".

This phenomenon suggests that although both Chinese and Japanese possess the "one + classifier" structure, its function is different in both languages, otherwise we would expect to see similar patterns of use between Japanese native speakers and CLJ. While Japanese possesses the "one + classifier" structure, in practice it is not selected by native speakers in the current context, where conveying numeral information is not necessary.

Next, we will discuss "one + classifier" from the perspective of "boundedness"[14] in cognitive structure and "the function of introducing new information" in informational structure.

Shen (1995) suggests that the function of classifiers in Chinese is to "embody the opposition between bounded and unbounded" in the human cognitive structure. We analyze the use of "one + classifier" by CLJ in the I-JAS data making reference to this concept of "boundedness". Errors related to classifiers have been corrected, with corrections shown in brackets. Unrelated errors have been left uncorrected.

"Locative Structure".

(32) a. サンドイッチを 入った バスケットの 近くに
Sandoitchi-o hait-ta basuketto-no chikaku-ni
Sandwich-ACC enter-PST basket-POSS near-DAT
犬が 一只（一匹）[15] あります。 (CCH29-SW1)
inu-ga ip-piki ari-masu
dog-NOM one-CL be-COP

b. 装 着 三明治 的 篮子 的 附近 有 一只 狗。
Zhuāng zhe sānmíngzhì de lánzi de fùjìn yǒu yì zhī gǒu.
(Chinese translation by the author)
There is a dog near the basket with the sandwiches inside.

15

(33) a. マリ と ケンの うちには 犬が 一匹 飼います。
Mari-to Ken-no uchi-ni-ha inu-ga ip-piki kai-masu
Mari-COM Ken-POSS house-DAT-TOP dog-NOM one-CL feed-COP
(CCS03-SW1)

b. 玛丽 和 小健 的家里养 了 一 条 狗。
Mǎlì hé Xiǎojiàn de jiāli yǎng le yì tiáo gǒu.
(Chinese translation by the author)
Mari and Ken have a dog. (There is a dog in Ken and Mari's house.)

[14] The term "boundedness" in linguistics was first pointed out by Langacker (1987, 1991a, b, 2001) from the perspective of cognitive linguistics. Boundedness is, in essence, generally considered to be the concept of whether or not a boundary exists within something. Among nouns, "countable nouns" with clearly defined boundaries express "boundedness", while those with no clear boundaries, such as "collective nouns", express "unboundedness". In Chinese, the restrictions on the syntactic structure of quantifiers effectively embody the basic opposition of "bounded" and "unbounded" in human cognition (Shen 1995).

[15] "只zhī" is a classifier in Chineese, whereas "匹hiki" is the correct classifier in Japanese.

"Verb-Complement Structure".

(34) a. 彼らは…、 バスケットを 開けて、 一つの 犬を
Karera-wa basuketto-o ake-te hitotsu-no inu-o
they-TOP basket-ACC open-PTC one-POSS dog-ACC
見つけて… (CCH38-SW1)
mitsuke-te
find-PTC

b. 他们…， 打开 了 篮子，看到 一 只 狗…
Tāmen …，dǎkāi le lánzi， kàndào yì zhī gǒu…
(Chinese translation by the author)
They open the basket and find a dog…

Examples of Japanese sentences written by Chinese L1 learners are shown in (35–37). The equivalent sentences in Chinese are provided for comparison. As the Chinese sentences require "one + classifier" to realize boundedness in each case, the overuse of "one + classifier" in L2 Japanese by Chinese L1 learners in I-JAS may be due to L1 transfer. On the other hand, the overuse of classifiers is also related to factors concerning information structure. In Japanese, information structure is typically expressed by marking sentence elements with either the case marker "ga" or topic marker "wa".

(35) a. ケンは 蓋を 開けって（開けて）、 食べ物を 出そう と
Ken-wa futa-o aket-te tabemono-o da-so to
Ken-TOP lid-ACC open-PTC food-ACC take out-will COMP
思って、 パット 一匹の 犬が 走ってしまった。
omot-te patto ip-piki-no inu-ga hashit-teshimat-ta
think-PTC suddenly one-CL-POSS dog-NOM run-regret modal-PAST
(CCM11-SW1)

b. 小健 打开 盖子， 想 要 取出 食物，突然 一 条 狗 跑 了 出来。
Xiǎojiàn dǎkāi gàizi， xiǎngyào qǔchū shíwù，tūrán yì tiáo gǒu pǎo le chūlái.
Ken opened the lid, wanting to take out the food, and a dog suddenly ran out.
(Chinese translation by the author)

In (35b), which is the Chinese translation of (35a), the subject "gou" (dog) is an indefinite noun expressing new information and so must be marked with "one + classifier". Because of this stipulation in L1, it is assumed that Chinese L1 learners will overuse "one + classifier" in Japanese sentences like (35a). In I-JAS, the sentences including "one + classifier" produced by Chinese L1 learners basically co-occur with "-ga" ("-ga": 10 cases, "-wo": 2 cases, "no particle": 1 case) and there are no cases of co-occurrence with the particle "-wa" in particular.

Table 12 Use of "wa" and "ga" by Japanese native speakers and Chinese L1 learners

	Japanese NS (n = 50)		Chinese (n = 100)	
	Dog (scene1)	Dog (scene2)	Dog1 (scene1)	Dog2 (scene2)
-ga	48 (96%)	50 (100%)	50 (50%)	54 (54%)
-wa	**1 (2%)**	**0 (0%)**	**35 (35%)**	**31 (31%)**
others	1 (2%)	0 (0%)	15 (15%)	15 (15%)
total	50 (100%)	50 (100%)	100 (100%)	100 (100%)

(scene1: panels① and ② in Figure#1, scene2: panel ④ in Figure#1)

(36) そして、 二人が 地図について 相談していた 所に、
Soshite futari-ga chizu-nitsuite soodanshi-tei-ta tokoroni
then two of them-NOM map-about discuss-DUR-PST at that time
一匹の 犬が こっそりと バスケットに 入って、
ip-piki-no inu-ga kossorito basuketto-ni hait-te
one-CL-POSS dog-NOM secretly basket-DAT enter-PTC
その中の 物を 食べてしまいました。 (CCM15-SW1)
sononaka-no mono-o tabe-teshimai-mashi-ta
inside-POSS food-ACC eat-regret modal-PLT-PST

Then, as the two of them were discussing the map, a dog sneaked into the basket and ate the food inside.

(37) 一匹の 犬ちゃんが 用意してあった バスケットに 入ったことは…
Ip-piki-no inu-chan-ga yoishi-teatta basuketto-ni haitta-koto-wa
one-CL-POSS doggie-NOM be prepared basket-DAT enter-thing-TOP
(CCT15-SW1)

…that a doggie had gone into the basket (they had) prepared.

Table 12 shows a comparison of the use of "-wa" and "-ga" added to "inu" (dog) in the two scenes of the story writing task. While Japanese native speakers almost exclusively use "-ga" in both scenes, CLJ use "-wa" more frequently (35% in scene 1, 31% in scene 2). This may be caused by the fact that learners have not fully acquired the distinction between "-wa" to mark old information and "-ga" to mark new information.

6 Implications for Chinese Teaching

Based on the three case studies presented above, in this section we outline the implications of our findings for teaching Chinese as a foreign or second language.

Elementary and intermediate Chinese language teaching materials currently in use in Japanese universities typically provide little or no explanation of the "indefinite" use of the "one + classifier" structure. Classifiers are treated as "units to count objects" and are usually only brought up in relation to the range of classifiers used to mark objects with different properties and shapes. Japanese does not have a grammatical form expressing indefiniteness and lacks obligatory marking of the

(in)definiteness of noun phrases. As such, Japanese learners are predicted to struggle to acquire the "one + classifier" structure unless they are taught it explicitly.

We propose that the striking tendency for JLC to omit "one + classifier" is caused by such differences. Likewise, this may explain why ELC, whose native language shows a grammatical distinction between definite and indefinite, did not tend to omit "one + classifier", instead overusing the structure on occasion.

The implications for Chinese language pedagogy aimed at L1 Japanese learners can be summarized as follows. First, the "indefinite" use of the "one + classifier" structure should be introduced from the elementary or intermediate level. Second, it may be effective to introduce the "one + classifier" structure through reference to the English indefinite article, to which all university level learners will have been exposed to. In this way, L2 (English) knowledge could potentially aid L3 (Chinese) acquisition.

7 Conclusion

This paper has introduced three case studies examining the possible influence of learners' native language on the acquisition of L2 forms. The findings can be summarized as follows. In L2 Chinese, functional similarities between the indefinite article and "one + classifier" had a beneficial effect on L2 acquisition for English native speakers, whereas morphological similarities between "one + classifier" in Japanese and Chinese led to the omission of the target form by Japanese native speakers. The same morphological similarities also contributed to the overuse of "one + classifier" in Chinese native speakers' L2 Japanese, although other factors including information structure also appear to be at play. Finally, functional similarity may also contribute to greater and more accurate use of English articles by Chinese native speakers in some contexts. Overall, this paper's findings suggest that when teaching grammatical forms there is a need for nuanced consideration of characteristics of learners' native languages, especially given that superficial morphological similarities may be just as likely to lead to errors than to native-like use.

References

Aguilar-Guevara, A., Le Bruyn, B., & Zwarts, J. (2014). Advances in weak referentiality. In A. Aguilar-Guevara, B. Le Bruyn, & J. Zwarts (Eds.), *Weak referentiality* (pp. 1–16). John Benjamins.

Butler, Y. (2002). Second language learners' theories on the use of English articles an analysis of the metalinguistic knowledge used by Japanese students in acquiring the English article system. *Studies in Second Language Acquisition, 24*, 451–480.

Chang, H. (2016). Interpretation of bare and demonstrative noun phrases in the acquisition of Mandarin. *Language & Linguistics, 17*(6), 797–825.

Chen, P. (2004). Identifiability and definiteness. *Linguistics, 42*(6), 1129–1184.

Crosthwaite, P. (2016a). L2 English article use by speakers of article-less languages: A learner corpus study. *International Journal of Learner Corpus Research, 2*(1), 68–100.
Crosthwaite, P. (2016b). Definite article bridging relations in L2: A learner corpus study. *Corpus Linguistics and Linguistic Theory, 15*(2), 297–319.
Crosthwaite, P., Yeung, Y., Bai, X., Lu, L., & Bae, Y. (2017). Definite discourse-new reference in L1 and L2 the case of L2 Mandarin. *Studies in Second Language Acquisition, 40*(3), 625–649.
Díez-Bedmar, M., & Papp, S. (2008). The use of the English article system by Chinese and Spanish learners. In G. Gilquin, S. Papp, & B. Díez-Bedmar (Eds.), *Linking up contrastive and learner corpus research* (pp. 147–175). Rodopi.
Gundel, J., Hedberg, N., & Zacharski, R. (1993). Cognitive status and the form of referring expressions in discourse. *Language, 69*(2), 274–307.
Hawkins, R., et al. (2006). Accounting for English article interpretation by L2 speakers. *EUROSLA Yearbook, 6*, 7–25.
Ionin, T., & Díez-Bedmar, M. (2021). Article use in Russian and Spanish learner writing at CEFR B1 and B2 levels: Effects of proficiency, native language, and specificity. In B. Le Bruyn & M. Paquot (Eds.), *Learner corpus research meets second language acquisition* (pp. 10–38). Cambridge University Press.
Kume, K. (2016). The role of universal semantic features in L2 English article choice by L1 Japanese speakers. *Second Language, 15*, 31–51.
Langacker, R.W. (1987). *Foundations of cognitive grammar. Vol. I: Theoretical Prerequisites.* Stanford University Press.
Langacker, R.W. (1991a). *Concept, image and symbol: The cognitive basis of grammar*. Mouton de Gruyter.
Langacker, R. W. (1991b). *Foundations of cognitive grammar. Vol II: Descriptive application.* Stanford University Press.
Langacker, R. W. (2001). The English present tense. *English Language and Linguistics, 5*(2), 251–272.
Ogawa, M. (2007). The acquisition of English articles by advanced EFL Japanese learners: Analysis based on noun types. *Osaka Prefecture University Journal of Language and Culture Language and Information, 3*, 133–151.
Pica, T. (1983). Methods of morpheme quantifications: Their effect on the interpretation of second language data. *Studies in Second Language Acquisition, 6*, 69–78.
Robertson, D. (2000). Variability in the use of the English article system by Chinese learners of English. *Second Language Research, 16*(2), 135–172.
Shen(沈家煊), J. (1995). "Youjie" yu "wujie" ("有界"与"无界"). *Zhongguo Yuwen (中国语文), 5*, 367–380.
Snape, N., Leung, Y., & Ting, H. (2006). Comparing Chinese, Japanese and Spanish speakers in L2 English article acquisition: Evidence against the fluctuation hypothesis? In *Proceedings of the 8th Generative Approaches to Language Acquisition Conference* (pp. 132–139).
Yang, M. & Ionin, T. (2009). L2 English articles and the computation of uniqueness. In *Proceedings of the 3rd Conference on Generative Approaches to Language Acquisition North America* (pp. 325–335).
Xu, Q., Shi, Y., & Snape, N. (2016). A study on Chinese students' acquisition of English articles and interlanguage syntactic impairement. *Chinese Journal of Applied Linguistics (quarterly), 39*(4), 459–480.
Yamada, K. (2019). Accounting for article interpretation in L2 English by L1 Japanese child learners. *Second Language, 18*, 71–88.