

Cross-linguistic influence on Chinese-L2 learners' acquisition of classifiers

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Abstract

This research aims to investigate cross-linguistic influence (CLI) on Chinese-L2 learners' acquisition of classifiers. So far, limited empirical studies have concerned themselves with how L1 affects second language acquisition (SLA), specifically in relation to the acquisition of classifiers. Although many theories and hypotheses have predicted that L1 contributes both positive and negative effects to L2 acquisition, this current research will scrutinise the reasons this is so. I conducted a picture-based composition via dynamic assessment. Two participants with contrasting L1 backgrounds were chosen: Sally and Yui, from New Zealand and Thailand respectively. Findings suggest that L1 both facilitates and hinders SLA, where reasons can be explained through the L1–L2 similarities and differences in classifier system as well as L1 syntactic transfer. These mixed results demonstrate that language acquisition is, predominantly, a particularly complicated process in which other factors such as the linguistic environment, age of acquisition (AoA) and individual differences must be considered within the overall analysis.

Introduction

Researchers have long been paying attention to cross-linguistic influence (CLI) on the procedure of second language acquisition (SLA), which is a key concept under the umbrella term 'language transfer'¹ (Yi, 2013, p. 2372). CLI unfolds how one language can have an effect on another language, contributing both positive (e.g., easiness) and negative (e.g., overproduction, underproduction) influences to learners' L2 acquisition (cf. Anderson, 1983; Flege, 1995; Hyltenstam, 1977; Lado, 1957; Selinker, 1972). Thus far, there is limited validation of CLI on Chinese-L2 speakers' acquisition of classifiers. Typologically, classifiers are a group of morphemes that give categorisation to nouns, being a crucial grammatical category in typical classifier languages, such as Chinese. To illustrate, within a numeral noun phrase (hereafter NP), a classifier must be inserted between the number and the noun in order to suffice Chinese grammaticality. For example, the equivalence of *three tables* in Chinese must be:

¹ 'Language transfer' is also referred to as *L1 interference*, *linguistic inference* and *cross-linguistic influence*. Considering the fact that L2 may also influence L3 acquisition, therefore this article adopts the specified concept *cross-linguistic influence* instead of *language transfer*.

San zhang zhouzi

Three CL. table

‘three tables’

This study aims to scrutinise the CLI on classifiers acquisition by adopting dynamic assessment. Data was collected from two Chinese-L2 learners, whose L1s are English and Thai, respectively. Findings suggest that due to L1–L2 similarities and differences, CLI performs both positively and negatively on learners’ acquisition of classifiers, through the lens of selecting classifiers and syntactic transfer involving classifiers. This article takes the position that CLI could facilitate or impede L2 learners’ acquisition of classifiers. It argues that while due to SLA’s complexity *per se*, other potential factors such as linguistic environment, age of acquisition (AoA)² and individual differences should also be taken into account in the analysis of language acquisition. I begin with a literature review of Chinese language classifier instruments, before outlining my methodology and findings. I then reflect on the implications for further research on the processes undertaken by Chinese-L2 learners.

Literature review

Cross-linguistic influence

According to Ortega (2014, p. 31), L2 learners have an established L1 capacity before learning L2 and the pre-existing L1 knowledge influences one’s L2 acquisition. This phenomenon, generalised as CLI, technically involves a wide range of linguistic content, such as phonology, lexis, syntax, semantics and pragmatics. A string of relevant theories includes Lado (1957)’s contrastive analysis hypothesis (CAH), which suggests that differences and similarities between L1 and L2 predicts difficulty and easiness, respectively, to acquisition. Yet this notion is later disputed by Hyltenstam (1977) and Flege (1995), who argue that similarity may give rise to confusion and therefore results in a negative influence on SLA. Consequently, Anderson (1983) suggests that L1–L2 similarity could have a misleading influence on L2, owing to the principle of ‘transferability’³. Nevertheless, as early as 1972, Selinker raised the concept of ‘interlanguage’, denoting that some L1 knowledge is consciously or unconsciously mapped into learner’s L2 acquisition, where the trend of unexpected repetitive mappings (i.e., error⁴) is termed as ‘fossilisation’. In the discussion section, the current study will apply these notions to provide a case-by-case analysis to the data of participants.

² Age of acquisition refers to the onset time that learners are immersed in the L2 context, including formal schooling, visiting to L2 country and so on.

³ *Transferability* means that language knowledge can be transferred into another language in the process of L2 acquisition.

⁴ *Error* is an applied linguistic term differing from *mistake*: error refers to a systematic misuse of language, while mistake means an occasional linguistic misuse.

Empirical studies on Chinese classifiers acquisition

At present, a handful of empirical studies have been investigating non-native speakers' acquisition of Chinese classifiers from different perspectives. For instance, Paul and Gruter (2016) probed the approach to learning classifiers from 30 Swedish-L1 speakers; Gao (2010) examined 48 native English speakers' application of classifiers, focusing on the linguistic transfer from L1 prior knowledge; while Kuo (2015) tested 35 Chinese-L2 learners in Taiwan with the aim of exploring the correlation between classifier acquisition and cognitive performance. Despite their different focus, a consistent finding across all of these studies reveals that CLI facilitates but also impedes Chinese-L2 learners' classifier acquisition.

Dynamic assessment

The terminology *dynamic assessment*, coined by Luria (1961), is an initiative achievement of Russian psychologist Lev Vygotsky's research. Dynamic assessment is regarded as a 'pedagogical instantiation of the ZPD'⁵ emerging from the dialectical perspective of language learning and teaching (cf. Lantolf, 2009, p. 359; 2013, p. 66). To explain, conducting dynamic assessment is an interactive procedure whereby the examiner guides the examinee individually with scaffolding instructions. By this approach, examinees are able to perform better in the testing as well as learning new knowledge based on their current level. Hence, the final result could be referred to as a learning representation during the assessment procedure.

Methodology

Participants

Data was collected from two Chinese-L2 learners. The first was Sally (anonymised name), aged 21, from New Zealand, who is currently an undergraduate student in Australia. She has already completed a higher-intermediate Chinese language course (lasting two years) as her minor; and her L1, English, is not considered a classifier language. The second participant was Yui (anonymised name), aged 22, a female student from Thailand, who currently studies clinical medicine as an exchange student in China. She studied Chinese for four years in Thailand before studying at a Chinese university; and her L1, Thai, is a typical classifier language.

⁵ *Zone of proximal development*: this concept was first purposed by Russian psychologist Lev Vygotsky in 1933, denoting an abstract distance from what a learner can do with assistance to what a learner can do independently in the domain of language acquisition.

Data collection and analysis

Data was collected via a picture-based written task (lasting around 15 minutes) and a 10-minute interview. Participants were asked in advance to write a short picture-based composition.⁶ They did not know classifiers were the focus of this task. According to the principle of dynamic assessment, I designed a series of questions⁷ before delivering the task. I prepared pens in different colours⁸ for participants to mark the trace of testing rounds. Yui's first attempt of the task was almost perfect in applying classifiers, so I did not continue dynamic assessment for her. Instead, I requested her to write another composition in her L1 without referring to the first composition so as to examine whether her acquisition of classifiers is correlated with her L1 knowledge.

Before testing participants, I collected a written sample from a native adult Chinese speaker, as a reference of judgement for the correct use of classifiers. I adopted accuracy and emergence respectively as the benchmarks of acquisition and noticing. Accuracy refers to both syntactic correctness⁹ and semantic correctness.¹⁰ Emergence means that participants locate the classifier's position, but they are not able to figure out the correct classifier. In addition, I allowed participants to use *Pinyin*¹¹ instead of Chinese characters, in case the characters' forms were written wrongly, which would affect the accuracy rate of classifiers.

Findings

Data of Sally

Overall, Sally tended to use 'location+you+NP', a structure in which classifiers are normally required. Table 1 presents Sally's dynamic data in sequential rounds, demonstrating how she applied classifiers under my step-by-step instructions.

Table 1: Record of Sally's dynamic assessment

Number	Classifier	Object	1st round	2nd round	3rd round	4th round
1	zhi	dog	√			
2	ge	person	√			
3	ge	cat	×	√		

⁶ See Figure 1 in Appendix.

⁷ See 'Question formulation in the assessments' in Appendix.

⁸ See Figures 2–4 in Appendix: Figure 2, in particular, shows the different colours tracing testing rounds.

⁹ i.e., within NP layer, the classifier is placed between the number and the noun.

¹⁰ i.e., the classifier is correctly matched to the noun.

¹¹ *Pinyin* is the official romanization system for marking pronunciation of standard modern Chinese in mainland China.

4	ge	table	×		√	
5	ge	plant	×		+	
6	ge	fish	×		+	
7	ge	character	–			√

Note: √ indicates the classifier is correct; × is first elicited but is wrong; + is elicited after instructions but is wrong; – is not elicited.

Source: Author's summary of experiment data.

In the first assessment, Sally noticed six classifiers, only one of those is considered to be acquired. In the second assessment, she elicited one misused classifier and revised it into the correct one. In the next round, she figured out three more cases of incorrectness, with two of them still remaining unacquired, and one being correctly amended (see Figure 2 in the Appendix).

In the final assessment, Sally elicited another classifier (not previously noticed) with uncertainty. It seemed to be a coincidence of a correct modification, since she could not locate the classifier by herself but managed to match the appropriate one, *ge* (the generic classifier) for the noun. As a whole, she acquired five classifiers after four rounds' assessments. It is also noted that the data demonstrates a trend of overgeneralisation to the classifier *ge*,¹² because she applied it before each noun when being uncertain.

It is plausible that Sally realised the grammatical importance of classifiers and attempted to apply as many classifiers as she could. Yet, it is clear that she did not recognise the obligatory occurrence of classifier *ge* for 'character' until the final attempt. It could be concluded that Sally has presented a weak (or at least passive) form of classifier acquisition, along with a positive sense of noticing classifiers.

Data of Yui

In contrast to Sally's learning of classifiers, Yui's data indicates a superior mastery of classifiers. Yui finished the task without assistance from dynamic assessment, since her composition is almost error-free. This includes accurate applications of classifiers both in the syntactic layer and the semantic layer.

Table 2: Record of Yui's dynamic assessment

Number	Classifier	Object	1st round
1	ge	person	√
2	zhi	fish	√

¹² *Ge* is a generic classifier, which is applied when the speaker is uncertain which classifier to use. However, it does not mean that people can use *ge* all the time.

3	ge	moment	√
4	zhang	picture	√

Note: √ indicates the classifier is correct.

Source: Author's summary of experiment data.

In total, only four classifiers were elicited in the composition, along with one being misused (i.e., the first classifier *ge*, is technically correct but it sounds awkward to native speakers). I would not, however count this misuse of *ge* as degradation of her classifier acquisition. The reason behind this is that this sentence structure does not require a classifier when the subject is a collective noun. This situation mirrors the issue of conventional usage rather than the acquisition of classifiers.

On the other hand, Yui's syntactic structure is more complicated, which gives rise to avoidance of classifiers. To illustrate, Yui widely adopted the structure of 'Sub+*you*+V+NP'¹³ in the composition where classifiers' usage could be discarded without ruining grammaticality *per se*. For example, the following sentence is partially correct because the three classifiers are applied inconsistently before nouns.

Tamen you yang gou, yang mao, hai yang liangzhiyu

They you raise dog, raise cat, and also raise two CL. fish

'They raise dog, cat and two fishes'

Although this sentence is comprehensive for native Chinese speakers, it is difficult to confirm whether Yui thoroughly understands how to apply classifiers in a 'Sub+*you*+V+NP' structure. To explain, it should be noticed that the semantics change slightly in this context¹⁴ though her syntactic structure is acceptable. This can be regarded as evidence of insufficient classifier acquisition through the interface of syntax and semantics. Furthermore, Table 3 illustrates that Yui applied classifiers more frequently in her L1 Thai, with only one classifier (No. 2) appearing in both versions (see Figures 3 and 4 in the Appendix).

Table 3: Yui's application of classifiers in her Thai composition¹⁵

Number	Noun matching to classifier	Classifier in Chinese version	Classifier in Thai version
1	single person	+	-

¹³ Predicate *you* is the focus of this structure. In *you* construction, classifiers are optional in the NP, however, generally native speakers would keep consistent in allocating classifiers: neither repeating classifiers each time nor avoiding all classifiers.

¹⁴ To explain, if classifiers are applied before each noun, this sentence emphasises the different quantities of the animals they have. However, Yui only placed a classifier for 'fish', thereby leading to the interpretation of stressing the quantity of fish but weakening the importance of dog and cat. To some extent this is awkward, considering the setting in the picture, because there is no reason to only emphasise the quantity of fish.

¹⁵ The usage of *ge* here is partially correct.

2	fish	+	+
3	moment	+	-
4	character	+	-
5	cloud	-	+
6	bird	-	+
7	two persons	-	+
8	lives	-	+
9	house	-	+

Note: ✓ indicates the classifier is correct; × is first elicited but is wrong; + is elicited after instructions but is wrong; - is not elicited.

Source: Author's summary of experiment data.

It is also noted that some classifiers she applied in Thai (Nos. 5–9) have their own counterparts in Chinese. However, she did not apply these classifiers in her Chinese composition. Therefore, I draw a tentative conclusion that Yui created adequate context to demonstrate her knowledge of applying classifiers, while evidence may also point to an avoidance of classifier application.

Discussion

CAH on application of classifiers

By and large, findings from the current study are in line with Lado's (1957) CAH: that L1–L2 similarities lead to easiness but differences predict difficulty. Sally's data is prone to the claim that L1–L2 differences impede her acquisition of classifiers. This is potentially because, compared to Chinese, there are considerably fewer classifiers in English and classifiers are omitted in most contexts. Furthermore, Chinese classifiers are an obligatory component, bounded within numeral NP, and the classifier system is rather elaborate, while classifiers get demoted in English grammar since they are not necessary in numeral NPs.

In Table 4, it is demonstrated that Sally mastered the rule of applying classifiers aptly in the syntactic layer, where there is striking evidence of sufficient noticing of classifiers (from 86% to 100%). It is evident, however, that she has difficulty in mapping the correct classifier for each noun, referring to the final accuracy rate of 71.4%. In the interview, she confirmed that classifier–noun matching is the most challenging part of learning, and her solution is rote memory. Therefore, for Sally it seems to be an ad

hoc scheme to adopt the generic classifier *ge* as an alternative for those classifiers she is unfamiliar with or uncertain about, as demonstrated in Table 1.

Table 4: Rate of accuracy and noticing¹⁶

Participant	Accuracy	Noticing
Sally	71.4% (28.6%)	100% (86%)
Yui	100% (100%)	100% (100%)

Source: Author's summary of experiment data.

On the other hand, Yui's case is an instance of similarity-easiness in L2 acquisition. In Thai, classifier is a must-be component, as in Chinese, which has to be bounded with the noun it modifies. It is noticed that Yui's pre-knowledge of Thai classifiers facilitates her Chinese classifier acquisition. Through my observation, Yui finished the task without much effort, ending with a perfect accuracy rate and noticing rate of classifiers. Secondly, she also mentioned in the interview that Thai has many classifiers, even though they are encoded in a different cognitive system. Still, being familiar with the usage of Thai classifiers benefits her acquisition of Chinese classifiers, especially in the syntactic layer; and all she needs to do is to memorise the meaning of each Chinese classifier. In a nutshell, similarity of classifiers in Yui's L1 and L2 undeniably simplifies her acquisition of Chinese classifiers.

Similarity–difficulty on syntactic transfer

I perceive that similarities also predict difficulty, consistent with findings from Hyldenstam (1977), Flege (1995) and Anderson (1983). This is reflected in the syntactic layer relevant to classifiers rather than merely phrasal structure. For example, Sally widely adopted a 'location+*you*+NP' structure, which is similar to a 'there be' structure in English. This is a representative case of 'fossilisation' in grammatical pattern as per Selinker (1972). To be more specific, when Sally describes the setting in the picture, she naturally codes sentences with a 'location+*you*+NP' formula, where classifiers are an obligatory element within the NP. To make the sentence correct, she must apply corresponding classifiers. This implicitly requires a higher level of classifier acquisition. To some extent, classifier mis-usage in this context is an implicative transferred result owing to the similarity in L1–L2 syntactic structure. A similar case has been further discussed by Yuan (2015), who observed that L1–L2 similarity of bearing wh-questions hardly provides easiness for English-L1 speakers' Chinese learning. Much to the contrary, it gives rise to difficulty because of the syntactic difference in sequencing wh-questions, which resonates with Anderson (1983)'s notion of negative effect from L1–L2 similarity.

¹⁶ Data in brackets are from the first-round assessment.

Reflection on method

I have given much thought to whether I should elicit the concept of classifier in the question. It appears to be a conundrum. If I asked the participants ‘could you please describe this picture with as many classifiers as you can?’, then this would probably lead to a confirmation bias in noticing the classifiers. In this case, participants may attempt to use classifiers more frequently than their natural usage, which is very technically directed and it may confound the actual CLI (as it is unnatural). On the other hand, if I did not elicit classifiers (as I did in this project), it is arduous to discern whether or not the participants actually intended to avoid classifiers, and whether or not the avoidance of classifiers merely results from syntactic structure through the data and the interview.

Reflection of analysis

SLA is a complex procedure where ultimate attainment is affected by many variables. These variables correlate with each other and it is difficult to detect or prove which one outperforms the others. Consequently, the analysis of language learning thus far in the current study should consider at least three more factors. As well as emphasising the role of CLI on classifier acquisition, linguistic environment, AoA and individual differences should also be taken into account. Due to word limit, I will briefly mention these three factors as a closing remark.

First, there is the language environment. Sally learns Chinese solely from language classes in Australia, with comparably less exposure to the target language. In contrast, Yui obtained language knowledge in Thailand, where she was immersed in more Chinese culture as well as Chinese language; not to mention the fact that she has also been under considerable language exposure by studying in China. These conditions should have contributed to improve Yui’s Chinese language skills. AoA is another critical factor. It is claimed by Birdsong (2005) that AoA is strongly predicative of the end state of SLA; and higher ultimate attainment benefits from younger AoA. Yui started learning Chinese one year earlier than Sally: undeniably her learning length quantitatively exceeds that of Sally. The third factor to consider is individual differences. Although from the interview both participants manifested a strong conation for Chinese learning, it cannot be pinpointed whether cognition factors, such as working memory or aptitude, account for their learning processes and therefore differentiate their ultimate attainment. Considering these implications, further studies regarding Chinese-L2 learners’ acquisition of classifiers are suggested to take these factors into account so as to make a more convincing analysis.

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References

- Andersen, R. (1983). Transfer to Somewhere. *Language Transfer in Language Learning*, 1, 177–201.
- Birdsong, D. (2005). Interpreting Age Effects in Second Language Acquisition. In A Davies & C Elder (Eds), *The Handbook of Applied Linguistics*. (pp. 82–105). Malden, MA: Blackwell.
- Flege, JE. (1995). Second Language Speech Learning: Theory, Findings, and Problems. In W. Strange (Ed.), *Speech Perception and Linguistic Experience: Issues in Cross-language Research*. Timonium, MD: York Press, 233–77.
- Gao, H. (2010). A Study of Swedish Speakers' Learning of Chinese Classifiers. *Nordic Journal of Linguistics*, 33(2), 197–229. doi.org/10.1017/S0332586510000156.
- Hyltenstam, K. (1977). Implicational Patterns in Interlanguage Syntax Variation. *Language Learning*, 27(2), 383–410. doi.org/10.1111/j.1467-1770.1977.tb00129.x.
- Kuo, JY. (2015). Cognition-based Multimedia Classifier Learning. *Chinese as a Second Language Research*, 4(1), 23–45. doi:10.1515/caslar-2015-0002. doi.org/10.1515/caslar-2015-0002.
- Lado, R. (1957). *Linguistics Across Cultures: Applied Linguistics for Language Teachers*. Michigan: University of Michigan Press.
- Lantolf, JP. (2009). Dynamic Assessment: The Dialectic Integration of Instruction and Assessment. *Language Teaching*, 42(3), 355–68. doi.org/10.1017/S0261444808005569.
- Lantolf, JP. (2013). Sociocultural Theory: a Dialectical Approach to L2 Research. In SM Gass & A Mackey (Eds), *The Routledge Handbook of Second Language Acquisition*. London: Routledge.
- Luria, AR. (1961). Study of the Abnormal Child. *American Journal of Orthopsychiatry: A Journal of Human Behavior*, 31, 1–16.
- Ortega, L. (2014). *Understanding Second Language Acquisition*. London: Routledge. doi.org/10.4324/9780203777282.
- Paul, JZ, & Grüter, T. (2016). Blocking Effects in the Learning of Chinese classifiers. *Language Learning*, 66(4), 972–99. doi:10.1111/lang.12197.
- Selinker, L. (1972). Interlanguage. *IRAL-International Review of Applied Linguistics in Language Teaching*, 10(1-4), 209–32. doi.org/10.1515/iral.1972.10.1-4.209.
- Yi, A. (2012). On the Factors Influencing L1 Transfer. *Theory and Practice in Language Studies*, 2(11), 2372–77. doi.org/10.4304/tpls.2.11.2372-2377.
- Yuan, B. (2015). The Effect of Computational Complexity on L1 Transfer: Evidence from L2 Chinese Attitude-bearing Wh-questions. *Lingua*, 167, 1–18. doi.org/10.1016/j.lingua.2015.09.001.

Appendix

Supplementary

Question formulation in the assessments

1. Please describe what you see in this picture (Figure 1).



Figure 1: Picture of the task.

Source: Author's own design and photograph.

2. Now I will ask you to look over your writing and revise or edit any errors you notice.

3. Can you see an error in this sentence? (When participants are unable to locate error or fill in a classifier in the sentence.)

4. Can you see an error in this noun phrase? (When participants are unable to locate error or fill in a classifier in the noun phrase.)

5. Can you think of what should come before the noun? (When participants are unable to locate error or fill in a classifier between a number and a noun.)

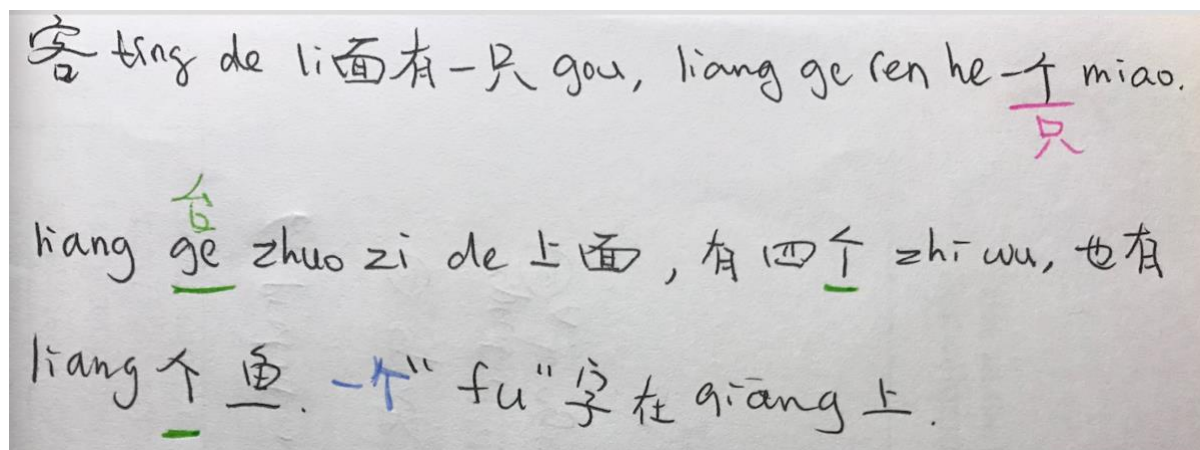


Figure 2: Sally's composition (Chinese).

Source: Author's photograph.

Individual interview with Sally

1.Q: Are classifiers difficult for you? Why?

A: Yes, it is difficult, because in English we seldom use classifiers. And the most difficult part is to memorise classifiers ... I know when and where to use classifiers in the sentence, but just have problems in memorising which one is the good one to use ...

2.Q: Have you been taught classifiers?

A: Yes, in the courses. They have some part of classifiers teaching sometimes ... from very early. in the course you get training like this, you have to talk about them [classifiers] in Chinese, because they are so common ...

3.Q: Have you done anything specific in your own self-study to learn classifiers?

A: Emm ... normally I treat it like a general study of vocab[ulary]. I often use flash cards as a strategy for me to help me memorise ... Not exactly specific method ... I learn classifiers mostly by rote memory ... to learn the pattern ...

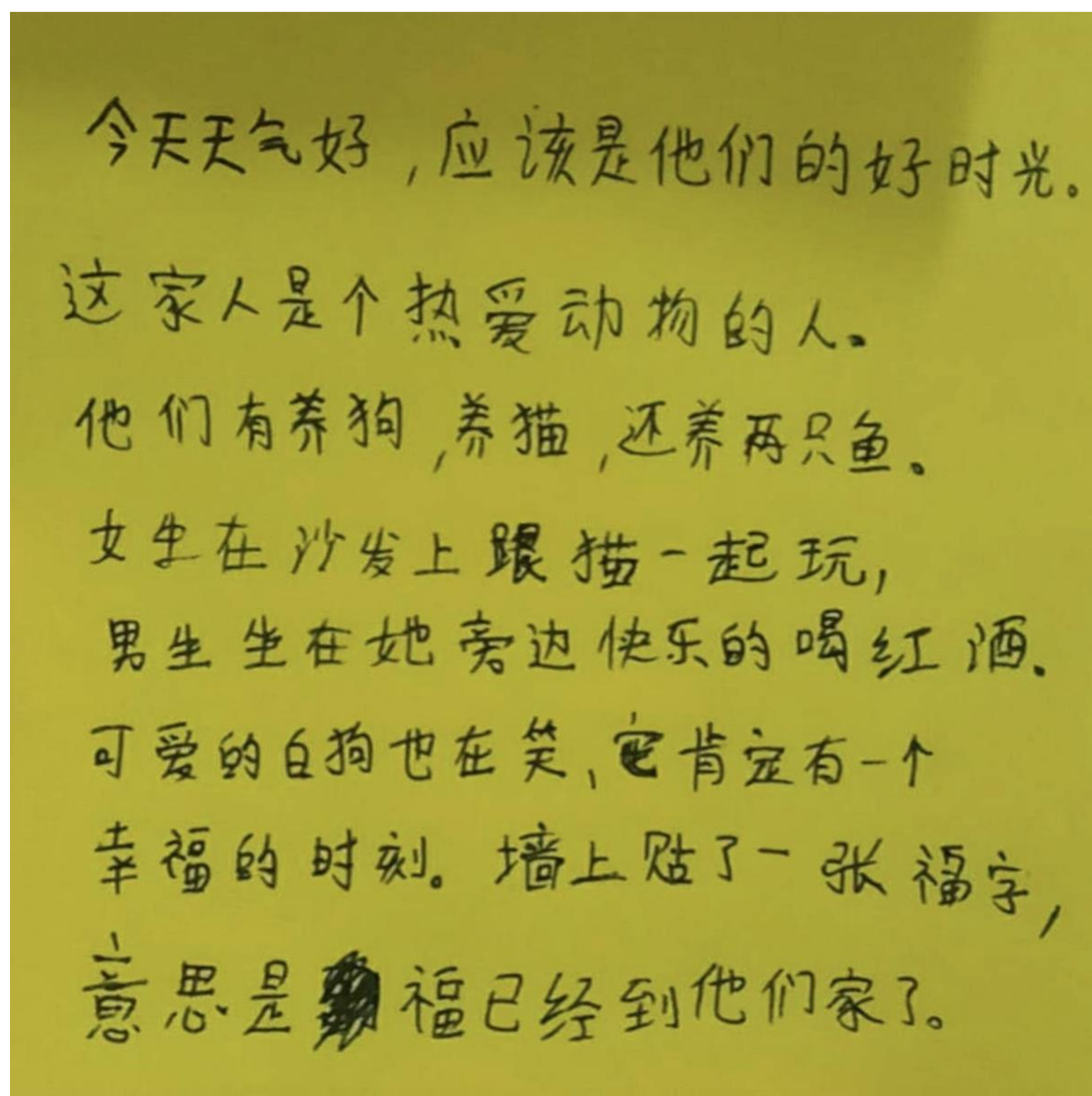


Figure 3: Yui's composition (Chinese).

Source: Author's photograph.

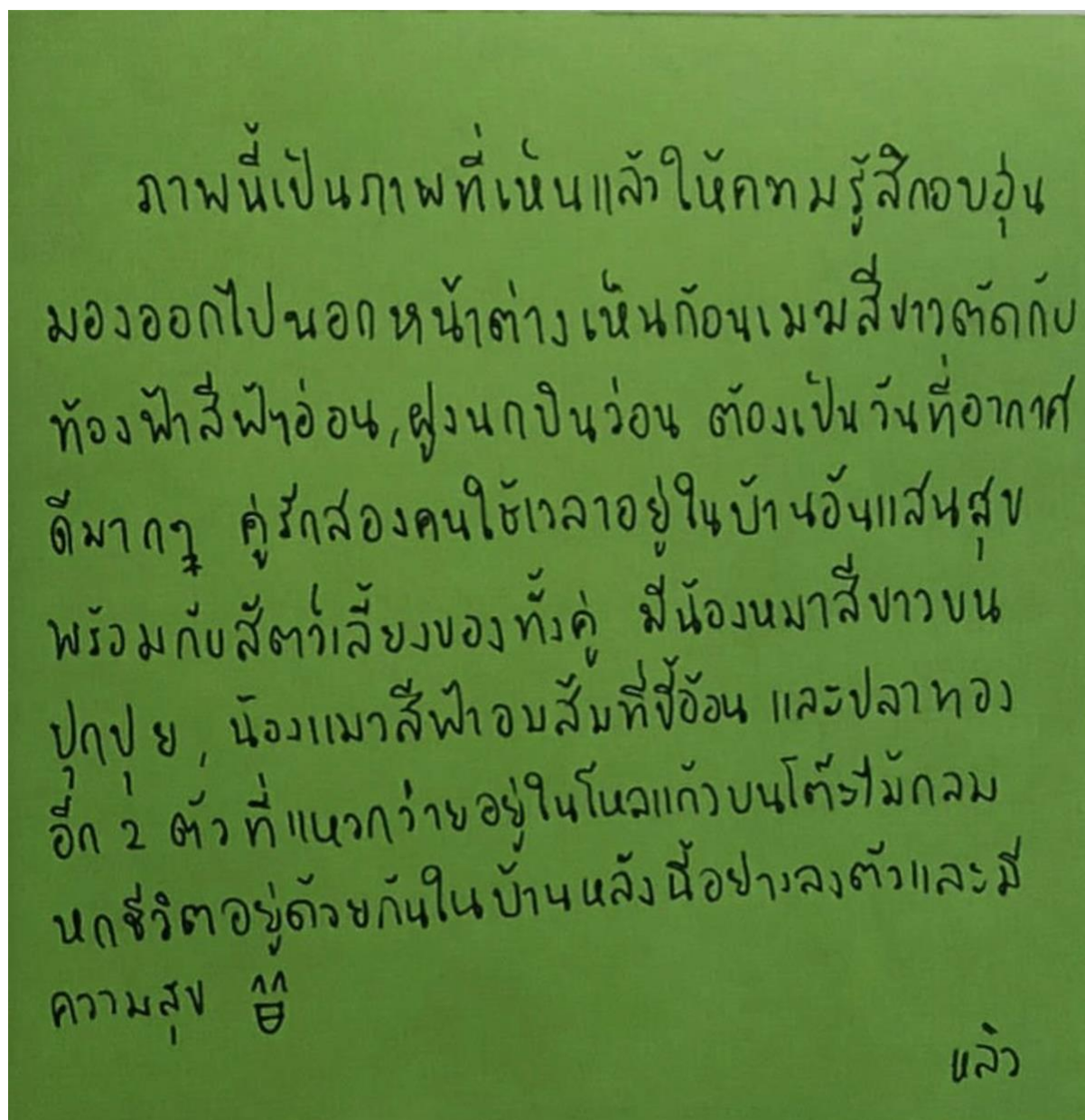


Figure 4: Yui's composition (Thai).

Source: Author's photograph.

Individual interview with Yui

1. Q: Why did you apply classifier inconsistently in the second sentence?

A: At first I wanna write 一只狗, 一只猫, 两条鱼 but I wrote the first stroke of the Character wrong, that is why ...

2. Q: How do you learn classifiers?

A: I learnt some from my Chinese class. Watching Chinese series, listening to Chinese songs and talking to Chinese people do help me a lot in memorising the classifiers because when you hear something repeatedly, you will automatically remember it.

3. Q: Are classifiers difficult for you? Why?

A: I do not think it is hard, it is just complicated and takes time in memorising the correct one. In Thai, we also have lots of classifiers and each noun has its specific classifier as well, so I think it is the beauty of the language.