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Short *bei* Passives in L2 Chinese

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This experimental study probes the mental representations of short *bei* passives in adult L1 English L2 Chinese learners. An untimed acceptability judgement task and a fill-in-the-blank task were administered to 75 English native speakers with intermediate and advanced Chinese proficiency, and 33 native Mandarin Chinese speakers. Results suggest that L2 learners can reject violations caused by adjectives in *bei*-constructions, but with significant difference ($p < 0.001$) to native Chinese speakers, with fossilization in some L2 grammars at the advanced level. However, although learners initially treat *bei* as the counterpart of the dummy preposition *by* in English passives, those with higher proficiency can successfully revise their L2 grammars to establish *bei* as an individual passive marker. The findings of this study are consistent with the view that L1 is the departure point of L2 acquisition (Schwaltz and Sprouse, 1996) and L1 transfer of the morphophonological shape of affixes (Montrul, 2001).

0. Introduction

The L2 acquisition of Mandarin Chinese passive constructions is a well-known difficulty, with previous studies (e.g. Huang et al, 2007) focusing on the long form of *bei* passives, while only testing intermediate learners. The current study fills the gap by exploring the development of Mandarin Chinese short *bei* passives in L2 learners' mental representations. Our aim is two-fold: first, to investigate whether adult L1 English L2 Chinese learners who have acquired the long form of *bei* passives can also acquire the short form;[1] and secondly, to examine whether L2 grammars allow adjectives to occur in the passive voice due to L1 transfer.

This paper begins with a brief overview of short passive constructions in English and Chinese and a discussion of the adjectival passives in English. Section 2 presents the research questions and predictions. Details of the empirical study (participants and materials) can be found in Section 3. The results of the study are presented in Section 4, followed by a discussion in Section 5, and finally by directions of future research in Section 6.

[1] Passive constructions with an external argument are conventionally referred to as "long passives" and those without are referred to as "short passives" (e.g. Xiao et al, 2006).

1. Theoretical background

1.1. Chinese and English short passives in brief

The passive construction is commonly used worldwide, yet languages vary in their ways of forming passives, using the available choices predicted by Universal Grammar (e.g. Chomsky, 1981). For example, English and Chinese passive constructions have different word orders and formation strategies. In English, they are typically formed with the combination of an auxiliary verb *be* and a passive participle with the passive suffix *–en* (or *–ed*). Consider the following example, where (1b) and (1c) are the long and short passive forms of (1a), respectively. In the long form (1b), *the teacher* is the agent of the action *criticizing* and comes after the verb and the preposition *by*; whereas they are absent in the short form (1c).

(1) a. The teacher criticized Mary.
b. Mary was criticized by the teacher.
c. Mary was criticized.

Collins (2005) argues that since the dummy preposition *by* doesn't make any semantic contribution, its presence must be syntactically motivated. Therefore, he proposes that *by* heads a functional category VoiceP. Voice can be spelled out as *by*, in long passives, or as Ø in short passives.

In contrast, with a less rich inflectional morphology than English, Chinese employs an individual passive marker *bei* to mark passive sentences. For example, (2b) and (2c) are the long and short passive forms of (2a), respectively:

(2) a. laoshi piping-le Mali.
teacher criticize-PERF Mary
"The teacher criticized Mary."
b. Mali bei laoshi piping-le.
Mary BEI teacher criticize-PERF
"Mary was criticized by the teacher."
c. Mali bei piping-le.
Mary BEI criticize-PERF
"Mary was criticized."

Similar to Collins' approach, Liu (2012) assumes that the short and long forms of Chinese *bei* passives share the same syntactic structure. The implicit external argument in short *bei* passives is projected in syntax but phonetically covert, i.e. spelled out as Ø. According to Liu, *bei* is also merged into the head of VoiceP, this is in common with the dummy preposition *by* in English long passives. A crucial difference from English, however, is that *bei* must be spelled out overtly in the short form.

1.2. The adjectival passives in English

In the English short passive sentence below, is the participle *damaged* an adjective or verb?

(3) The door was damaged.

In this case it can go either way, but many (Alexiadou et al, 2015; Bruening, 2014; Levin and Rappaport, 1986; McIntyre, 2013) have argued that it is possible to distinguish adjectival passive participles[2] from verbal passive participles, which share the same morphology but belong to different syntactic categories.

Adjectival passive participles exhibit adjectival properties and therefore can be differentiated from verbal passives which exhibit verbal properties. Those passive participles which take adjectival degree modifiers like *very* in (4a) are adjectives; those which occur in prenominal position or take adjectival *un*-prefixation in (4b) are also adjectives (Levin and Rappaport, 1986). In addition to *be*, adjectival passives can also be selected by AP-selecting verbs such as *seem* in (4c). A lot of adjectival passive participles are also incompatible with *by*-phrases and cannot take an external argument, for example in (4d).

(4) a. It is very organized.
b. untouched treasures
c. It seemed damaged.
d. *The door seemed damaged by Mary.

Verbal passive participles, on the other hand, cannot take degree modifiers like *very* in (5a); they cannot occur in a prenominal position or take *un*-prefixation[3] in (5b); they cannot be selected by AP-selecting verbs such as *seem* in (5c), but they can always cooccur with a *by*-phrase in (5d).

(5) a. *It is very pushed.
b. *unkept book
c. *It seemed kissed.
d. The door was damaged by Mary.

Recall our initial question regarding (3), it is difficult to determine the syntactic category of some passive participles, precisely because of two reasons. First of all, there

[2] McIntyre (2013) considers transitive-based, but not unaccusative-based adjectival passives, to be genuinely passive. As such, the current study is only concerned with transitive-based adjectival passives.

[3] Negative *un*-prefixation is different from reversative *un*-prefixation such as *unload the truck* and *unbutton the shirt*, because the latter attaches to verbs (Levin and Rappaport, 1986).

is not enough information to rely on. If the passive sentence is in its short form, we cannot say for sure if it has an implicit external argument of the event in (5d), or if it is just a state in (4c); *be* could be an auxiliary (for verbal passives) or a copula (for adjectival passives). Secondly, English adjectival passives and verbal passives share the same morphology (same stem and affix). For example, the passive participle *damaged* can either be adjectival in (4c) or verbal in (5d). In the former, it expresses a state, while in the latter it describes an event. The situation type is therefore ambiguous in the short *be* passives. For example, (6) can refer to a psychological state or an event (mentally caused by an implicit external argument).

(6) Mary was disappointed.

We would find ourselves in a superficially similar position in terms of the syntactic category of the Chinese counterpart of *disappointed*. It is not always clear whether an alleged adjective is actually a verb, in Chinese. For example, in Zhao's (2005) study of L2 Chinese by English native speakers, *shiwang*-type words (*jingya* [surprise], *shengqi* [anger] and *gaoxing* [please]) are referred to as psychological (hereafter psych) verbs. However, the current study considers words of this category to pattern with adjectives (Chen, 1996; Huang et al, 2009) and will refer to them as psych adjectives. In contrast to the English passive voice which allows adjective participles, Chinese *bei* passives cannot take psych adjectives. Consider (7):

(7) *Xiaoming bei shiwang
Xiaoming BEI disappointed
Intended meaning: "Xiaoming was disappointed."

Shiwang (disappointed) expresses a state of disappointment and is thus incompatible with *bei*, which must denote an event. *Shiwang* and similar words which describe psych states can however take degree modifiers like *hen* (very), as in (8):

(8) Xiaoming hen shiwang
Xiaoming very disappointed
"Xiaoming is disappointed."

In English, the adjective passive participle *disappointed* is derived from the verb *disappoint*. Importantly, although morphologically indistinguishable, the adjectival passive participle *disappointed* simply has the semantic primitive STATE, whereas CAUSE and CHANGE OF STATE are conflated into the verbal passive participle *disappointed* (Chen, 1996; Juffs, 1996). In contrast, *shiwang* always expresses a state, because Chinese does not allow the conflation of CAUSE into *shiwang* like English, in

(9a). Instead, a causative morpheme *shi* (make) has to be added to express a causative meaning in (9b):

(9) a. *Xiaoming shiwang-le laoshi
Xiaoming disappoint-PERF teacher
Intended meaning: "Xiaoming disappointed the teacher."
b. Xiaoming shi laoshi hen shiwang
Xiaoming make teacher very disappointed
"Xiaoming made the teacher very disappointed."

This has pointed to a major distinction between *disappointed* and *shiwang*. Unlike the claim made by Wasow (1977), that adjectival passive participles are formed in the lexicon, McIntyre (2013) and Bruening (2014) propose that the adjective passive participles are formed in the syntax, like verbal passive participles. Regardless, the situation type is neither encoded in the stem *disappoint* nor the affix *-ed*, therefore whether the situation is an event or state depends entirely on the rest of the sentence. In (3) or (6), *be* is either a copula or an auxiliary, and its existence only tells us that the participle is a passive participle, not a past participle. In other words, the participle is "bifunctional" in the passive voice: the reading of the sentence can alternate between state and event, and the passive participle can be adjectival or verbal.

On the other hand, *shiwang* is "monofunctional": it inherently encodes a state and it has no alternative causative meaning. Therefore, whilst it may seem to be equally controversial which syntactic category Chinese *shiwang*-type words and English *disappointed*-type participles belong to, the semantics of the former (STATE) are uncontroversially different to the latter (STATE or CAUSE + CHANGE OF STATE). Let us assume Huang et al (2009) are on the right track in saying that Chinese adjectives share the categorical feature [+V] with verbs. From this perspective, the incompatibility between *bei* and psych adjectives would be semantic rather than syntactic, i.e. it is caused by the clash between their semantics, rather than categorical mismatch.

2. Research questions and predictions

Assuming that "learners will look for morpholexical correspondences in the L2 to those in their L1", based on "semantic meaning or grammatical function" (Lardiere, 2009, p.191), English long *be* passives can conceivably be associated with Chinese long *bei* passives. An experiment was conducted to address the following research questions:

(a) Does acquisition of the word order of long *bei* passives guarantee the acquisition of the word order of short *bei* passives? Specifically, in the early L2 Chinese grammars, will L1 English speakers who have acquired the long form of *bei* passives perceive their short form as the counterpart of agentless passives in English? If not, will L2 learners subsequently be able to acquire short *bei* passives and correctly accept *bei*-constructions without an external argument?

(b) Adjectives are perfectly acceptable in English *be* passives. Assuming the L2 initial state is based on a learner's L1 grammar in its entirety (Schwaltz and Sprouse, 1996), will L2 learners reject adjectives, specifically psych adjectives, to occur in *bei* passives?

Montrul (2001) argues for L1 transfer of morphology that relates to the argument structure. L2 learners are subject to what their L1 dictates, at least initially. In her study, Turkish and Spanish learners have difficulty learning that English does not express causative and anticausative meanings with overt morphology. She also found that L1 English and L1 Spanish learners of Turkish showed accuracy in acquiring overt causative morphology, despite the zero-morphology of those forms in their L1s, because the target language input provides abundant evidence that causative meanings are spelled out in Turkish.

Although Montrul's study was focused on causative/anticausative morphology, the current study proposes that her conclusions can be extended to passive morphology; i.e. L1 English L2 Chinese learners are subject to the formation strategy of English short passives. The following predictions follow from the view of morphological transfer effects:

In the early L2 Chinese grammars, learners who have acquired the long form of *bei* passives may not acquire the short form concurrently, if they have not learned that the passive voice is marked by *bei*. In English, the dummy preposition *by* in long passives is not spelled out in the short form, but the passive affix/participle is available to indicate the passive voice. Contrarily, Chinese relies on the individual passive marker *bei* to mark passive voice, which is spelled out in both the long and short forms of passives because of the less rich morphology. That said, L2 learners are predicted to acquire the short form with prolonged exposure to Chinese, as the input provides abundant clues for them to realize that *bei* is an overt passive marker and must be spelled out.

L2 learners are also predicted to overgeneralize their use of short *bei* passives and have difficulty in rejecting the incorrect use of adjectives in *bei* passives. Unlike L1 English passive participles, the passive marker *bei* in Chinese does not permit state/event dual readings of psych adjectives. From the perspective of learnability, as discussed in Montrul and Yoon (2008), "learning" is an easier task than "unlearning", because there is ample positive evidence in the input for the former. Therefore, compared to the above task of "learning" the word order of short *bei* passives, "unlearning" the causative reading of psych adjectives is predicted to be relatively unsuccessful, which may cause L2 grammars to be permanently non-target-like.

3. Empirical study

3.1. Participants

A Sentence Reorganization task served as the prerequisite screening test, to rule out those who had not mastered the word order of long *bei* passives. In the following example of test items, participants had to rearrange the randomized words in (10a) to

make the target grammatical sentence in (10b). All the words were accessible to the participants, but without any English glossary or translation.

(10) a. *baba, dianshi, natai, mai, le, bei*

b.

na-tai	dianshi	bei	baba	mai-le.
that-CL	TV	BEI	dad	sell-PERF

"That TV was sold by dad."

For each sentence, participants had to choose words from the given words in a drop-down menu, preventing them from using their own words; they were instructed to ensure all the given words were used and each word was used only once in each sentence. They could choose "X" in a separate box if it was considered impossible to make a grammatical sentence using the given words. There were 15 items in total, among which ten were distractors and fillers, and five were critical. The passing threshold was set to be 80%, that is participants had to correctly give four or five out of five target responses.

As *bei* passives are introduced at the post-beginner level,[4] English native speakers with Intermediate or Advanced proficiency of Chinese were invited to take part; 92.7% of which met the criteria and proceeded to complete the experiment. All the native speakers passed the screening test.

In total, 108 participants completed the experiment. Among which, 75 were adult native speakers of English, and 33 native speakers (NS) of Chinese served as the control group. The participants were mostly university students in the UK or China. All the native Chinese speakers had never lived outside China for an extended period. The L1 English learners of Chinese were divided into intermediate (INT) and advanced (AD) groups, based on their performance in a Chinese proficiency test.[5] The background information of the participants is shown in Table 1.

Groups	*n*	Average Age	Average months of studying Chinese	Average months in China/Taiwan	Mean scores in the cloze test (max. =40) (ranges in brackets)
INT	40	22	48	9	26 (20-29)
AD	35	24	75	29	33 (30-38)
NS	33	24	N/A	N/A	39 (37-40)
TOTAL	108				

Table 1. Background information of participants

[4] This information comes from the author's own teaching experience and personal communications with Chinese instructors from where most participants were recruited.

[5] This cloze test was used as an indicator of Chinese proficiency in many second language Chinese studies, such as Yuan (2010).

3.2. Materials

The untimed Acceptability Judgement task (hereafter AJT) tested the off-line knowledge of *bei* passives in L2 learners. Participants were asked to judge the acceptability of each sentence, by choosing one of the four options on the scale of *Completely Unacceptable*, *Probably Unacceptable*, *Probably Acceptable* and *Completely Acceptable*. An extra option of *I don't know* was also provided, so that participants were not forced to choose an option. Also, in order to minimize the effect of the item order, all the AJT items were pseudorandomized per participant. The AJT tested whether learners can accept the short form of *bei* passives and disallow *bei* to cooccur with adjectives. For the sake of simplicity, these will be referred to as the short *bei* test, and the adjectives test, respectively. The percentage of distractors and fillers (non-*bei*-constructions) was 64.7%.[6]

To address group (a) of research questions in Section 2, the short *bei* test examines whether those who have acquired the long form of *bei* passives can also accept the short form. As the agent of the event is unknown and absent from the construction, *bei* is directly followed by a verb. Example items of the short *bei* test are illustrated as follows:

(11) Experimental short *bei*-constructions (four tokens)
Xiaoming bei da-le
Xiaoming BEI hit-PERF
"Xiaoming was beaten."

The adjectives test, which aims to answer research questions in (b), tests whether learners can converge on the target grammars by disallowing *bei* to be directly followed by a psych adjective. All the adjectives tested in the current study belong to the same group, namely adjectival participles derived from a subgroup of psych verbs (i.e. Levin's (1993, p.38) "*amuse*-type" verbs), because they "constitute the largest class of deverbal adjectives" (Levin and Rappaport, 1986, p.648). This is illustrated by the following example:

(12) Experimental * *bei* with psych adjectives (four tokens)
*Xiaoming bei jidong
Xiaoming BEI excited
Intended meaning: "Xiaoming was excited."

[6] The current study is part of a large-scale study (Dai, 2018) which investigates various properties of *bei* passives. Other critical test items in the AJT (long *bei*-constructions), testing other properties of *bei* passives, will be reported elsewhere.

In order to rule out those who do not allow *jidong* (excited) and similar psych adjectives to describe a state, control sentences containing a degree modifier *hen* (very) like (13) were included:

(13) Control psych adjectives with a degree modifier (four tokens)
Xiaoming hen jidong
Xiaoming very excited
"Xiaoming is excited."

The fill-in-the-blank task aims to provide additional data to complement the judgement data of short *bei* passives from the AJT. In (14), participants were asked to fill in each of the blanks with one Chinese character according to the context, on a computer screen. Among the four blanks, three of them serve as distractors and fillers; the critical one is the second blank, which has the target response *bei*. Participants were not allowed to leave any of the blanks empty.

(14) Xiaoming ku ___ shuo, *ta de shouji* ___ *tou le*. Mama kanjian Xiaoming ___ nanguo, shuo ta yao mai yi ___ xin shouji gei ta.
Intended meaning: "Xiaoming cried saying *his phone was stolen*. His mother saw that he was very sad. She said she would buy a new phone for him."

This is to test whether participants allow the passive marker *bei* to appear in the structure where the agent of the event is missing or unknown. L2 learners who have acquired the short form of *bei* passives are expected to give the target response *bei*, whereas those who have only acquired the long form but not the short form are predicted to give incorrect answers, because their L2 grammars would disallow *bei* to be directly followed by a verb. This task was administered before the AJT, to prevent the AJT test items from providing hints. In both tasks, efforts were made to include the most common words in daily conversation, less common words were provided in a vocabulary list.

4. Results

4.1. The short *bei* test in AJT

The options of *Completely Unacceptable*, *Probably Unacceptable*, *Probably Acceptable* and *Completely Acceptable* were converted to numerical values of *one*, *two*, *three* and *four*, respectively. Responses of *I don't know* were treated as missing values and excluded. If the mean score for a group is above the threshold of *three*, it means that group accepts the test sentences. A mean score lower than the threshold of *two* indicates group rejection of the test sentences. In the individual analyses, the passing threshold was set to be 75% (three out of four), as there are four tokens. That is, if a participant gives three or four out of four target responses, they are considered to have made a consistent

judgement. An individual has to pass this threshold in both the experimental and control conditions in order to be considered target-like.[7]

Groups	Short form of *bei* passives
INT	3.28 (1.15) ***
AD	3.85 (0.40)
NS	4.00 (0.00)

*** Significantly different from the NS Group at $p < 0.001$.

Table 2. Mean scores (and standard deviations) in the short *bei* test

Table 2 illustrates the mean judgement scores of short *bei*-constructions without an external argument. Although on average all the groups can accept short *bei* passives, a Kruskal-Wallis test and a post hoc multiple comparison test find a significant difference ($H(2) = 58.495$, $p < 0.001$) between the judgement scores given by the Intermediate group (mean = 3.28) and the control group of native Chinese speakers (mean = 4.00), but no significance has been found between the Advanced group (mean = 3.85) and the control group. Individual analysis confirms, on the one hand, that Advanced learners performed at ceiling, with their 100% successful acquisition (35 out of 35) which bears an uncanny resemblance to the Native Chinese group (32 out of 32). While, on the other hand, 11 (out of 40; 27%) Intermediate learners have not acquired this type of *bei*-construction. Remarkably, a closer look at those whose proficiency test scores were less than 25 reveals that only 64% (9 out of 14) of them consistently gave the correct judgement (three out of four). This demonstrates that more than a third of those who are at their earliest acquisitional stage of *bei* were unable to accept short *bei*-constructions, which is an unneglectable percentage, given that all of them have passed the screening test of long *bei*-constructions.

4.2. The adjectives test in AJT

Groups	psych adjectives with degree modifiers
INT	3.82 (0.58)
AD	3.86 (0.42)
NS	4.00 (0.00)

Table 3. Mean scores (and standard deviations) in control sentences of psych adjectives with a degree modifier

An L2 learner might reject the experimental condition in (12) because of one of the following two reasons. Firstly, a learner might reject any *bei* passives without an

[7] One Native Chinese speaker did not follow the AJT instruction and was thus excluded in the judgement data. Their data from the fill-in-the-blank task was included.

external argument; in which case, their L2 grammar is non-native-like, because the absence of an external argument, instead of the presence of adjectives, is the reason for rejection. Secondly, a learner might reject *bei* to be followed by adjectives, while allow *bei* to be followed by verbs (i.e. in short passives); their L2 grammar is native-like in this case. If those whose rejection was due to the first reason were incorrectly included when calculating the mean judgement scores of *bei*-constructions with adjectives, it would have unfairly brought down the mean scores. Consequently, those 11 Intermediate learners who disallow *bei* to be followed by a verb in short passives were excluded, because they rejected the experimental condition in (12) precisely due to the first reason. Nobody was further excluded by the control sentences in (13), because all the participants met the threshold. Therefore, in Table 3 above, all three groups were able to accept psych adjectives with the degree modifier *hen*, and no significance was found between the learner groups and the Native Chinese group. This shows that all L2 learners allow *shiwang*-type psych adjectives to express a stative meaning in an active voice.

Groups	* *bei* with psych adjectives
INT	2.18 (1.11) ***
AD	2.00 (1.03) ***
NS	1.20 (0.66)

*** Significantly different from the NS Group at $p < 0.001$.

Table 4. Mean scores (and standard deviations) in experimental sentences of *bei* with psych adjectives

As shown in Table 4, except for the Intermediate Group (mean = 2.18), both the Advanced group (mean = 2.00) and Native Chinese group (mean = 1.20) were able to reject the ungrammatical *bei*-constructions co-occurring with psych adjectives. However, in a Kruskal-Wallis test and a post hoc multiple comparison test, both the Advanced and Intermediate group were found to perform significantly differently ($H(2) = 83.408$, $p < 0.001$) from the Native Chinese group. Indeed, the ratings given by the Advanced group is only slightly closer to the native speakers than the Intermediate group. This is borne out by the individual analysis: only 59% (17 out of 29) of Intermediate learners and 69% (24 out of 35) of Advanced learners were able to consistently reject the ill-formed *bei* passives with psych adjectives, in contrast to 91% (29 out of 32) of Native Chinese speakers who were able to do so. Among the Advanced learners, the results of those L2 learners with very high proficiency, i.e. with a proficiency test score of at least 35, were not ideal at best. Only 62% (8 out of 13) of them consistently rejected psych adjectives in *bei*-constructions. The fact that over a third of them were still unable to reject the co-occurrence of *bei* and psych adjectives suggests protracted non-convergence on the target grammar.

As discussed in Section 1, the incompatibility between *bei* and psych adjectives arises from their semantics in the state/event dimension. Setting aside performance errors,

failure to reject the incorrect use of psych adjectives in *bei* passives are mostly likely to be caused by two reasons (or a combination thereof): 1) failure to establish that psych adjectives are inherently stative, meaning it cannot have a causative meaning in the passive voice; or 2) failure to acquire the dynamism constraint of *bei*, meaning it must describe an event and cannot describe a state. As shown in Dai (2018), among those learners who were not able to consistently reject the incorrect use of psych adjectives with *bei*, at least half of them were in fact able to establish that *bei* passives must be dynamic, this applies to both the Intermediate and Advanced level.[8] This means at least half of the non-target-like performance in the psych adjectives can be attributed to the first reason above. In other words, even when the L2 grammar contains the dynamism constraint of *bei*, it may still be non-target-like if it allows psych adjectives to have an alternative causative meaning in the passive voice.

4.3. Fill-in-the-blank task

The complementary data from the fill-in-the-blank task further attests the struggles of establishing a correct initial L1-L2 association between short *bei* passives and short *be* passives. Similar to the result of the AJT, almost a quarter (22.5%, 9 out of 40) of the Intermediate learners were not able to fill in this blank with *bei*. Two thirds of them were found to have low proficiency (proficiency test scores less than 25) and gave the following incorrect answers: *jiu* (just), *gang* (just now), *ba* (as in the *ba*-construction), *you* (again) and *huai* (bad). This means only 8 out of 14 learners (57%) with low proficiency managed to give the target response. Among the other 6 learners who gave incorrect answers, 4 of them also failed to consistently accept the short form of *bei* in the AJT. It was also found that L2 learners are more able to fill in this blank with *bei* as their Chinese proficiency rises. Among those Intermediate learners who scored between 25 and 29 in the proficiency test, 88.5% (23 out of 26) gave the target response. All the Advanced learners again performed at ceiling with 100% correct answers, like the Native Chinese group. In general, our findings here are consistent with the judgement data.

The following question therefore naturally arises regarding early L2 grammars: are those Intermediate learners who were unable to accept short *bei* passives the same group of learners who failed to reject psych adjectives in *bei*-constructions? Closer analysis of individual judgement data reveals an interesting finding: these two groups are (almost) mutually exclusive. Except for one participant, all of those who had yet to acquire the short *bei* (10 Intermediate learners) were in fact able to reject the ill-formed *bei* passives with psych adjectives; whereas, in those who failed to reject *bei* with psych adjectives (12 Intermediate learners and 11 Advanced learners), remarkably, all allowed *bei* to be directly followed by a verb. Recall that all of these learners have demonstrated

[8] Due to space limitations, readers may refer to Dai's (2018) large-scale study for the details of the dynamism constraint of *bei*. To summarize, a learner who consistently accepts grammatical *bei* passives with dynamic verbs and rejects ungrammatical *bei* passives with stative verbs is considered to have successfully acquired the dynamism constraint of *bei*.

their knowledge of the long form of *bei* passives, by passing the screening test; as such, in the early L2 grammars, at a stage between having acquired the long form of *bei* passives and before acquiring the short form, learners seem to be able to reject ungrammatical *bei*-constructions with psych adjectives. While they may subsequently lose this ability, its loss can only happen after acquiring the word order of short *bei* passives, in which *bei* is directly followed by verbs. We will explore this issue further in the next section.

5. Discussion

5.1. The short form of *bei* passives

With a view to the research questions in (a), acquiring the word order of long *bei* passives does not mean the concurrent acquisition of the word order of short *bei* passives in early L2 grammars. However, the group and individual analyses of the AJT result combined with the complementary data from the fill-in-the-blank task shows that prolonged exposure to Chinese provides ample positive evidence to L2 learners, which enables them to establish *bei* as an individual passive marker. We can then interpret the following L2 grammars of Chinese *bei* passives based on our observation:

Intermediate L2 learners, who have only acquired the long form of *bei* passives but not the short form, initially treat the individual passive marker *bei* as the dummy preposition *by* in long *be* passives, because *bei* is only allowed in their L2 grammars when the external argument is present. Nevertheless, despite the initial perception being off target, with prolonged exposure to the L2, learners with higher proficiency can successfully revise their L2 grammars to establish *bei* as an individual passive marker that must be spelled out overtly.

(15) Yuehan bei Mali ma-le
John BEI Mary scold-PERF
"John was scolded by Mary."

The incorrect initial connection between the dummy preposition *by* and *bei* is not surprising from the perspective of L1 transfer. English *be* passives like *John was scolded by Mary* not only contain *be* but also the verbal participle *scolded*. When exposed to the equivalent *bei* passives in Chinese, like (15), L2 learners must rely on the word order as their only cue, without the assistance of the inflection they are familiar with. As soon as English long *be* passives are associated with Chinese long *bei* passives, which share similar semantic meaning and grammatical function, the connection between *by* and *bei* will be triggered automatically, albeit while being unsuitable. L2 learners are not completely on the wrong track, though. *Bei* marks the passive voice and hence only exists

in passives; likewise, the dummy preposition *by* can only be found in English passives.[9] In fact, despite the passive formation differences between English and Chinese, the syntactic role of *by* and that of *bei* are not dissimilar, both of which are merged into the head of VoiceP (Liu, 2012; Collins, 2005). The difference is that *bei* must be spelled out overtly, because of the impoverished morphology in Chinese. In a way, *bei* has taken over all the passive morphological realizations in the L2, which are realized as passive participles (and, in long passives, the dummy preposition *by*) in L1 English.

5.2. Incompatibility between adjectives and *bei*

Now we turn to the cluster of research questions in (b). In order to converge on the target grammar of *bei*, L2 learners must learn that any adjective is incompatible with *bei*. Nonetheless, individual data indicates that over 30% of Advanced learners still have problems with rejecting ungrammatical *bei* passives with psych adjectives, in comparison with the Native Chinese group. This difficulty in convergence is not unexpected, because there is little positive evidence in the input informing learners that *bei* cannot occur with psych adjectives.

Zhao (2005) has studied the acquisition of Chinese *shiwang*-type psych adjectives by English native speakers.[10] Although learners with Intermediate proficiency were not able to reject the incorrect use of psych adjectives as transitive verbs, learners with Advanced proficiency performed native-like and rejected such sentences. Similar to our results, all groups in Zhao's study accepted psych adjectives with the degree modifier *hen*. This indicates the learners with Advanced proficiency have established that *shiwang*-type psych adjectives are stative in an active voice.

Returning to the current study, our results are mostly consistent with Zhao's. As we have already seen in Section 4, Intermediate learners were not able to reject the incorrect use of psych adjectives in *bei* passives (mean = 2.18). Advanced learners demonstrated weak rejection (mean = 2.00), albeit significantly different from the Native Chinese group (mean = 1.20). Indeed, there is a minor discrepancy between our results and Zhao's results, however the learning task in the current study is more challenging owing to the passive voice: To establish the incompatibility between *bei* and *shiwang*-type psych adjectives, learners have to be aware that both 1) *bei* passives cannot be stative, as well as 2) psych adjectives are inherently stative, which means the passive

[9] Of course, *bei* and *by* can be seen elsewhere besides the passive, e.g. *beizi* (duvet/blanket); and the locative preposition in, *I sat by the river*. However, these usages are clearly different from their roles in the passive.

[10] L2 learners' Chinese proficiency in Zhao (2005) were measured with the same cloze test as the current study, but the learners were divided into three proficiency groups in Zhao's study. The Higher Intermediate group and Advanced group performed similarly in terms of psych adjectives. The Lower Intermediate group (cloze < 30) roughly correspond to the Intermediate level in the current study. The Higher Intermediate group and Advanced group together (cloze ≥ 30) correspond to our Advanced level.

voice does not permit them to alternate between event and state readings. The first issue (the dynamism constraint) is addressed in Dai (2018), therefore the second issue will be our focus here.

Recall a major distinction between Chinese and English psych adjectives, e.g. *shiwang* and *disappointed*. In Chinese, the situation type is encoded in the lexical item *shiwang*, which is a state. This is opposed to the L1 English, where the situation type is not inherently encoded in the English counterpart *disappointed*. Because English adjective passive participles share the same morphology with the verbal passive participles, the event/state interpretation and whether the sentence involves CAUSE, both have to depend on the rest of the sentence. L2 learners will have to acquire that a lexical item like *shiwang* can only contain the semantic primitive STATE, and the passive voice does not grant the possibility of a causative meaning. The inherently encoded stative meaning clashes with the dynamism constraint of *bei*, which gives rise to the incompatibility between the two. If the L2 grammar has not been reconstructed from the bifunctional *disappointed* to the monofunctional *shiwang*, it would allow the co-occurrence of psych adjectives with *bei*, even if it already contains the dynamism constraint of *bei*.

5.3. L2 grammars in three states

It is undoubtedly clear now that the challenge facing the learners goes way beyond simply mapping Chinese short *bei* passives onto English short *be* passives. L2 grammars need to be restructured to establish not only that the passive voice *bei* must be spelled out overtly, but also that this passive voice does not permit psych adjectives to alternate between event and state readings. And indeed, the analysis of the individual judgement data indicates that L2 learners can be categorised into three groups.

The first group represents the target-like grammars. As is shown in Section 4, part of the Intermediate group (17 people) and the Advanced group (24 people) have converged on the target grammar of short *bei* – not only did they acquire the short form of *bei* passives but also managed to establish the incompatibility between psych adjectives and *bei*. What is interesting is that those who performed non-native-like can be divided into two groups - the group of L2 learners who disallow *bei* to precede verbs hardly overlaps with the group who failed to reject *bei* passives with psych adjectives. Note the former group only consists of Intermediate learners, whereas the latter spans both the Intermediate and Advanced level. This has two implications.

First of all, there is evidently a phase in some L2 grammars when learners have only acquired the long *bei* but not the short *bei.*[11] This phase, which can be named as State One, is only found in the Intermediate group; there is no trace of it in the Advanced or Native Chinese group. Crucially, a prominent characteristic of L2 grammars in State One is that along with disallowing *bei* to directly precede verbs, they barely allow

[11] This is not to say that it is impossible for the short form of *bei* passives to be acquired before the long form (see concluding remarks in Section 6).

adjectives to co-occur with *bei*. The only *bei*-constructions that can be accepted in this state are those in which *bei* is followed by the external argument. This further supports that the individual passive marker *bei* is initially equated to the dummy preposition *by* in long *be* passives in their L2 grammars.

The second implication is that L2 learners can only lose their ability to reject psych adjectives in *bei*-constructions after learning that *bei* can be directly followed by verbs. In State Two of L2 grammars, learners have indeed acquired both the long and short forms of *bei* passives, and thus they no longer treat the passive marker *bei* as the dummy preposition *by* in long *be* passives. However, they are yet to be able to reject the incorrect use of psych adjectives with *bei*. As discussed above, in some L2 grammars, *shiwang*-type psych adjectives seem to behave like English *disappointed*-type participles, which can alternate between event and state readings in a passive voice. L2 grammars in this state allow *bei* to precede verbs as well as psych adjectives. This is in sharp contrast with State One, in which learners disallow *bei* to precede verbs or adjectives.

In summary, L2 grammars can be described in three states for learners who have acquired the long form of *bei* passives before the short form. In State One, the Chinese passive marker *bei* is incorrectly treated as the dummy preposition *by* in English long *be* passives. As L2 proficiency rises, learners will be exposed to ample positive evidence in the input which motivates the revision of their L2 grammars, in which the passive voice *bei* must be spelled out overtly. However, L2 grammars in State Two have simply reduced *bei* as a passive voice marker that allow psych adjectives to alternate between event and state readings. State Three can only be reached when learners have established that the passive voice *bei* does not permit state/event dual readings of psych adjectives like L1 English passive participles, whose evidence is not readily available in the input. Therefore, L2 grammars of *bei* can be fossilized in State Two, and be permanently non-native. State Three, where L2 grammars of the short *bei* passives are target-like, is found at both the Intermediate and Advanced level. It is the predominant state (91%) of the Native Chinese group.

Increasing L2 proficiency ensures learners reach State Two, with the success rate being 100% in our Advanced learners; it does not however guarantee convergence on the target grammar by reaching State Three. Note that the only state where L2 grammars are unable to reject the co-occurrence of *bei* and psych adjectives is State Two. L2 grammars in State One and Three rejected the ill-formed *bei* passives with psych adjectives for different reasons. In State One, *bei* passives with psych adjectives are rejected because the passive marker *bei* is equated to the dummy preposition *by*. This is a "false rejection", because L2 grammars are non-target-like. The rejection is a "true rejection" only in State Three. As we have seen above, this percentage (i.e. from 59% in the Intermediate group to 69% in the Advanced group) indeed increases in step with L2 proficiency.

6. Concluding remarks

The findings of the current study are consistent with the view that L1 is the departure point of L2 acquisition (Schwaltz and Sprouse, 1996). In particular, this study has provided evidence for morphological transfer effects, in L1 English L2 Chinese and passive morphology. We have confirmed the predictions from the view that the morphophonological shape of affixes are carried over from the L1 (Montrul, 2001).

It is possible that the three states of L2 grammars develop in a sequence, i.e. begin with State One, then to State Two, and finally to State Three. However, this is beyond our discussion because of the cross-sectional nature of this study. For example, it is conceivable that State Two or Three must be reached after State One, because State One is only found at the Intermediate level, suggesting that State One is an early state of L2 grammars. On the other hand, not all of the Intermediate learners are in State One; some are in State Two, others are in State Three. Although, those who are in State Two or Three might have already passed the initial state of their L2 grammars of *bei* and it is difficult to capture the real initial state. A longitudinal study is necessary to investigate a developmental sequence in future research.

Furthermore, this study does not intend to claim that long *bei* passives are acquired before short *bei* passives in general. There is no evidence whether the short form of *bei* passives is more difficult to acquire than the long form.[12] In order to answer the research questions of the current study, the screening test was designed to rule out those who have not acquired the long *bei* passives. Those who have only acquired the short form of *bei* passives, but not the long form, may well exist among those who had been screened out. It is beyond our discussion as to how the passive marker *bei* is initially represented for these learners, and again this issue is left to future research.

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[12] If we assume the external argument is syntactically present but not spelled out in short *bei* passives, as analyzed in Liu (2012), the short *bei* only seems shorter than the long *bei*, but is not actually structurally simpler. The short form of *bei* passives does not arguably occur more frequently in the input, compared to the long form. Although the short form of *bei* passives occurs more often than its long form, Chinese speakers tend to use long *bei* in speech but short *bei* in writing (Xiao et al, 2006).

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Learners' Choice of Nominal Forms to Introduce a New Referent in Chinese Discourse

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New referents which are specific are usually introduced into Chinese discourse by nominals containing a numeral classifier, although bare nominals are structurally less marked and can function as arguments as well. The different functions of different nominal forms may pose challenges to L2 learners. This study investigates the nominal forms L2 learners of Chinese adopt to introduce new referents into discourse, using data collected through 'pear story' narratives. It is found that low intermediate level students preferred bare nominals when introducing new referents into discourse, and were not sensitive to the factor of specificity of the nominals. With the improvement of overall proficiency, however, learners' performance on choosing correct forms of nominals for single specific referents also improved. The factor of number also played a role in the learners' choice of nominal forms and is also discussed.

0. Introduction:

All languages need to have linguistic devices to introduce new referents into discourse and maintain the referents thereafter. A speaker's choice of the linguistic form to mark a new referent will indicate to the listener that they need to make a new representation of a referent in the shared discourse. On the other hand, the selection of the linguistic form to maintain the reference will suggest to the listener to track the referent that is already in discourse. These devices differ from language to language, and present challenges for language learners. This paper investigates the nominal forms that English learners of Chinese use to introduce new referents into discourse. It will show that despite the similarity between the indefinite article in English and the numeral *yi* in Chinese, learners had problems acquiring the discourse function of nominals with numeral classifiers, namely, to introduce new referents into discourse. This is due to the interference of bare nouns, which can also have indefinite interpretations in Chinese, and is structurally less marked than a numeral classifier phrase.

1. Forms of indefinite Chinese nominal phrases

This section introduces the forms of indefinite nominals in Chinese and restrictions on their distribution. First, a nominal phrase containing a number and a

classifier (CL) is necessarily interpreted as indefinite in Chinese[1], which has the form as follows:

(1) 一 个 人
one CL person
'a person'

It is usually suggested that such indefinite expressions cannot be topics or subjects in Chinese, and thus are often introduced by the existential verb *you* 'to have'. For instance:

(2) *(有) 一 个 人 很 聪明
Have one CL person very smart
'*(There is) a person who is very smart'.

It is possibly because of this that Hickmann and Liang (1990) proposed that "newness must be marked by clause structure (for example, post-verbal position), regardless of whether it is marked in the NP" (p. 1168). Whether marking through post-verbal position is obligatory, however, is controversial. For instance, Huang et al. (2009) have shown that there are counter examples to this generalization, although it is agreed that the acceptability of such sentences would be improved if the existential verb *you* was inserted before the indefinite nominal phrase.:

(3) 一个 人 来了/ 正在 念书
One-CL person come-LE/right at read book
'A man came/is reading' (p. 320, example (76))

To explain the contrast between (2) and (3), they proposed that this is because sentences containing stage-level predicates have a higher degree of acceptability with an indefinite in the subject position than sentences containing an individual-level predicate such as (2). They further propose that sentences describing direct perceptions of situations are generally more acceptable. For example:

(4) 看， 一片 枫 叶 掉 下来了.
Look one-CL maple leaf fall down LE.
'Look, a maple leaf fell down'. (p. 324, example (82))

[1] Li (1998) has made a clear distinction between the structural representations of a quantity-denoting expression and an individual-denoting expression, even though they bear the same surface form. What is relevant to our discussion in this paper is only the individual-denoting interpretation of such phrases.

The indefinite expression *yi-pian feng ye* 'a maple leaf' can occur in the pre-verbal position because the sentence describes an observation of an occurrence. Therefore, an indefinite nominal with the form of a numeral+CL+N often occurs post-verbally, and is often introduced by the existential verb *you* 'to have', unless the sentence describes a perceived situation, in which case it could occur in the subject position.

Apart from nominals containing a numeral, bare nouns in Chinese can also occur in an argument position. The syntactic positions they occur in can help determine definiteness, as pointed out in previous research (e.g. Cheng and Sybesma, 1999). For example, pre-verbal bare nouns can only be interpreted as definite, whereas post-verbal bare nouns allow both definite and indefinite interpretations. For instance:

(5) 客人　来　　了。
Guest arrive LE
'The guest has arrived.' Not 'A guest has arrived.'

(6) a. 胡斐　买 书　去　了.
Hufei buy book go LE
'Hufei went to buy a book/books.'

b. 胡斐 喝　完　　了　汤.
Hufei drink-finish-ASP soup
'Hufei finished the soup.'

(Cheng & Sybesma, 1999)

The bare noun *keren* 'guest' can only be interpreted as definite in (5). On the other hand, *shu* 'book' in (6a) can have both definite and indefinite interpretations, depending on the context. *Tang* 'soup' in (6b) can only have a definite interpretation, because the verb phrase contains a resultative complement *wan* 'finish'.

To summarize, indefinite nominals in Chinese can be either bare or marked with a numeral and a classifier. Whereas a nominal containing a numeral and a classifier is necessarily indefinite, a bare noun can have either definite or indefinite interpretations. Apart from the marking within an NP, syntactic positions of the nominals also contribute to the definite and indefinite interpretations. Indefinite nominals often occur post-verbally, such as when introduced by the existential verb *you* 'to have', and a pre-verbal position precludes an indefinite interpretation of bare nouns.

Even though both bare nouns and nouns marked with numerals can have an indefinite interpretation, it has been proposed that *yige* 'one-CL' in Chinese is frequently used to introduce a newly mentioned but unfamiliar referent into the discourse (Liu, M 2010). Further, Sun (1988) conducted an investigation into how numeral classifiers were used in natural discourse and found that the majority discourse entities with important thematic status were introduced with a nominal marked with a numeral and a classifier.

He thus proposed that there is a correlation between the use of numeral classifiers and the thematic status of the discourse entities.

2. Chinese indefinite nominals and L2 research

Hickmann and Liang (1990) conducted research on how Chinese adults and children introduce new referents into discourse, focusing on the marking within an NP and word order variation. They discovered that for adults most nominals used for referent introductions were accompanied by numeral determiners (86%), and were in post-verbal positions (80%), such as introduced by the existential verb *you* 'to have'. On the other hand, Chinese children showed difficulties in the acquisition of marking newness. It is only at 5- and 6-years that children begin to use numeral determiners but they also make frequent use of other NP types, particularly bare nominals. 7 and 10 year olds seem to have acquired the marking within an NP, and make systematic use of numeral forms, while 4-year olds used bare nominals predominantly. In terms of marking through the post-verbal position, the children overall did not show as high a percentage as the adults did. The 7-and 10-year-olds show a preference for post-verbal first mentions but the younger children did not. Their study suggests that children tend to rely more on NP types than on word order to mark newness.

Through a picture-telling experiment, Crosthwaite (2014) also suggested that in Mandarin discourse-new referents may be introduced pre- or postverbally and are usually accompanied by a numeral + classifier construction before the noun when they are neutral or noninferable from the context. On the other hand, inferable referents were introduced with bare nominals in 90% of cases, even though such referents were new to the discourse. For instance:

(7) 这个　时候他们 叫 来 了 老师。(in a school setting)
This-CL time they call over LE teacher
'At this time they called the teacher over'

In a school setting, *laoshi* 'the teacher' is inferable even though it is new to the discourse, and is introduced by a bare nominal. Such a distinction in the treatment between inferable and noninferable nominals gave Chinese learners of English positive transfer in learning equivalent English expressions, and they performed better than Korean subjects in the study, whose native language does not make such a distinction.

Even though Chinese numeral *yi* 'one' was suggested to be an emerging indefinite article in Chinese (e.g. M. Liu, 2010), the usage of *yi* is more restricted than 'a(n)' in English. Liu, X. (2004) and Liu, H. (2014) both suggested that English learners of Chinese may overuse *yi* due to transfer from English. Through a questionnaire experiment focusing on the acquisition of Chinese bare nominals, Zhang (2012) discovered that learners made mistakes in the usage of bare nominals with indefinite interpretations and confirmed their suggestion. However, to over use nominals with

numeral classifiers when bare nouns are needed does not guarantee that learners will use nominals with numeral classifiers correctly when they are needed. For instance, Teng et al. (2010) have shown that Japanese learners demonstrated the 'U-shape' in their acquisition of *yige* 'one-CL'. That is to say, after the initial stage, learners' performance on the usage of *yige* deteriorated: they did not use *yige* when it was needed. It was unclear how English learners of Chinese acquire the discourse functions of nominals with numeral classifiers, especially the function of referent introduction into discourse. Furthermore, Chaudron and Parker (1990) predicted that learners use more bare nouns at the lower proficiency levels cross-linguistically since such nominals are structurally less marked than nominals with numerals. This is also what Hickmann and Liang (1990) found out in L1 acquisition as reviewed in the above section (Hickmann and Liang 1990). Given the two conflicting factors, I proposed the following research question: what nominal forms will English learners of Chinese use to introduce new referents into discourse? Will they prefer the bare nouns because of their structural simplicity, or will they prefer nominals with numeral classifiers because of L1 transfer?

3. Methodology

Two groups of American college students, of low-intermediate (12) and high-intermediate (6) Chinese levels, participated in the study. A group of 12 Chinese college students served as the control group. They were asked to write down the 'Pear Story' in Chinese after watching the video (http://pearstories.org/). The low-intermediate group had completed the equivalency of two years of Chinese study (12 credits) and the high-intermediate group had completed the equivalency of three years of Chinese study (18 credits).

The story is about a boy who stole a basket of pears from a farmer and ran away. He ran into a girl on the way and fell down. Three boys helped him, and he gave them some pears in return. Five referents are involved in the story: the boy, the farmer, the pears that the farmer was picking, the girl and three other boys. The times that the five referents appeared in the story were not the same, and each of them has a different status in the discourse. Being the main character, the boy obviously has the most important thematic status. The farmer and the three boys have similar status since each of them has one encounter with the boy and with each other. The girl has a less important discourse status since she has only one encounter with the boy. In fact, not all the subjects in our study even included the girl in their narratives. In contrast to the four animate referents, 'pear', when first introduced into the discourse, has a nonspecific interpretation. 'Pear' and 'three boys' are also different from the other three nominals in terms of being plural.

4. Results and discussion

When coding the data, nominals marked with a numeral and a classifier and nominals marked with a classifier only are categorized together, since both forms can only have the indefinite interpretation (Cheng and Sybesma, 1999). For example,

(8) 小　男孩　在路上 遇见 个 小女孩
Little boy　on road meet　CL little girl
'The little boy ran into a girl on the road.'

(9) 从　远方　来 了 一 位 少年
From far　come LE　one CL boy
'A boy came from down the road.'

Both *ge xiao nühai '*CL little girl' and *one CL shaonian* 'one CL boy' are categorized as nominals marked with a numeral and/or a classifier.

Nouns modified by a possessive or an adjectival phrase, but not containing a numeral or a classifier, are all categorized together with bare nouns since nominal modifiers are adjuncts and do not change the syntactic structure of the nominal phrase. For instance:

(10)　男人　给 他的朋友 一个水果
Man　give his friend　one CL fruit
'The man gave his friend(s) a fruit.'

In this sentence, *tade pengyou* 'his friend(s)' was used wrongly by a student to introduce the group of children who helped the boy who stole some pears into the discourse. Such phrases are classified in the group with the bare nouns.

The nominal forms that native speakers used to introduce each referent into discourse are summarized in Table I:

Table I: Native speakers

	No Num/CL	Numeral/Classifier	Pre-verbal	Post-verbal
farmer	2 (16.67%)	10 (83.33%)	9 (75%)	3 (25%)
boy	0	12 (100%)	6 (50%)	6 (50%)
girl	1 (9.09%)	10 (90.91%)	2 (18.18%)	9 (81.82%)
Three boys	0	12 (100%)	5 (41.67%)	7 (58.44%)
pear	12 (100%)	0	0	12 (100%)

The analysis reveals that native speakers adopted predominantly nominals with a numeral and a classifier to introduce a new referent, except for the 'pears'. Bare nominals were only used in two cases for 'the farmer' and in one case for 'the girl'. The reason that 'pears' was introduced by a bare noun into the discourse is because it was used as a non-specific nominal and often occurred after the verb *zhai* 'to pick'. For instance:

(11) 一个 果农， 在树上 摘梨
One CL orchardist, on tree pick pear
'One orchardist was picking pears from the tree'.

Therefore, even though both bare nouns and nominals with numeral classifiers can be interpreted as indefinite in Chinese, nominals with numeral classifiers tend to be used to introduce specific referents into discourse, whereas bare nouns are used for nonspecific ones.

In terms of syntactic positions, it was not obvious that the native speakers used the post-verbal positions to mark indefiniteness, contrasting with what Hickmann and Liang (1990) found. Whereas 'the girl' occurred in the post-verbal position in 81.82% of instances, 'the farmer' occurred pre-verbally in 75%. That is to say, the results conform with Huang et al. (2009)'s observation that indefinite nominals can occur pre-verbally and function as subjects.

The nominals that the 2nd year students used are summarized in Table II:

Table II: Nominals used by second year L2 learners of Chinese

	Demonstrative	No Num/CL	Numeral/Classifier	Pre-verbal	Post-verbal
farmer	1 (8.33%)	4 (33.33%)	7 (58.33%)	12 (100%)	0
boy		6 (54.55)	5 (45.45%)	10 (90.91%)	1 (9.09%)
girl		3 (60%)	2 (40%)	0	5 (100%)
Three boys		3 (27.27%)	8 (72.73%)	10 (90.91%)	1 (9.09%)
pear		9 (75%)	3 (25%)	0	12 (100%)

Compared to the native speakers, the 2nd year students, however, did not use nominals with numeral classifiers predominantly for the specific referents, except for the 'three boys'. This suggests that the learners may not be aware that nominals with numeral classifiers usually bear the function of introducing new referents into discourse, and L1 positive transfer did not seem to override the structural markedness of the numeral classifier phrases. Therefore, even though X. Liu (2004) and H. Liu (2014) both have warned that English learners of Chinese may overuse *yige* in nonreferential nominals, at least at the lower intermediate level in this study, learners also tend to omit the numeral classifiers when they are needed.

Among the referents, 'three boys' have the highest percentage of numeral classifier usage. This can be attributed to the help of number. The numeral classifier in this case not only introduced new referents, but importantly it marked the plural characteristic of the referents. Therefore, plural referents are more salient for the learners to use numeral classifiers.

As for 'pear', it has the lowest percentage of numeral classifier usage (25%), although not as low as with the native speakers (0%). This suggests that the majority of students have sensed that 'pears' in this discourse is nonspecific and do not need the marking of a numeral classifier.

To summarize, to use bare nominals to introduce nonspecific referents into discourse does not seem to present much challenge to the low-intermediate group. Comparatively, to use nominals with numeral classifiers to introduce specific referents seem to more challenging, except in the case where the factor of plurality is present.

The nominals that the 3rd year students used are summarized in Table III:

Table III: Nominals used by third year L2 learners of Chinese

	pronoun	No Num/CL	Numeral/Classifier	Pre-verbal	Post-verbal
farmer	1 (16.67%)	1 (16.67%)	4 (66.67%)	6 (100%)	0
boy		0	6 (100%)	6 (100%)	0
girl		2 (50%)	2 (50%)	0	4 (100%)
Three boys		2 (33.33%)	4 (66.67%)	5 (83.33%)	1 (16.67%)
pear		4 (66.67%)	2 (33.33%)	0	6 (100%)

Unfortunately, the 3rd year students are a smaller group with only six subjects. However, it still shows that 3rd year learners had a higher percentage of usage of numeral classifiers for 'the farmer' and 'the boy' than the 2nd year learners. Regarding 'the boy', all the learners used the numeral classifier form, just like the native speakers did. This suggests that the 3rd year learners out-performed the 2nd year learners regarding the acquisition of using numeral classifiers to introduce specific referents into discourse. However, in terms of the 'three boys' and 'pear', the performance of the 3rd year learners was surprising in that the 2nd year learners out-performed them. Regarding 'three boys', two learners used *bieren* 'other people' and *tade pengyou* 'his friends' respectively to introduce it into discourse. Even though the two phrases were not the appropriate nominal forms to use in this context, one point worth noting is that both of them could have the plural interpretation. The two learners made the mistake of not using numeral classifiers to introduce a specific referent, but correctly chose nominal forms that could have the plural interpretation. On the other hand, for the 'pear', two learners used *henduo* 'many' and *yixie* 'some' to mark it, although the majority of the students still chose the bare form. Thus, out of the five referents, the 3rd year students performed worse than the 2nd year learners particularly for two referents: 'three boys' and 'pear', which happen to be the two that have plural interpretations. The small size of the subjects may not grant the conclusion that the result demonstrates the U-shape learning. However, the 3rd year learners have used more varieties of nominal forms than the 2nd year learners. It is

possible that since the 3rd year learners were exposed to more nominal forms, it created more interference for them to choose the correct one.

Even though native speakers did not use post-verbal position predominantly to mark newness in this study, compared to the learners, native speakers had more post-verbal new referents than the L2 learners except for the 'girl' and the 'pears'. This seems to suggest that just as with L1 learners of Chinese, syntactic marking of new referents is acquired later than morphological marking by L2 learners (Hickmann and Liang, 1990). The current study focuses on the nominal forms that learners choose, and leave the acquisition of syntactic variation for future study.

5. Summary

This study investigated the nominal forms that L2 learners of Chinese used to introduce new referents into discourse through data collected on the 'Pear Story'. All five referents involved have different characteristics and discourse status, and enable us to examine different factors affecting the choice of the nominal forms. In Chinese whereas bare nouns are preferred for nonspecific referents, nominals marked with numeral classifiers are usually adopted to introduce new referents into discourse. Such a distinction presents challenges to the learners, particularly at the lower level. Even though an indefinite article is commonly used to introduce a new referent in English (Du Bois, 1980), 2nd year learners failed to transfer such a function into L2 Chinese and preferred bare nominals. Third year learners performed better in terms of single referent introduction than 2nd year learners. Second year learners used a higher percentage of numeral classifiers for plural referents than for single referents, which suggests number is another factor that affects the choice of nominal forms.

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