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An Analysis of the Use of Chinese Reflexive Ziji among English and Korean-Speaking Learners: A Corpus-Based Study

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Abstract

This study investigates distinct usage patterns of Chinese reflexives among learners with English and Korean backgrounds. The selection of these languages stems from typological considerations, given that Korean reflexives bear more similarities to Chinese reflexives than their English counterparts. Our focus lies on two forms of Chinese reflexives—the bare form *ziji* and compound forms such as *taziji* ("he" + *ziji*) and *woziji* ("I" + *ziji*). Both forms exhibit "anaphoric" use, but the bare form *ziji* uniquely allows for "long-distance binding" and carries additional "emphatic" and "generic" functions. Employing a corpus-based approach, our analysis of reflexive usage in learners' written compositions reveals key patterns: Korean-speaking learners demonstrate a higher frequency of "long-distance binding" and "generic" use of *ziji* than English-speaking learners, whereas English-speaking learners exhibit a stronger preference for "emphatic" *ziji* and compound reflexives compared to Korean-speaking learners. These tendencies echo the inherent reflexive properties in Korean and English, providing valuable insights into how native language reflexive characteristics

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shape the acquisition and utilization of Chinese reflexives. In terms of usage errors, learners from both backgrounds grapple with unclear reflexive references due to unfamiliarity with Chinese discourse structure. Notably, English-speaking learners exhibit signs of transposing the positional usage of reflexives from their native language to Chinese, resulting in word order errors. By exploring these reflexive usages, we contribute to our understanding of second language acquisition, and provide useful implications for language educators and curriculum designers.

Keywords: *ziji*, reflexives, anaphoric, error, learner corpus

1. Introduction

Reflexives, also known as anaphors, serve a fundamental anaphoric function by being coreferential with a noun mentioned earlier in the text. In Chinese, reflexives manifest in two different forms: the compound form and the bare form. The compound form combines a pronoun with *ziji*, such as *taziji* ("he" + *ziji*) or *woziji* ("I" + *ziji*). On the other hand, the bare form of the reflexive lacks the accompanying pronoun and *ziji* appears on its own. The anaphoric function of the bare form, expressed through *ziji*, exhibits cross-linguistic variations, which has attracted the attention of scholars (Huang, 1984; Tang, 1989; Cole, Hermon, & Sung, 1990).

(1) $John_i$ hopes that Tom_j likes himself$_{*i/j}$

(2) Zhangsan xiwang Lisi xihuan *ziji*
Zhangsan hope Lisi like self
"$Zhangsan_i$ hopes that $Lisi_j$ likes *ziji*$_{i/j}$"

The syntactic structure of (1) and (2) is the same; however, the target to which the reflexive can refer is different. In (1), *himself* can only co-refer with *Tom* within the clause. In contrast, in (2), *ziji* is ambiguous. In addition to its interpretation as referring to *Lisi* within the clause "*Lisi xihuan ziji*," it can also refer to *Zhangsan* outside the clause. According to Chomsky's binding theory (1981), this situation where the reflexive co-refers with an antecedent outside its governing category, referring to *Zhangsan*, is known as "long-distance binding." Apart from the phenomenon of "long-distance binding," "subject-orientation" and the "blocking effect" are two specific characteristics of Chinese reflexives. Further details will be discussed in Section 2.

Previous studies have predominantly relied on assessing the acceptability of *ziji* references as an indicator of Chinese reflexive acquisition (Yuan, 1998; Huang, Yang, Gao, & Cui, 2005). If learners demonstrate awareness of phenomena such as "long-distance binding" and exhibit familiarity with relatively uncommon properties like "subject orientation" and the "blocking effect," suggesting a higher level of proficiency. Conversely,

a lack of such awareness indicates a lower level of proficiency. However, there is a noteworthy scarcity of studies examining acquisition through authentic learning output. To address this research gap, the present study aims to observe learners' authentic compositions and investigate the following two questions.

1. Do learners of different typological languages (English and Korean) exhibit distinct trends in acquiring Chinese reflexives?
2. Does the similarity between the reflexive properties of learners' native language and Chinese contribute to a more effective acquisition of Chinese reflexives?

2. Theoretical Background and Related Literature

To address the relevant issues, this section is divided into three sub-sections. Section 2.1 provides an introduction to the forms and anaphoric properties of reflexives in Chinese, Korean, and English. Additionally, Section 2.2 focuses on the intricate nature of the usage of the bare reflexive *ziji*, highlighting its three functions: "anaphoric," "emphatic," and "generic." Section 2.3 reviews previous studies on the acquisition of reflexives in Chinese.

2.1. The Forms of Reflexives in Mandarin, Korean, and English

Reflexives in Chinese can take both "bare" and "compound" forms. The bare form of the reflexive pronoun in Chinese is *ziji*, which appears on its own. Similarly, Korean also has bare form reflexives, known as *caki* and *casin*. However, English lacks the bare form, as illustrated in (3).

(3) * John likes self

Regardless of whether a reflexive appears in the compound form or in the bare form, it serves an "anaphoric" function. In Examples (4) through (6), the reflexives co-refer with the antecedents, *Zhangsan* and *John*.

(4) Zhangsan$_i$ xihuan *taziji*/*ziji*$_i$
Zhangsan like himself/self
"*Zhangsan*$_i$ likes himself$_i$"

(5) John$_i$ likes himself$_i$

(6) John-ka *caki*-*casin*/*caki*/*casin*-(l)ul soky-ess-ta
John-NOM self-ACC cheat-PST-DECL[1]
"John$_i$ cheated self$_i$"

(Adapted from Lee, 1978)

Although all reflexives possess an "anaphoric" function, there are certain restrictions on their antecedents. Generally, the Chinese bare reflexive can only refer to animate (human or animal) nouns as its antecedent (Tang, 1989). As a result, sentence (7) is not considered acceptable to most Chinese speakers. Similar constraints can also be observed in both compound and bare reflexives in Korean, where nonhuman nouns cannot serve as antecedents, as shown in (8). However, English reflexives do not have this constraint (Lee, 1973; Tang, 1989; Kim & Yoon, 2009; Yong, 2019), as illustrated in (9).

(7) ? Na ke shu dao zai *ziji* pangbian-de che shang
That CL tree fall at self next -DE car top
"That tree$_i$ fell on the car next to *ziji*$_{?i}$"

(8) * Kukes$_i$-un enceyna *caki*-*casin*/*caki*/*casin*$_{*i}$-(l)ul thasha-n-ta
it-TOP always self-ACC blames-PRES-ACC
"It$_i$ always blames self$_{*i}$"

(Adapted from Yong, 2019)

(9) This country$_i$ never has been able to defend itself$_i$ against terrorism

The above discussion provides a comparison of reflexive forms in Chinese, English, and

[1] For a comprehensive list of abbreviations used in this article, please see the "Abbreviations" section at the end of the paper.

Korean. For further analysis of the usage of reflexives across these three languages, please refer to Section 2.2.

2.2. The Functions of Reflexives in Chinese, Korean, and English

Given that Chinese compound reflexives, such as "he + *ziji*," are exclusively used for "anaphoric" purposes, our focus in this section will be on the functions of the bare form of the Chinese reflexive *ziji*. Regarding the functions of *ziji*, it is widely accepted that there are three functions of the Chinese bare reflexive *ziji*: anaphoric, emphatic, and generic (Battistella & Xu, 1990; Cheng, 1994). Hence, this study adopts this classification to analyze the functions of reflexives in Chinese, English, and Korean.

2.2.1. The Anaphoric Use

The special anaphoric properties of *ziji* have garnered significant attention since Chomsky (1981) proposed his Binding Theory. The related syntactic research is extensive and encompasses various aspects. Among these properties, three notable ones are "long-distance binding," "subject orientation," and the "blocking effect."

2.2.1.1. Long-Distance Binding

Within the framework of Universal Grammar, Chomsky (1981) proposed the Binding Theory, which posits that referential noun phrases in all languages must adhere to a set of universal rules. Principle A, a key component of the theory, describes the properties of reflexives as follows: "An anaphor (in this case, a reflexive) must be bound within its governing category," as shown in (10). However, the description of Principle A appears to be inconsistent with the anaphoric phenomenon of *ziji* in Chinese, as demonstrated in (11), where *ziji* in the sentence can have two distinct interpretations. It can be bound by *Lisi* within the governing category (referred to as "local binding"), but it can also refer to *Zhangsan*, which is outside the governing category (known as "long-distance binding").

(10) $John_i$ thinks that [Tom_j likes himself$_{*i/j}$]

(11) Zhangsan renwei [Lisi xihuan *ziji*]
Zhangsan think [Lisi like self]
"Zhangsan$_i$ thinks that [Lisi$_j$ likes ziji$_{i/j}$]"

The phenomenon of "long-distance binding" can also be observed in other East Asian and Northern European languages, including but not limited to Korean, Japanese, and Icelandic. Example (12) illustrates the anaphoric phenomenon using *caki* and *casin* in Korean, where the reflexives *caki* and *casin* can simultaneously refer to *John* and *Tom*.

(12) John-un [Tom-i *caki*/*casin*-(l)ul sarangha-n-ta-ko]
John-TOP [Tom-NOM self-ACC like-PRES-DECL-COMP]
sayngkakha-n-ta
think-PRES-DECL
"John$_i$ thinks that [Tom$_j$ likes self$_{i/j}$]"
(Adapted from Cole *et al*., 1990)

2.2.1.2. Subject Orientation

The concept of "subject orientation" pertains to the tendency of *ziji* to prefer selecting the subject as its antecedent (Huang, 1982; Tang, 1989; Cole & Sung, 1994). In **錯誤! 找不到參照來源。**, *ziji* appears within a double object construction, but it can only be bound by the subject *Zhangsan* and not by the closer indirect object *Lisi*. However, English reflexives are not subject to the constraint of "subject orientation." This can be observed in (14), where *himself* can refer to both the subject *John* and the indirect object *Tom*.

(13) Zhangsan song gei Lisi yi-zhang *ziji*-de zhaopian.
Zhangsan give to Lisi one-CL self-DE picture
"Zhangsan$_i$ gave Lisi$_j$ one a picture of *ziji*$_{i/*j}$"

(14) John$_i$ gave Tom$_j$ a picture of himself$_{i/j}$

In Korean, a similar tendency to Chinese is observed, as shown in (15), where the two bare reflexives *caki* and *casin* can only refer to *John* (Lee, 1973; O'grady, 1987).

(15) John-I Tom-eke *caki*/*casin* sacin-ul cwu-ess-ta
John-NOM Tom-DAT self picture-ACC give-PST-DECL
"John$_i$ gave Tom$_j$ a picture of self$_{i/*j}$"

(Adapted from Lee, 1973)

2.2.1.3. The Blocking Effect

The "blocking effect" occurs when both noun phrases within and outside the governing category can potentially serve as antecedents for *ziji*, and the subject within the clause is a first- or second-person pronoun. In such cases, the long-distance referent is blocked (Huang, 1984; Tang, 1989; Cole *et al*., 1990; Huang & Tang, 1991; Cole & Sung, 1994), as demonstrated by the contrast between (16) and (17).

(16) Zhangsan renwei [Lisi xihuan *ziji*].
Zhangsan think [Lisi like self]
"Zhangsan$_i$ thinks that [Lisi$_j$ likes *ziji*$_{i/j}$]."

(17) Zhangsan renwei [wo/ni xihuan *ziji*].
Zhangsan thinks [I/you like self]
"Zhangsan$_i$ thinks that [I /you$_j$ like *ziji*$_{*i/j}$]."

Reflexives in English do not exhibit the property of "long-distance binding." The antecedent for the reflexive must be located within the same clause. Therefore, regardless of the subject within the clause, the referent is not subject to the blocking effect. This is illustrated in (18) and (19), where both *Tom* and *I* can serve as antecedents for the reflexives *himself* and *myself*, respectively.

(18) John$_i$ thinks that [Tom$_j$ likes himself$_{*i/j}$].

(19) John$_i$ thinks that [I$_j$ like myself$_{*i/j}$].

In contrast, Korean bare reflexives, *caki* and *casin*, possess the property of "long-

distance binding" and can bind a noun outside of the clause as the antecedent, as shown in (15) above. However, when it comes to the blocking effect, previous analyses by Sung (1981) and Cole *et al*. (1990) indicate that *caki* cannot bind a first-person or second-person pronoun as its antecedent, as illustrated in (20). Therefore, in (21), *caki* must be interpreted as referring to *John* and cannot be interpreted as *nay* (meaning "I"). On the other hand, the anaphoric nature of the bare reflexive *casin* is not constrained by the person of the noun, but its long-distance binding is subject to the influence of the blocking effect. This is demonstrated in (22), where *casin* can only bind *nay* ("I") when *nay* serves as the subject of the clause. As a result, previous literature has classified Korean as one of the languages in which reflexives are subject to the blocking effect.

(20) Nay/ney-ka *caki*/*casin*-(l)ul wenmangha-n-ta.
I/you-NOM self-ACC blame-PRES-DECL
"I/you$_i$ blame *caki*$_{*i/j}$/*casin*$_{i/j}$."

(Adapted from Sung, 1981)

(21) John-un [nay-ka *caki*-lul sarangha-n-ta-ko] sayngkakha-n-ta.
John-TOP [I-NOM self-ACC like-PRES-DECL-COMP] think-PRES-DECL
"John$_i$ thinks I$_j$ like *caki*$_{i/*j}$."

(22) John-un [nay-ka casin-ul sarangha-n-ta-ko] sayngkakha-n-ta.
John-TOP [I-NOM self-ACC like-PRES-DECL-COMP] think-PRES-DECL
"John$_i$ thinks I$_j$ like *casin*$_{*i/j}$."

(The above two sentences are adapted from Cole, *et al*, 1990)

2.2.1.4. Summary

In summary, Chinese has reflexives in both compound and bare forms. The antecedent of the bare reflexive *ziji* must be animate, and it exhibits the properties of "long-distance binding," "subject orientation," and "blocking effect" in its anaphoric use. The properties of reflexives in Korean are more similar to those in Chinese, while English exhibits more distinct properties, as shown in Table *1*. One of the main focuses of this study is to investigate whether the production of Chinese reflexives by English and Korean speakers is influenced

by their native language.

Table 1. Anaphoric Properties of Reflexives in Chinese, English, and Korean

	Long-Distance Binding	Subject Orientation	Blocking Effect
Chinese *ziji*	+	+	+
English -self	-	-	-
Korean *caki*	+	+	-
Korean *casin*	+	+	+

2.2.2. The "Emphatic" Use

In addition to its "anaphoric" function, the Chinese reflexive *ziji* also serves two other functions: "emphatic" and "generic" (Battistella & Xu, 1990; Cheng, 1994). This subsection focuses on the "emphatic" function. The "emphatic" function can be divided into two forms. One form appears immediately after the noun as an appositive within the subject, using the structure "NP + *ziji*." The other form appears before the verb phrase, functioning as an adverbial that modifies the verb, using the structure "*ziji* + VP." Both forms are used for emphasis or contrast. Examples (23) and (24) illustrate the appositive form. In (23), *ziji* is used to contrast the speaker's situation with that of her ex-husband. In (24), *ziji* is used to emphasize that it refers specifically to *Mengzi* himself, not someone else. The appositive form allows for the omission of *ziji* without affecting the meaning.[2]

[2] Examples (23) to (26) are taken from the written corpus of the National Academy for Education Research.

(23) Wo-de qianfu hai bushi haohao-de guo rizi,
my ex-husband still yet well-DE get along

ye bu-jian you houhui, daoshi wo *ziji* ke houhui ji-le,
also not-see have regret contrariwise I self but regret terribly-LE

guoqu zhenshi tai sha, yaoshi rizi nenggou chonglai you duo hao.
past really too foolish if days can again be how great

"My ex-husband is living his life just fine, and I don't see any regrets from him. On the contrary, I myself regret it terribly. I was too foolish in the past. If only we could start over, how great would that be."

(24) Suoyi Meng-mu zhisuoyi hui banlaibanqu, haishi gen
therefore Mencius-mother why will move.all.around still with

Mengzi *ziji* ji qiang-de mofang qingxiang youguan.
Mengzi self very strong-DE imitate tendency have.to.do.with

"Therefore, the reason why Mengzi's mother kept moving around still has to do with Mengzi himself's strong tendency to imitation."

The "emphatic" function of *ziji* as an adverbial serves to highlight that the action expressed by the verb is personally undertaken by the agent or occurred naturally. In contrast to its use in an appositional phrase, the omission of adverbial *ziji* leads to ungrammatical sentences or incomplete meaning, as seen in (25) and (26) where *ziji* cannot be omitted.

(25) Suiran bushi mimi, danshi hen shao ren zhidao wo *ziji* zhu,
Althought not secret but very few person know I self live

yinwei wo bing mei-you hen duo pengyou keyi shuo.
because I actually not-have very many friend can talk

"While it's not a secret, very few people know that I live by myself because I don't have many friends to share it with."

(26) Fancai xiang shitou yiyang ying, Bisihuasi xiansheng conglai bu chi,
Food resemble stone alike hard Bisworth mister always not eat

dan ta bu xiang zai chi guantou, yinci xuehui *ziji* zuofan.
but he not want again eat canned.food so learn self cook

"The food was hard as a rock. Mr. Bisworth never ate it, but since he didn't want to eat canned food anymore, he learned to cook for himself."

Compound reflexives in English also have an "emphatic" use and are referred to as "emphatic pronouns." The function of emphatic pronouns and their grammatical roles are similar to those of *ziji*. In (27) to (30), extracted from the Corpus of Contemporary American English, the reflexives in (27) and (28) appear as appositional phrases, closely following the noun. In (27), *himself* emphasizes that it was *President Trump* (and not any other candidate) who easily won that state in 2016. In (28), *itself* emphasizes that the judgement was against *Jones* and not directed toward the city. Similar to Chinese, the reflexives used in appositional phrases for emphatic purposes can be omitted without affecting the meaning. Conversely, in (29) and (30), the reflexives function as adverbials, where *himself* and *herself* emphasize that the action was personally undertaken by a specific individual, not by another.

(27) But don't forget that this is a state that the president, President Trump himself, carried easily back in 2016.

(28) Since the judgment was against Jones and not the city itself, one question that lingered was…

(29) If it's serious, he'll probably go himself.

(30) She figured she could do it herself after seeing it.

In the case of Korean, while the anaphoric properties of reflexives in Korean share many similarities with Chinese, Korean reflexives do not exhibit an "emphatic" use. They do not have the capability for "appositional" use, as demonstrated in (31), nor do they demonstrate

an “adverbial” use, as observed in (32) (Jiang, 2006).

(31) *I il-un na *caki* thasi-ta.
This matter-TOP I self blame-DECL
“*The only person who can be blamed for this matter is me *caki*.”

(32) *Ne *caki*-ka haykyel-hayla.
you self-NOM solve-IMP
“*You solve it *caki*.”

(The above two sentences are adapted from Jiang, 2006)

In other words, Korean reflexives do not exhibit the emphatic use found in Chinese and English. Additionally, the emphatic uses in both Chinese and English can be expressed through both appositional phrases and adverbials.

2.2.3. The “Generic” Use

The third use of *ziji* is known as the “generic” use, where *ziji* is employed without the need for a specific antecedent or referent, allowing for the expression of general truths (Li & Thompson, 1981:139; Battistella & Xu, 1990). This usage can be exemplified in (33) and (34).

(33) *Ziji* xiaoxin shi congming zhi ju.
self be.careful be wise DE action
“To be careful is wise.”

(Adapted from Battistella & Xu, 1990)

(34) Zai leng, ye bu gai na bieren de xie lai nuan *ziji*.
more cold also not should take another DE blood for warm self
“No matter how cold it is, it is not appropriate to take someone else’s blood to warm *ziji*.”

(Liu, Wang, Zheng, & Gao, 2011)

The “generic” use is also found in Korean reflexives. In (35), the first *caki* is also not

bound to any antecedent (Han & Storoshenko, 2012). The other bare reflexive in Korean, *casin*, also has this use of "generic"; however, when expressing the "generic" use, it is more common for Korean native speakers to use *caki* than *casin* (Kim & Yoon, 2009).

(35) *Caki* swukcey-nun caki-ka ha-nun ke-ya.
self homework-TOP self-NOM do-ADN FUT-DECL
"In general, *caki* should do *caki*'s homework."
(Taken from Han & Storoshenko, 2012)

English reflexives, in contrast, do not possess the "generic" use.[3] Table *2* provides a comprehensive summary of the discussion in Section 2.2, outlining the similarities and differences among Chinese, English, and Korean reflexives. The table clearly demonstrates that English and Chinese reflexives exhibit more pronounced distinctions in terms of their "anaphoric" and "generic" uses. On the other hand, Korean reflexives often parallel those in Chinese due to the presence of both bare and compound forms, along with similar properties in their "anaphoric" and "generic" uses. The main divergence between Korean and Chinese reflexives lies in the absence of the "emphatic" use in Korean reflexives.

Table 2. The functions and characteristics of Chinese, English, and Korean reflexives

Use / Reflexive	Anaphoric			Emphatic		Generic
	Long-Distance Binding	Subject Orientation	Blocking Effect	Appositional	Adverbial	Generic
Chinese *ziji*	+	+	+	+	+	+
English *-self*	-	-	-	+	+	-
Korean *caki*	+	+	-	-	-	+
Korean *casin*	+	+	+	-	-	+

[3] In some cases, the generic usage of Chinese and Korean reflexives can be translated as *one* or *oneself* in English. For a more detailed discussion, refer to Battistella and Xu (1990).

2.3. Research on Second Language Acquisition of Chinese Reflexives

In the field of Chinese as a Second Language (SLA) for Chinese, considerable attention has been given to the reflexive *ziji*. Previous research has focused primarily on investigating the acceptability judgments of learners from different native language backgrounds regarding the nature of reflexives. For instance, Yuan (1998) examined how English- and Japanese-speaking learners interpret "long-distance binding" and "subject orientation" in Chinese reflexive. The findings revealed that in sentences involving "long-distance binding" without semantic manipulation, such as "Gaolin$_i$ knows that Lidong$_j$ trusts *ziji*$_{i/j}$ very much," Japanese-speaking learners displayed a higher acceptance rate compared to English-speaking learners. Similarly, in sentences where *ziji* was manipulated to favor a long-distance binding interpretation, such as "Wangming$_i$ said unhappily that Lidong$_j$ often does not trust *ziji*$_{i/?j}$," Japanese-speaking learners outperformed their English-speaking counterparts. This can be attributed to the fact that the Japanese reflexive *zibun* also exhibits the property of "long-distance binding," which transfers to their understanding of the Chinese reflexive *ziji*, enabling them to better accept or interpret the correct long-distance reference. However, despite these advantages over English-speaking learners, Japanese-speaking learners still exhibited a lower acceptance rate of "long-distance binding" compared to native Chinese speakers. Furthermore, it should be noted that Japanese reflexive *zibun* also has the property of "subject-orientation," requiring the reflexive in a double object construction to refer to the subject rather than the indirect object. However, Japanese-speaking learners struggled to transfer the property of "subject-orientation" from their native language to *ziji.* Their acceptance rate for subject-oriented interpretations was significantly lower than that of native Chinese speakers. Surprisingly, when the reference was manipulated to favor the subject, the acceptance rate of Japanese-speaking learners was even lower than that of English-speaking learners.

The findings of Huang, Yang, Gao, and Cui (2005) align with those of Yuan (1998), as they investigated the acceptance rate of "long-distance binding" and "subject orientation" among learners with English and Japanese language backgrounds. They found that English-speaking learners struggled to identify the correct referent for long-distance binding based

on semantic cues. While Japanese-speaking learners performed better, there was still a performance gap compared to native Chinese speakers. In terms of "subject orientation," exemplified by sentences such as "Xiaoliang$_i$ asked Xiaoming$_j$ much about the situation of the *ziji*$_{i/*j}$ girlfriend," both English and Japanese-speaking learners were able to correctly identify the subject *Xiaoliang* as the referent. However, Japanese-speaking learners struggled to correctly reject the object *Xiaoming* as the referent, resulting in an unexpectedly lower rejection rate compared to English-speaking learners. Moreover, Zeng L. (2012) emphasized that English-speaking learners, regardless of their Chinese proficiency level, faced difficulties in accepting the "long-distance binding" of *ziji*. Their accuracy rate in making correct judgments was significantly lower than that of the native Chinese control group.

The preceding research sheds light on the potential influence of native language reflexives on the acquisition and interpretation of reflexives in a second language. Specifically, Japanese and Chinese reflexives share the property of "long-distance binding," resulting in a higher acceptance rate of long-distance reference among Japanese-speaking learners compared to their English-speaking counterparts, in line with theoretical predictions. However, the presence of "subject-orientation" in both languages' reflexives did not necessarily facilitate accurate interpretation of *ziji* in double object constructions for Japanese-speaking learners. Despite manipulating reflexive references using semantic cues, Japanese-speaking learners consistently performed at a lower level compared to their English-speaking counterparts. While these findings contribute to our understanding of the challenges and potential transfer of reflexive properties, they were mostly derived from studies focused on learners' reading comprehension.

In this study, we place particular emphasis on the spontaneous language production of learners as we investigate the impact of native language reflexives on the acquisition of second language. Specifically, we analyze Chinese reflexives produced by two distinct groups of learners: English-speaking and Korean-speaking learners, using a learner corpus methodology. Our objective is to deepen our understanding of how the properties of reflexives in learners' native languages influence their acquisition of reflexives in Chinese. We anticipate that our findings will provide valuable insights into the underlying mechanisms involved in the acquisition and usage of reflexives, thereby contributing to the broader field

of second language acquisition research.

3. Research Methodology and Corpus Statistics

The corpus utilized in this study consists of data from English and Korean-speaking learners, sourced from the TOCFL learner corpus, which comprises a collection of 4,567 compositions written by learners of various proficiency levels who took the Test of Chinese as a Foreign Language (TOCFL) between 2006 and 2012. Approximately one million characters, accounting for about half of the annotated corpus data, have been publicly available on the website (Chang, 2013).[4] The corpus for English-speaking learners comprises 166,346 characters, while the corpus for Korean-speaking learners comprises 101,897 characters. From this website, we extracted 229 tokens from the corpus of English-speaking learners and 168 tokens from the corpus of Korean-speaking learners, both of which include instances of the reflexive *ziji*. It is worth noting that the frequency of *ziji* usage was slightly higher among Korean-speaking learners compared to English speakers ($\chi^2 = 2.9748$, $df = 1$, $p = 0.08457^{+}$, $p < 0.1$).

After retrieving the corpus data, a meticulous inspection was conducted to verify the accuracy of each usage. Sentences demonstrating correct usage were categorized into three distinct functions as outlined in Section 2: “anaphoric,” “emphatic,” and “generic.” The category of “anaphoric” was further divided into two subcategories, namely “long-distance binding” and “local binding,” depending on the location of the antecedent. The local binding was additionally differentiated into two types: “compound” and “bare,” based on the form of the reflexive. The “emphatic” use was identified by its grammatical role and subcategorized as either “appositional” or “adverbial.” In cases where the usage of reflexives was deemed inappropriate, the respective sentence was labeled as an error, warranting further exploration into the underlying reasons for the incorrect usage. For a detailed understanding of the categorization and marking framework employed in the analysis of the corpus data, please refer to Fig. 1.

[4] The TOCFL learner corpus: http://tocfl.itc.ntnu.edu.tw:8080/

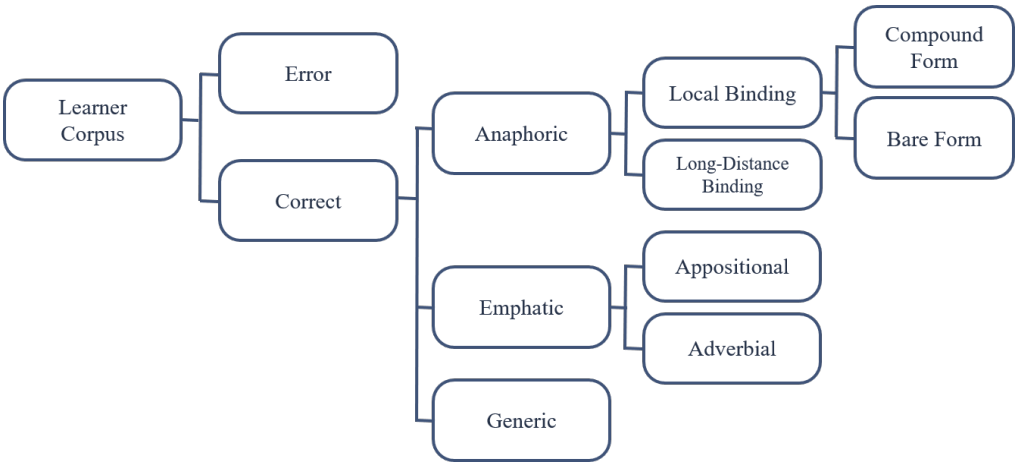

Fig. 1. Categorization Framework for the Learner Corpus

During the categorization process, distinguishing between the categories of "appositional" and "adverbial" within the emphatic use can be challenging. This is because the reflexive *ziji*, appearing in the structure "NP + *ziji* + VP," can function as an appositional by combining with the preceding noun phrase, or it can serve as an adverbial by combining with the following verb phrase. For instance, in (36), *ziji* can be combined with *wo* ("I") as *wo ziji*, functioning as an appositional that contrasts with the habits of "some people." However, *ziji* can also serve as an adverbial by combining the verb phrase "submit the documents" with "*ziji* submit the documents," emphasizing that the actions performed by "I" were personally executed.

(36) Youde ren xiguan hua qian qing luxing-she daiban huzhao,
some person used.to pay money hire travel-agency do.for passport

dan ruguo wo *ziji* songjian dehua,
but if I self submit then

budan kuai, you bu-yong duo hua qian.
not.only fast also not-need more pay money

"Some people are used to paying a travel agency to apply for a passport on their behalf, but if I submit the documents myself, it is not only faster but also does not cost extra money."

In addressing this challenge, we adopt Zhu's (1982) analysis as the foundation for distinguishing between the two categories. If the noun phrase and *ziji* cannot be separated, it is classified as an "appositional" usage. On the other hand, if other adjuncts or modal adverbials can be inserted between the noun phrase and *ziji*, it is classified as an "adverbial" usage. Applying this criterion, sentence (36) can be revised to (37), and in this instance, corpus data like (37) are categorized as adverbials within the "emphatic" use.

(37) Youde ren xiguan hua qian qing luxing-she daiban huzhao,
some person use.to pay money hire travel-agency do.for passport

dan ruguo wo keyi *ziji* songjian dehua, budan kuai,
but if I can self submit then not.only fast

you bu-yong duo hua qian.
also not-need more pay money

"Some people are used to paying a travel agency to apply for a passport on their behalf, but if I am able to submit the documents myself, it is not only faster but also does not cost extra money."

After the categorization process, the corpus data underwent qualitative and quantitative analysis. The qualitative analysis focused on identifying the causes of errors made by learners, drawing insights from the corpus data. On the other hand, the quantitative analysis examined the distribution of corpus data from learners with different language backgrounds. Pearson's chi-square test and Fisher's exact test were employed to assess the expression of reflexive properties and tendencies among the two learner groups.

Out of the 229 tokens analyzed from English-speaking learners, 27 were identified as errors, resulting in an error rate of 11.8%. Similarly, among the 168 tokens analyzed from Korean-speaking learners, 16 were classified as errors, yielding an error rate of 9.5%. The

distribution of the three functions used by both learner groups is presented in Table *3*. It is evident that the "anaphoric" use constituted the majority of occurrences in both groups, followed by the "emphatic" use, while the usage rate for "generic" use was significantly lower. A comprehensive analysis of these statistics is provided in the subsequent discussion section.

Table 3. The Distribution of Three Reflexive Functions among English- and Korean-speaking Learners

	Anaphoric	Emphatic	Generic	Total
English	107 (53%)	93 (46%)	2 (1%)	202 (100%)
Korean	100 (65.8%)	45 (29.6%)	7 (4.6%)	152 (100%)

4. Results and Discussion: Analysis of Differences Between English and Korean-speaking Learners

This section employs Pearson's chi-square test and Fisher's exact test to determine the statistical significance of the differences in reflexives usage between English and Korean-speaking learners. Furthermore, the distribution of *ziji* used by these two groups of learners is discussed in detail.

4.1. The Distribution of Reflexive Forms

Table 4. Statistics for Reflexive Forms by English and Korean-speaking Learners

Form / Native Language	Compound	Bare	Total
English	23 (11.2%)	206 (88.8%)	229 (100%)
Korean	1 (0.6%)	167 (99.4%)	168 (100%)

As previously mentioned, Chinese reflexives exist in two forms: the compound form and the bare form. Referring to Table *4*, it is evident that both English and Korean-speaking learners predominantly utilized the bare form, aligning with the usage pattern of native Chinese speakers (Liu, 2010). Additionally, we observed that English-speaking learners employed the compound reflexive to a greater extent compared to Korean-speaking learners. Only one sentence (0.6%) within the corpus employed the compound form, as exemplified in (38). The remaining sentences, totaling 167 (99.4%), employed the bare form.

(38) Wo ruguo mai-de-dao wo *ziji*-de fangzi dehua,
I if buy-able-arrive my self-DE house then

Xiangyao mai xiao-de fangzi.
Want buy small-DE house

Yinwei xiao fangzi zhu-de hen qingsong.
because small house live-DE very relax

"If I could buy my *ziji* home, I would want to buy a small house, because living in a small house is easy."

(Written by a Korean-speaking learner)

Utilizing Pearson's chi-square test, a statistically significant difference was observed between the proportions of English-speaking and Korean-speaking learners utilizing compound reflexives (χ^2 =12.167, p = 0.0004864***, $p < 0.001$). As previously mentioned, English lacks the bare reflexive form, while Korean possesses both the bare reflexive and the compound reflexive form. This discrepancy may account for the higher tendency among English-speaking learners to opt for the compound form compared to their Korean-speaking counterparts.

The frequency of Korean-speaking learners using compound reflexives is considerably lower compared to the use of bare reflexives, which aligns with previous research findings. Kang (1998) conducted an analysis of a corpus consisting of native Korean speakers to examine the distribution of three types of reflexives: *caki*, *casin*, and *caki-casin*. The study revealed that the use rate of compound reflexive *caki-casin* accounted for only 8.6% of the

total, representing the lowest frequency of reflexive usage. This finding suggests a possible reason for the lower frequency of Chinese compound reflexives used by Korean-speaking learners compared to bare reflexives, despite the presence of compound reflexives in Korean.

4.2. Distribution of "Anaphoric" Use

The analysis revealed no significant differences between the two language backgrounds of the learners in terms of the "anaphoric" use of reflexives ($\chi^2 = 1.138$, $df = 1$, $p = 0.2517$, $p > 0.05$). However, a significant difference was observed in the use of "long-distance binding" between Korean-speaking learners and English-speaking learners, as determined by Pearson's chi-square test ($p = 0.0352$*, $p < 0.05$). Specifically, Korean-speaking learners exhibited a significantly higher frequency of using "long-distance binding" compared to their English-speaking counterparts.

Table 5. Distribution of the Use of "Anaphoric" by English and Korean-speaking Learners

Anaphor / Native Language	Local Binding	Long-Distance Binding	Total
English	106 (99.1%)	1 (0.9%)	107 (100%)
Korean	93 (93%)	7 (7%)	100 (100%)

The higher frequency of "long-distance binding" reflexives produced by Korean-speaking learners may be attributed to the influence of native language transfer, as both Korean and Chinese allow reflexives to be bound outside the clauses. In contrast, English reflexive lacks the property of "long-distance binding," which explains the limited occurrence of such reflexives among English-speaking learners, as seen in (39).

(39) Zuihou, sheyingji-de keji hen rongyi-de yinqi yingsi-quan-de
finally camera-DE technology very easy-DE cause privacy-right-DE
zhengyi. Ruogan fumu bu xiang rang biede jiazhang
controversy some parents not want let other parents

kan-dao *ziji*-de haizi, dan sheyingji bu-ke tiaoxuan shei shi duixiang.
see-arrive self-DE child but camera can-not choose who be object

"Finally, camera technology easily provokes privacy controversies. Some parents$_i$ do not want other parents$_j$ to see *ziji*$_i$'s child, but cameras cannot choose whom they capture."

(Written by an English-speaking learner)

In terms of "local binding," Chinese reflexives can occur in both compound and bare forms. Hence, we examined the usage of these two forms among English and Korean-speaking learners, as presented in Table 6. It was found that English-speaking learners utilized the bare reflexive *ziji* less frequently compared to their Korean-speaking counterparts, and this difference was statistically significant ($\chi^2 = 9.7841$, $df = 1$, $p = 0.00176^{**}$, $p < 0.01$).

Table 6. Distribution of Reflexive Forms Used by English and Korean-speaking Learners for "Local Binding"

Type / Native Language	Compound Form	Bare Form	Total (Number of Local Binding Sentences)
English	17 (16%)	89 (84%)	106 (100%)
Korean	1 (1.1%)	92 (98.9%)	93 100%)

4.3. Distribution of "Emphatic" Use

In terms of "emphatic" use, there was a significant difference between English-speaking learners and Korean-speaking learners, with English-speaking learners exhibiting a higher frequency ($\chi^2 = 3.9928$, $df = 1$, $p = 0.0457^{*}$, $p < 0.05$). This finding aligns with our expectations, as Korean reflexives lack the "emphatic" use (refer to Table *2*), while English reflexives do have this function. Hence, it highlights the influence of native language transfer. Furthermore, we further classified the "emphatic" use into the "appositional" and "adverbial" subcategories based on their grammatical roles in sentences, as presented in Table *7*.

Table 7. Distribution of the "Emphatic" Use among English and Korean-speaking Learners

Type / Native Language	Appositional	Adverbial	Total
English	42 (45.2%)	51 (54.8%)	93 (100%)
Korean	13 (28.9%)	32 (71.1%)	45 (100%)

From Table *7*, it is evident that Korean-speaking learners predominantly utilize adverbials to express the "emphatic" use, while English-speaking learners have a more balanced distribution between "appositional" and "adverbial" uses. However, there is no statistically significant difference between the two groups ($\chi^2 = 1.1095$, $df = 1$, $p = 0.2922$, $p > 0.05$), which could be attributed to the relatively small sample size of Korean-speaking learners. An example of adverbial use by a Korean-speaking learner is provided below:

(40) Dalou fujin-de jiaotong ye bucuo,
building near-DE transportation also not.bad

MRT gen gongche-zhan dou hen jin,
MRT and bus-station both very close

ni bu-yong *ziji* kai-che shangban.
you not-need self drive-car go.to.work

"Transportation near the building is pretty good, both the MRT and bus stations are close, so you don't have to drive yourself."

(Written by a Korean-speaking learner)

Although Korean lacks the "emphatic" use of reflexives, we hypothesize that Korean-speaking learners, through their accumulation of Chinese language knowledge, gradually come to recognize that *ziji* can function independently as adverbs. This is facilitated by the fact that the adverbial form can be used without the inclusion of a pronoun, making it easier for learners to acquire and apply compared to the appositional usage. To further substantiate

this observation, we examined two widely used textbooks in Taiwan: *Practical Audio-Visual Chinese* and *A Course in Contemporary Chinese*. We found that when the reflexive *ziji* is introduced in these teaching materials, the provided examples predominantly showcase adverbial uses of "emphatic" function. For instance, (41) is extracted from a dialogue in *Practical Audio-Visual Chinese II* (Lesson 3), while Example (42) is sourced from *A Course in Contemporary Chinese I* (Lesson 3). These examples explicitly demonstrate the occurrence of *ziji* in adverbial positions, emphasizing personal actions performed by the subject. Thus, it suggests that learners' performance may also be influenced by the learning materials they engage with.

(41) Fang xiansheng: "Zheme duo cai dou shi Zhang taitai nin *ziji* zuo-de ma?"
Fang mister so much dish all be Zhang mistress you self make-DEQ

Zhang taitai: "Shi a. Keshi zuo-de bu-hao."
Zhang mistress yes SFP but make-DE not-good

Zhang xiansheng: "Mei shenme cai, nimen duo chi yidian."
Zhang mister not what dish you much eat a.bit

Fang taitai : "Nin bie keqi, women *ziji* lai."
Fang mistress you don't polite we self do

"Mr. Fang: Mrs. Zhang, did you cook all this food yourself?
Mr. Zhang: Yes, but it isn't very good.
Mrs. Zhang: There's not much food. Please eat as much as you want.
Mrs. Fang: Don't be so polite. We can help ourselves."

(42) Wo ye pa la, suoyi wo xihuan *ziji* zuofan.
I also afraid spicy so I like self cook
"I also can't eat spicy food, so I like to cook by myself."

4.4. Distribution of "Generic" Use

The usage of "generic" reflexives was observed to be very low for both groups of

learners, as indicated in Table *3*. Korean-speaking learners had only seven occurrences, while English-speaking learners had only two occurrences, representing for 4.6% and 1% of the total, respectively. Through Fisher's exact test, it was determined that Korean-speaking learners exhibited a significantly higher usage rate compared to English-speaking learners ($p = 0.04585^{*}$, $p < 0.05$). As mentioned above, English reflexives lack the "generic" use, whereas it is present in Korean. Hence, this finding can be attributed to the influence of the learners' native language. The following examples are illustrations of "generic" use from English and Korean-speaking learners, respectively.

(43) Tingshuo bai lubian-tan-de chengben hen di,
heard set.up roadside-stall-DE cost very low

keshi chenggong dehua, shouru jiu hen gao,
but success if income then very high

erqie hen ziyou, keyi zuo *ziji*-de laoban.
and very free can be self-DE boss

"I've heard that setting up a street stall has low costs, but if it is successful, the income is very high. Moreover, it is truly independent, and one can become *ziji*'s boss."

(Written by an English-speaking learner)

(44) Wo juede dabufen ren-de zhe zhong kanfa bu hui rongyi gaibian,
I think most person-DE this kind view not will easy change

buguan duo jiu qian dou yiyang. *Ziji*-de xuewei duo gao,
regardless how long before both same self-DE degree how high

zhe gen gongzuo, xinshui xixixiangguan.
this with work salary closely.related

"I believe that most people who hold such views find it difficult to change, regardless of the duration. The level of *ziji*'s education has a significant impact on their job and salary."

(Written by a Korean-speaking learner)

4.5. Error Analysis for Learner Use of Reflexives

In terms of errors, English and Korean-speaking learners made 27 and 16 errors, respectively, resulting in error rates of 11.8% and 9.5%. Although English-speaking learners exhibited a higher error rate than their Korean-speaking counterparts, the difference was not statistically significant ($\chi^2 = 0.023261$, $df = 1$, $p = 0.6296$, $p > 0.05$).

Due to the limited number of error occurrences in the collection of compositions, a quantitative analysis was not conducted. Instead, we focus on presenting our analysis based on the types of errors, including overuse of reflexives, incorrect word order, and incorrect selection usage. Among these, the highest proportion is attributed to incorrect selection, which also presents more complex circumstances.

First, let's examine the cases of the overuse of reflexives, we found eight occurrences among English-speaking learners and two among Korean-speaking learners, as illustrated in (45) and (46), where the use of *ziji* in the sentence is redundant.

(45) Dang na ge shihou wo-de jiaren dou huijia tuanyuan
when that CL time my family all back.home reunite

yinwei wo <u>*ziji*</u> yao guo ji tian jiehuan.
because I self will pass few day marry

Wo gege gen yi-ge nansheng yijing jiehun-le,
my brother with one-CL man already marry-LE

liang-ge jiejie yijing you tamen ziji-de jiating,
two-CL sister already have their self-DE family

fumu yijing you baibai-de toufa.
parents already have white-DE hair

"At that time, my entire family went home for a reunion because I *ziji* was going to get married in a few days. My brother is already married to a man, my two sisters already have their own families, and my parents already have white hair."

(Written by an English-speaking learner)

(46) Nihao, haojiubujian-le. Wo *ziji* yiwei ni zuijin guo-de
hi long.time.no.see-LE I self think you lately get.along-DE

man bucuo, you hen mang, suoyi cai hui zheme
pretty not.bad and very busy so then will this.way

jiu mei gen wo lianluo.
long not with I contact

"Hi, long time no see. I *ziji* thought you were doing pretty well lately and you were also very busy, which is why it has been so long since I contacted you."

(Written by a Korean-speaking learner)

Regarding word ordering errors, we identified two instances within our dataset, both of which produced by English-speaking learners. For instance, in (47), the correct expression should be "*ziji mai-bu-qi*" (cannot afford oneself). Similarly, in (48), the correct expressions should be "*jieshao ziji*" (introduce oneself) or "*ziwo jieshao*" (self-introduce)[5]. Since Korean reflexives lack "emphatic" use and English emphatic adverbial pronouns typically appear after the verb phrase (often at the end of the sentence), as (27) to (30) in Section 2, we can infer that this type of error is due to the influence of the native language of the learners.

[5] Since the word *ziwo* had not been taught to the learner at their level of proficiency when he or she made this error, we infer that the error here should be categorized as a word ordering error instead of an incorrect selection error.

(47) Ta-de pengyou zhihao rencuo,
her friend can.only admit.fault

shi yinwei yizhi hen xianmu Meihua-de shouji,
be because always very envy Meihua-DE cellphone

danshi maibuqi *ziji*-de, houlai…, jiu tou-le Meihua-de shouji.
but can't.afford self-DE later then steal-LE Meihua-DE cellphone

"Her friend had no choice but to admit that she was wrong. It was because she had always envied Meihua's cellphone, but she couldn't afford one *ziji*. Later on…she stole Meihua's phone"

(48) Zai ni-de wuhui shang, yaoshi you yi-ge ren ziji zuo zhe
at your dancing on if have one-CL person self sit PROG

ta hui guoqu *ziji* jieshao, wen tamen-de mingzi.
he will pass self introduction ask their name

"At your dancing party, if someone is sitting, he will come over, *ziji* introduce, and ask for their names."

(The above two were written by English-speaking learners)

In terms of the incorrect selection type of errors, we observed cases such as lack of clarity in the reference of the reflexives, violation of the requirement for animate antecedents, and incorrect substitution with other words. Among these cases, the most common issue was the lack of clarity in the reference of the reflexives. We attribute this to the learners' limited knowledge of Chinese discourse structure and cohesion devices. Previous studies have highlighted the issue of inappropriate pronoun omission among learners from English and Korean backgrounds (Xing, 2016; Chen, 2005; Zeng, L. J., 2012; Huang, 2005). In these cases, the inappropriate omission of the pronoun leads to ambiguity in the antecedents of reflexives. In our corpus data, we identified 13 occurrences of this type of error among English-speaking learners and 10 occurrences among Korean-speaking learners. Below are

examples of each:

(49) Yi chuxian yixie xiangguan-de anzi, xianzhu-de fanying na-xie xiguan
also emerge some related-DE case significantly-DE reflect those accustom

shangwang jiaoyou-de ren, wangwang ye hui xugou *ziji*
surf.internet make.friend-DE person often also will fabricate self

huanxiang-li yunniang-de ziwo xingxiang. Youde xinli yisheng
fantasy-inside brew-DE self image some psychological doctor

chengxian dui *ziji* mengxiang-de ziwo xingxiang, renwei keyi ziyou-de
express to self dream-DE self image believe can free-DE

duoshao dou shi yi-jian hao shi.
more.or.less all be one-CL good thing

"Some related cases have also emerged, clearly reflecting that people$_i$ who are accustomed to making friends online often fabricate a self-image that has been brewing within their own fantasies. Some psychologists believe that being able to freely express their (*ziji*$_{?i}$'s) dream self-image is, to some extent, a positive thing."

(Written by an English-speaking learner)

(50) Erqie gai-jia gongsi dui yang chongwu fangmian bi wo zhuanjia,
and that-CL company to keep pet aspect compare me expert

yinci jiu hui fangxin, dan buyao gaibian dui *ziji*-de chongwu-de xinyi,
therefore then will reassured but don't change to self-DE pet-DE mind

bi yiqian geng xuyao dui chongwu-de fu zeren-gan.
compare before more need to pet-DE take responsibility-feeling

"And that company is more expert in pet care than me$_i$, so Ø$_i$ can be at ease, but Ø$_i$ do not change the mind about (*ziji*$_{?i}$'s) pet, and Ø$_i$ need to have even more sense of responsibility toward the pets than before."

(Written by a Korean-speaking learner)

In (49), the learner inappropriately omitted the subject of *renwei* ("think"), resulting in an unclear referent of *ziji*. On the other hand, in (50), the intended referent of *ziji* should be *wo* ("I"). However, apart from being too distant from *ziji*, *wo* ("I") only appeared as an object in a prepositional phrase in the first clause and not as a subject, making it less prominent within the discourse. Additionally, in the second clause, the subject *I* should not be omitted due to the use of the conjunction word *yinci* ("therefore"), which indicates a causal relationship (Chen, 2008). The inappropriate omission of the subject in (50) resulted in the referent of *ziji* not being the most prominent subject in the discourse (Hu & Pan, 2002). This difficulty in interpretation hinders the reader from grasping the intended meaning expressed by the learner. These types of errors can be attributed to the limited knowledge of the Chinese discourse. Therefore, increasing learners' awareness of discourse structure is crucial in mitigating such errors.

Furthermore, within the corpus data for English-speaking learners, we encountered one instance of an error that violated the constraint that requires the antecedents of reflexives to be animate, as illustrated in (51). It is worth noting that Chinese reflexives are typically bound by animate nouns, adhering to a similar constraint observed in Korean reflexives. However, English reflexives do not exhibit this restriction. Consequently, English-speaking learners may not be aware of this particular property. In contrast, no such errors that violate the animate antecedent constraint were identified in the corpus data for Korean-speaking learners.

(51) Fangdong yao chuzu-de fangjian shi dalou zui da-de
landlord want rent-de room be building most big-de

erqie you *ziji*-de weishengjian.
and have self-de bathroom

"The room$_i$ that the landlord is renting out is the largest in the building, and it has *ziji*$_{?i}$'s bathroom."

(Written by an English-speaking learner)

Finally, within the corpus data for Korean-speaking learners, we identified two occurrences where reflexive *ziji* was erroneously used in place of *bici* ("each other"), as illustrated in (52).

(52) Women conglai mei jianmian, jianmian-de shihou keneng gao-bu-qingchu
we ever not meet meet-de time may make-not-clear

shei shi ni, shei shi wo. Suoyi women shouxian jueding
who be you who be me so we first decide

shenme fangfa lai renchu *ziji*.
what way to recognize self

"We have never met before, so when we meet, we might be uncertain about who I am and who you are. Thus, we should first decide what method to recognize *ziji*."

(Written by a Korean-speaking learner)

In addition, we conducted an examination of the HSK Dynamic Composition Corpus 2.0 to identify instances of incorrect usage by Korean-speaking learners. In (53), the correct word should be *ziji* instead of *ziwo*, while in (54), *zishen* should be replaced with *ziji*[6]. Similarly, English-speaking learners also exhibited incorrect usage, as seen in (55), where *benshen* should be *ziji*. It is evident that learners may encounter challenges in distinguishing these words due to their semantic similarity.

(53) Youye qingshaonian-de *ziji*-de kongzhi nengli yuanyuan buru
because adolescent-DE self-DE control ability far inferior

chengnianren, suoyi baohu qingshaonian he dui qingshaonian
adult so protect adolescent and to adolescent

[6] Corpus website: http://hsk.blcu.edu.cn/

jinxing-de yixiejinyan jiaoyu shi feichang zhongyao-de.
conduct-DE some anti-smoking education be very important- DE

"Because adolescents' *_ziji_* control abilities are far inferior to adults, it is extremely important to protect adolescents and provide them with anti-smoking education."

(Written by a Korean-speaking learner)

(54) Yinwei xiandai ren mangle-de gongzuo, mei Shijian zhaogu _zishen_.
because modern person budy-DE work no time take.care.of self

"Because modern people are busy with work, they do not have time to take care of *_zishen_"

(Written by a Korean-speaking learner)

(55) Zai Huayu shang you yiding chengdu,
at Mandarin on have certain level

jiu keyi gen Zhongguo pengyou jiaotan,
then can with Chinese friend chat

gengjia liaojie Zhongguowenfa,
more know Chinese grammar

wo benshen dui Zhongguo wu-qian-duo-nian-de
I self to Chinese five-thousand-more-year-DE

wenhua lishi gandao feichang you xingqu, dong Hanyu,
culture history feel very have interest understand Mandarin

nenggou bangzhu wo liaojie Zhongguowenfa.
can help me understand Chinese grammar

"If you reach a certain level of Chinese, you can chat with Chinese friends and have a better understanding of Chinese grammar. I *_benshen_ am very interested

in the culture and history of China, which spans over five thousand years. Understanding Chinese language can help me comprehend Chinese grammar."

(Written by an English-speaking learner)

5. Conclusions

This study seeks to explore the potential influence of native language properties of reflexives on the acquisition of Chinese reflexives. English and Korean were chosen as representative languages, representing distinct typological categories. The corpus data produced by learners with these language backgrounds were examined to explore the acquisition patterns of reflexives. The findings reveal the following:

1. Korean-speaking learners demonstrated a higher frequency of using long-distance references compared to English-speaking learners.
2. English-speaking learners showed a higher frequency of using the "emphatic" function compared to Korean-speaking learners.
3. Korean-speaking learners exhibited a higher frequency of using the "generic" function compared to English-speaking learners.
4. In terms of reflexive forms, English-speaking learners employed more compound forms of reflexives than Korean-speaking learners, both in terms of overall usage and in "local binding" contexts.

These findings are consistent with the distinct properties of reflexives in Korean and English. Specifically, English reflexives lack the property of "long-distance binding," while Korean reflexives lack the "emphatic" use. Additionally, English reflexives do not possess "generic" use. Regarding the form of reflexives, English reflexives are not observed in the bare form.

When considering the acquisition of reflexives, Korean and Mandarin exhibit more similar properties. They both possess bare and compound forms, are bound only by "animate" nouns, have "generic" use, allow "long-distance binding," and are subject to "subject-

orientation" and the "blocking effect." Based on the usage rate and error rate statistics, it is observed that Korean-speaking learners had a higher usage rate and a lower error rate, indicating that their acquisition appears to be more successful compared to English-speaking learners. However, it is important to acknowledge the limitation of the study due to the limited number of errors, which prevents a statistical test to determine the significance of the observed differences.

In particular, an interesting observation is the absence of word-order-type errors in the data from Korean-speaking learners, while such errors were found among English-speaking learners. These errors may be attributed to the characteristic of emphatic reflexives in English, which often occur at the end of sentences, unlike the emphatic use of *ziji* in Chinese, which typically appears before verb phrases. Additionally, errors among English-speaking learners may stem from a lack of awareness regarding the requirement for the antecedent of *ziji* to be animate.

Previous research has established that the native language of learners plays an important role in the acquisition of reflexives in Chinese. Insufficient understanding of reflexives can hinder learners' ability to interpret the referents represented by reflexives, thus affecting their overall comprehension of the target language. Expanding on this premise, the present study analyzes authentic learner data to examine the usage rate and distribution of different functions of reflexives among learners from diverse language backgrounds. The findings support the notion that learner production is indeed influenced by the properties of reflexives in their native language. This observation helps shed light on the consistent findings of previous studies, which have predominantly focused on comprehension-based research, revealing a substantial impact of native language reflexives on the acquisition of *ziji* in Chinese. By promoting awareness among language teachers and learners regarding the inherent differences in their language backgrounds, more effective teaching and learning outcomes can be achieved.

Abbreviations

ACC	accusative case
ADN	adnominal
CL	classifier
COMP	complementizer
DAT	dative
DE	pre-nominal modification marker or postverbal resultative marker de
DECL	declarative
FUT	future
IMP	imperative
NOM	nominative
PRES	present
PROG	progressive
PST	past
Q	question particle
SFP	sentence-final particle
TOP	topic

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英語及韓語背景學習者反身代詞「自己」的使用分析：語料庫為本的研究

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摘要

漢語的反身代詞可分為複合形式及光桿形式兩種，光桿形式反身代詞的功能又可進一步細分為「照應」、「強調」及「泛指」。其中的「照應」功能，受到「長距離照應」、「主語傾向性」、「阻斷效應」三個特質影響，顯見漢語反身代詞的複雜性。本研究為探討母語反身代詞的特徵是否會影響漢語反身代詞的習得，以語料庫為本，觀察分析英語與韓語兩個不同語言背景學習者產出的語料。研究結果顯示：1. 韓語背景的學習者較英語背景學習者使用了更多長距離指涉；2. 英語背景學習者使用的「強調」功能多於韓語背景學習者；3. 韓語背景學習者使用的「泛指」功能多於英語背景學習者；4. 在反身代詞的形式上，英語背景學習者不論在整體或「局部照應」的表現上都較韓語背景學習者使用了更多複合形式的反身代名詞。以上 4 點都與韓語、英語反身代詞的特性相呼應，也就是，英語沒有長距離指涉的特徵、韓語沒有「強調」的用法、英語沒有「泛指」的用法、英語沒有光桿形式的反身代詞。在反身代詞的偏誤表現上，兩背景學習者皆有不熟悉漢語篇章結構導致反身代詞指代不明的問題；英語背景學習者有將母語反身代詞出現位置遷移至漢語的跡象而造成錯序問題。

關鍵詞：自己、反身代詞、照應語、偏誤、學習者語料庫

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