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Acquisition of the Displacement Ba-construction by English-speaking Learners of Chinese¹

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Abstract The present study investigates the acquisition of the displacement ba-construction by non-native learners of Chinese. Written production from 90 English-speaking learners of Chinese and 20 native speakers was analyzed. The results show that participants at three proficiency levels differ significantly in their overall production of the ba-construction. They produce a “basic” spatial displacement ba-construction that represents relatively concrete one-to-one form-meaning associations by the end of the elementary level. As their proficiency level increases, learners begin to add more varied forms. They later develop a correct usage of the prepositional complement. More native-like variations of the verb complement emphasizing the direction of the verb appear only at the advanced level. Although some students did not produce the ba-construction in a relatively uncontrolled situation, they were able to use the construction under direct elicitation conditions. The implications of these results are discussed.

Key words: Chinese language acquisition, CFL acquisition, the ba-construction.

提要 本研究调查了位移意义的把字句的习得情况。在美国某所大学中文的三个年级九十名学生及二十名汉语为本族语的华人参加了实验。参加者完成了两项任务。第一项任务是根据所给的图画写句子。这一任务调查学习者在没有提示的情况下是否能够造出把字句、造出什么样的把字句,及不同汉语水平的学生造把字句的频率是否有统计意义上的不同。第二项任务要求参加者做两件事,即填空和根据所给的图画用把字句造句。这一任务观察学习者在有一定的提示和有明确的提示下是否能使用把字句。调查结果表明参加者所造的为最常用的、句中动词补语的形式和意义之间一对一的关系比较明确的把字句。有的学习者虽然没有在比较自然的环境中造出把字句,但在对把字句有明确要求的情况下能用把字句。文章对这些结果进行了讨论。

关键词: 汉语习得, 汉语作为外语的习得, 把字句

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1. Introduction

The ba-construction is frequently used in Mandarin Chinese (henceforth, Chinese). Acquisition of the ba-construction, however, does not occur at the beginning stage of language development by learners of Chinese as a first language (Jespon, 1989), or as a second or foreign language (Jin, 1992; Liu, Qian & Wang, 2002; Wen, 2006). In a study of the basic word order of Chinese from an ontogenetic perspective, Jespon (1989) reported that Chinese children do not have the adult form of the ba-construction until a late acquisition stage. Wen (2006) investigated the acquisition sequence of three Chinese constructions by English-speaking learners, and observed that production of the ba-construction in the speech of the participants at the elementary level was rare. Even learners at the advanced level have shown much lower production in comparison with native speakers (NSs) (Liu & Wang, 2002; Wen, 2006).

The low production of the ba-construction in the early stages of acquisition can be caused by several factors. Bialystok (1988, 1991) classified two dimensions of L2 proficiency development: analyzed and automatic. The former refers to learner's ability to enforce an unconscious structural analysis on the received language data at a given time, and the latter means that the learner has automatic access to such analyzed data for production, and subsequently can attain fluency and competence. Bialystok analyzed the two dimensions with three kinds of knowledge: linguistic, conceptual, and contextual, all of which influence the development of proficiency. The interactions of the dimensions and one or more kinds of knowledge may determine information retrieval procedures and variations in learner abilities. The low production of the ba-construction might be due to a low level of learners' automaticity of the knowledge even though they possess one or more kinds of the knowledge itself, or because they simply do not possess the knowledge. Another possible factor may be that research instruments in the previous studies are not well-designed for the obligatory use of the ba-construction. Consequently, the ba-construction is not optimally elicited. After reviewing the studies of acquisition of the ba-construction, Liu (2003) speculated that the contexts provided to elicit the ba-construction did not seem to make the use of the ba-construction highly obligatory. As a result, informants may not think that the use of the ba-construction is necessary.

In a carefully designed study, Du (2004) investigated the acquisition of the Chinese ba-construction by adult second language learners. The sample was composed of 65 English-speakers learning Chinese in an intensive Chinese program in the USA. The participants were required to do two tasks, production and grammaticality judgments. The results have shown that learners generally pro-

duced fewer ba-constructions than the NSs. Their judgments of most of the sentences, however, were not significantly different from those of native speakers. The findings suggest that learners may have acquired incomplete knowledge of the construction while not yet able to produce the construction.

In a study on topic prominence in Japanese EFL students' existential constructions, Sasaki (1987) designed two tasks to examine the effects of proficiency level and elicitation on production of target-like constructions in a relatively free writing task versus a controlled writing task. The two tasks analyzed the relationship between the subjects' use of target structures and their knowledge of the target-like structures. The purpose is to determine if learners simply do not know the target structures, or if their knowledge has not yet become automatized; or if they are able to use the structures if elicited under certain conditions. The present study took Sasaki's research model, attempting to control the linguistic context and obligatory use of the ba-construction to maximally elicit learner's ba-construction. The participants were required to do a task that tests "automatic" performance of the most frequently used ba-construction. They were also asked to perform a second task that tests their usable knowledge. The intent was to examine if learners are able to produce the ba-construction under various conditions.

1.1 Linguistic Features of the Ba-construction

The form of the ba-construction is Subject + Ba-NP + Verb + Complement, where the object (ba-NP) precedes the verb and immediately follows the grammatical particle *ba*. The ba-construction has syntactic, semantic and pragmatic constraints. Syntactically, the construction must have a post-verb complement to specify the affectedness of the ba-NP caused by the verb. Semantically, the constraints include 1) the object is definite, understood by interlocutors in the context, and 2) the verb has the intrinsic aspectual properties of punctuality and telicity to convey the temporal structure of the verb. Pragmatically, the construction emphasizes the notion "what has happened to the ba-NP". The notion is conveyed through the post-verb complement, as illustrated in (1). Therefore, the verbal complement in the ba-construction is usually required to elaborate the effect of the verb on the ba-NP. The verb in the ba-construction can stand alone only if it is preceded by some adverb (Li & Thompson, 1989), or is disyllabic to satisfy the prosodic constraints (Feng, 2001).

1. 他把车卖给他弟弟了。
 Ta BA car sell to his brother CRS²
 He sold the car to his brother.

In an earlier study of the ba-construction, Li & Thompson (1981) suggested that the obligatory use of the ba-construction depends on the prominence of two conditions, a strong sense of disposability of the verb and the affectedness of the ba-NP (the object in this study). Their criteria for the obligatory use of the ba-construction seem to be general. In later studies, scholars (e.g., Liu, Pan & Gu, 2001; Liu, 2003; Lü, 1994) proposed that if the verb has two post-verb NPs (e.g., the object and the locative) and the object is not the topic of the sentence, the ba-construction is syntactically obligatory. Sentence (1) meets the syntactic obligatory criteria of the ba-construction. The ba-NP, *che* (car), is not the topic of the sentence and the second post-verb NP, *tadidi* (his brother), is the complement to indicate to whom the ba-NP is sold. At the semantic level, the function of the ba-construction focuses on the affectedness of the object. When the speaker wants to emphasize what the ba-NP undergoes as the result of the action initiated by the agent, the use of the ba-construction is warranted.

The ba-construction presents a unique challenge for acquisition. First, the word order of the ba-construction is non-canonical. Jespon (1989) stated that “the basic word order of a language is the most frequent, least grammatically complex, and least marked order of the verb and the accusative object in simple, declarative sentences.” (p. 97) In terms of frequency, OV order constitutes only 10% or less of simple declaratives in the modern standard Chinese texts that they investigated (Sun & Givon, 1985). In terms of markedness, the OV order of the ba-construction places various constraints on the object and the verb complement. VO order, however, is generally not under such constraints.

Second, the choice of the verb in the ba-construction is under semantic, syntactic, and contextual constraints in the collocation of the ba-NP and the verb complement. In a review of the ba-construction, Liu (2003) concluded that one of the difficulties in the acquisition of the ba-construction is the collocation between the verb and the ba-NP, as illustrated in (2). In (2), the verb *die* (fall) is intransitive, and thus cannot take a ba-NP. In (3), although the collocation of the verb *fang* and its ba-NP *maozi* is fine, the broader linguistic context requires the verb

²Adopted from Li & Thompson (1981), the sentence final *le* is a marker for the “Currently Relevant State”. It indicates that the “state of affairs has special current relevance with respect to some particular situation” (p. 240). This abbreviation is used throughout the paper.

to be *wang* (to forget) or *la* (to misplace) rather than *fang* (to place).

(2)* 昨天 晚上 刮风 很 厉害, 所以把 广告 跌 倒 了。
 Yesterday evening blow wind very severe, so BA ad. fall down CRS.
 It was very windy last night, therefore, the advertisement was blown away.

(3)* 哎呀, 我这个 丢三落四的, 把我的 帽子放 在 你 那儿了。
 Ahya, I this forgetful NOM, BA my hat place at you there CRS.
 I am such a messy/forgetful person, I left my hat at your place.
 (Liu, 2003, p. 68)

Third, the verb complement frequently creates formal complexity and functional specifications where the mapping between the form and function is not transparent. Ellis (2002) posited six criteria in determining the level of difficulty for acquisition: 1) formal complexity: the extent to which the structure involves just a single or many elements, 2) functional complexity: the extent to which the meanings realized by a structure are transparent, 3) reliability: the extent to which the rule has exceptions, 4) scope: the extent to which the rule has a broad or narrow coverage, 5) metalanguage: the extent to which the rule can be provided simply with minimum metalanguage, 6) L1/L2 contrast: a feature that corresponds to an L1 feature is easier than a feature that does not (p. 28). The verb complement of the ba construction appears to be at the difficult end of the range across the criteria. A verb complement may be composed of several elements such as directional verb, a locative, a locative particle, another directional verb, and a particle *le* as in “*jin fangjian li laile*, into the room” in (1), which constitutes the formal complexity. The form and meaning of the verb complement are frequently not transparent, e.g., one meaning of the verb complement can be conveyed by a few different forms. The locative particle *li* in (5) is redundant since its meaning is already presented in the phrase “into the river”. The verb complement can be as short as one word, e.g., the grammatical particle *le*, or as long as a series of elements. Last but not least, the structure of the verb complement is absent in English (learners’ first language). It is no surprise that the ba-sentences produced by CFL learners frequently miss the sentence-final directional verb such as *lai* or *qu* in (4), misuse or miss the post-verb directional word such as *dao*, *jin*, *zai* (4), omit the locative particle such as *li* as in (5), misuse the word order of the complement as in (6), or miss the temporal or perfective aspect marker (4).

(4) *安娜 把 长城 的 照片 寄 在 英国。 (Elem.12)

Anna BA Great Wall Nom picture mail at England

Anna is sending her pictures of the Great Wall to England.

(5) *工人 把 小面包 扔 进/在 河 了。 (Interm.11, Adv.3, 29)

Workers BA small bread throw in/to river CRS

Workers are dumping small buns into the river.

(6) *工人 把床 从 楼上 到 楼下 搬 下 来了。 (Interm.7)

Workers BA bed from upstairs to downstairs move down come CRS.

Workers are moving the bed from upstairs to downstairs.

(Wen, 2008, p 66-67).

1.2 The Most Frequently Used Sub-type of the Ba-construction

Zhang (2001) analyzed the use of the ba-construction by Chinese NSs from a written corpus. He collected all the ba-sentences (a total of 2160) which randomly appeared in a widely read Chinese newspaper, *People's Daily*, in the first quarter of 1996. The study reveals that more than half of the ba-sentences from the corpus convey the meaning of spatial displacement of an object under the action of an external force. The verb complements used in such ba-sentences include the locative preposition and directional verbs. All the ba-sentences can be classified into two major categories. The first is to indicate a physical displacement of the object. The structure requires a directional verb complement or a locative preposition to specify the positional change of the ba-NP. The second is to express the displacement of the ba-NP in a metaphorical sense. Zhang concluded that what is emphasized in a typical ba-sentence is the process of spatial displacement rather than the resultative verb complement, although the latter has been generally considered to be the typical focus of the ba-construction.

Zhang's corpus analysis of *People's Daily* may present a skewed picture due to the use of only the newspaper genre. Cui, Y. (2003) used a large corpus created by Beijing Language and Culture University to examine the production of the ba-sentences by CFL learners. Cui examined the ba-fragments rather than com-

plete sentences of the ba-construction, as illustrated by (7-9). The findings of the study, with the production data of CFL learners, are consistent with the findings of Zhang's study. Among 3733 ba-phrases identified from the corpus, the most frequently used verb is *fang* (to put, to lay, to place). The verb *fang* has three arguments, the agent who initiates the action, the patient (the ba-NP) that is directly affected by the action of the agent, and the locative that illustrates where the object is spatially relocated. There are a total of 249 ba-clauses that use the verb *fang*, among which 240 convey the meaning of spatial displacement of the ba-NP. The complements of the 240 ba-fragments are composed primarily of locative prepositional phrases or directional verb phrases as shown in (7-9).

- (7) 把我放在车座的后边儿。
 BA me place at seat NOM back
 Put me on the back seat of the vehicle.
- (8) 把一块木头放入水中。
 BA one M. wood throw into water in.
 Throw a piece of wood in the water.
- (9) 把雕像放下。
 BA sculpture lay down
 Lay down the sculpture.
 (Cui, Y., 2003, p. 203)

The studies of Zhang (2001), Cui, Y.(2003), and others (Cui, X. 1995; Liu, Pan, & Gu, 2001; Qi, 1998) have shown that a typical and most frequently used ba-construction conveys the meaning of spatial displacement of the ba-NP. Different from other studies, Y. Cui's study analyzed the inter-language corpus of CFL learners. The limitations of the study, however, include that only ba-fragments rather than the complete ba-construction were examined, and the contexts where the data were produced were missing. The elicitation methods and informants' information from the corpus that Cui used were not available. The present study extends the research of Cui, Y. (2003) by examining complete sentences of the ba-construction and by analyzing production of CFL learners at three proficiency levels. Specifically, the study focuses on the most frequently used ba-construction with a displacement verb such as *fang* (to place, put, or lay) and *gua* (to hang), and a prepositional phrase such as *zai zhuozi shang* (on the table) or a directional phrase such as *dao panzi li* (to the plate). The study intends to maximally elicit ba-sentences to investigate the development of the

ba-construction by learners across three proficiency levels.

The purpose of the study is twofold. First, it investigates the development of the acquisition of the ba-construction by CFL learners across proficiency levels. Second, it examines whether the participants can produce the target construction if it is explicitly elicited. The two research questions are: 1. Do English-speaking learners of Chinese at three proficiency levels differ significantly in their overall production of the spatial displacement ba-construction? 2. Can learners use the spatial displacement ba-construction if the ba-construction is explicitly elicited? The second research question explores the level of learners' usable knowledge of the ba-construction.

2. Method

2.1 Participants

Ninety (90) English-speaking learners of Chinese enrolled in Chinese language courses at a U.S. university participated in the study. Students from 9 classes (2, 3, and 4 classes at the elementary, intermediate and advanced levels respectively) across three proficiency levels first filled a questionnaire on their language and cultural backgrounds. This was done because language backgrounds (Mandarin or Chinese dialects) may have an impact on the results of the study. The questionnaire consisted of 10 items on ethnic background, first language, parents' first language, if they were somewhat bilingual with Chinese as one of their languages, if they speak any Chinese dialects, university academic level, the Chinese course they were taking, and years of Chinese language study in high schools and/or community Chinese schools. Only the students who did not have any Chinese language heritage backgrounds were recruited. Students who were Chinese bilinguals or semi-bilinguals, e.g., being able to understand but not speak Chinese, were excluded. Because there were insufficient participants at the intermediate and advanced levels who met the recruiting criteria, the identical recruiting procedure continued in the following year.

Thirty students from the elementary, intermediate, and advanced levels respectively participated in the study. Their proficiency level was based on the participants' instructional level and the instructors' evaluations. At the time the data were collected, the participants had completed approximately 145, 230, and 315 instructional hours at the elementary, intermediate, and advanced levels respectively. All the participants, including the students at the elementary level, had been taught the ba-construction in their curriculum. For example, the ba-construction was first taught as a major grammar point at the beginning of the second semester at the elementary level, and was practiced later in the curriculum.

The ba-construction was again presented as a grammar point in the second-year curriculum, and reappeared in the third-year texts. In addition to 90 CFL learners, 20 native speakers (NSs) also participated in the study. Their data were included because the contexts requiring the ba-construction are frequently difficult to identify; even NSs vary in their choices for a given context (Du, 2004; Wen, 2008). The data of the NSs as a whole provide objective measurements with which the ba-production of NNSs may be compared.

2.2 Instruments

All the participants performed two tasks. The instrument of the first task was based on a preliminary study on the acquisition of the ba-construction by Wen (2008). It required participants to answer four questions based on two pictures (See Appendix I). The first picture had one question (1. Mr. Zhang wanted to offer friends cake. First, he cut the cake into small pieces. What is he doing now after cutting the cake?) The second picture had three questions (2. Children are tidying up their classroom now. What have Xiao hua and Xiao Peng done? 3. What about Xiao Hong? 4. And Xiao Hu?). In the first picture, a chef is placing a piece of cake on a plate. In the second picture, a few children are arranging things in a classroom. The participants were required to answer the questions based on the pictures in written form. One reason to use pictures is that since the ba-construction is often used in narratives (Liu, Pang & Gu, 2001; Liu & Wang, 2002), describing pictures is a natural use of the language and likely to elicit the targeted construction. The directions for the task were as follows: "Please answer the following questions in complete sentences based on the given pictures below. You may write in character or pinyin. Words in the parentheses are provided for your convenience."

The second task was designed to determine whether the participants could produce the ba-construction when elicitation was more explicit. Although all the participants had received instruction on the ba-construction, they might not have learned it. There were two items in the second task and both were grammar exercises (See Appendix II). The first asked participants to fill a blank, with the direction "Please fill the blank by using a contextually relevant character in the sentence below." The second item directly elicited the ba-construction by asking participants to use a ba-construction to describe the given picture. The direction was "please use the ba-construction to describe what the boy in the picture is doing". According to Liu, Pan and Gu (2001), the ba-construction is syntactically obligatory in both contexts.

2.3 Procedure and Coding

The questionnaire was conducted at the beginning of the spring semester. The language data were collected in a regular class period at the end of the spring semester. Participants were asked to answer the questions based on the pictures. They were asked to read the English instructions, and then do the task. They were allowed to spend as much time on the task as needed. None of the participants knew the intent of the researcher, and all were presented with the same task. The second task was administered ten days after the first task. The data were collected in two consecutive springs due to the small number of participants.

After the participants' writing was collected, the clauses containing the ba-construction were identified and rated as correct (both in form and meaning) or incorrect by two NS researchers. Identification of the ba-construction was based on a token count of the character ba in the sentence. An incorrect ba-sentence may have more than one error in form, meaning, and function. For example, (10) was rated as incorrect.

- (10) *他 把 蛋糕 放 在 盘子。
Ta BA cake put at plate.
He is putting the cake on the plate.

3. Results

3.1 Task I

The participants at three proficiency levels wrote a total of 330 clauses with an average of 3.67 clauses per participant in response to the 4 questions based on 2 pictures. The average number of clauses was fewer than the number of questions because some participants did not answer all the questions. The participants at the elementary, intermediate and advanced levels produced 17, 24, and 47 ba-clauses respectively. The percentage of ba-constructions produced by the participants was 15.3% at the elementary, 21.8% at the intermediate and 43.1% at the advanced level. NSs produced a total of 77 clauses, among which 72 (93.5%) were ba-clauses.

Table 1. Descriptive info. on the production of Task I

Level	Subjects	Total BA	Total clauses	% of BA	% of Accuracy
Elem.	30	17	111	15.3%	41.2%
Interm.	30	24	110	21.8%	45.8%
Adv.	30	47	109	43.1%	63.8%
NSs	20	72	77	93.5%	97.2%

Table 1 shows that both the frequency and accuracy of using the spatial displacement ba-construction increase steadily with the proficiency level. Participants at the elementary level achieved 41.2% accuracy, and those at the intermediate and advanced levels achieved 45.8% and 63.8% accuracy respectively. To address the first research question (Do English-speaking learners of Chinese at three proficiency levels differ significantly in their overall production of the spatial displacement ba-construction?), chi-square analysis based on the production frequency of the ba-construction was used, and the results demonstrated that the differences across proficiency levels were significant ($Chi^2 = 68.66$, $df = 4$, $p = .000$).

The non ba-clauses produced by participants can be grammatically correct (11) but unacceptable in the discourse, because there were no contextual connections between the questions and the answers. Some participants produced clauses such as (11), describing the picture rather than addressing the question based on the picture.

(11). 他们正在布置教室，有的在整理书架，他在挂照片。(NS #9)

They are arranging the classroom. Some are tidying the bookshelf. He is hanging the picture.

All the participants produced 160 spatial displacement ba-clauses, which can be classified into four types based on the meaning and the structure:

Type I. Subj. + ba-NP + V. + Prep./Directional word + Locative + Locative particle³.

Type II. Subj. + ba-NP + V. + Prep. + Locative.

Type III. Subj. + ba-NP + Prep. + Locative + V.

Type IV. Others

The first type has the correct form. Type II and Type III are error forms of Type I with missing locative particles and errors in word order respectively. Type IV includes the clauses that do not belong to the first three types. Clauses in Type IV may be correct or erroneous. Table 2 presents the frequency and the percentage of the four types of clauses. As anticipated, the percentages of the correct ba-construction increase and incorrect ba-construction decrease as the level of the participants progresses.

Table 2. Frequency and percentage of four types of ba-clauses

Level	Type I		Type II		Type III		Type IV	
	Type	%	Type	%	Type	%	Type	%
Element.	6	35.3%	7	41.2%	2	11.8%	2	11.8%
Intermediate.	10	41.7%	8	29.2%	4	16.7%	2	12.5%
Advanced.	29	61.7%	15	31.9%	1	2.1%	2	4.3%
NS	71	98.6%	1	1.4%	0		0	

Type I. Subj. + ba-NP + V. + Prep./Dir. word + Locative + Locative particle

Type I ba-clauses exhibit five variations on the post-verb complement that specify how the ba-NP is displaced. As Table 3 shows, learners are able to produce more forms as their proficiency levels increase. Participants at the elementary level produced only one form, *zai locative shang* where *zai* is a preposition and *shang* is a locative particle required by the structure, as in (12). Participants

³ A locative particle follows a locative, i.e., a place word, in order to specify a spatial relationship to the place word.

at the intermediate level added one more form (13) although its frequency is low. Participants at the advanced level added still one more form (14). NSs produced four forms including *V. dao/hui PL shang* that was not produced by NNSs, as (15) shows.

Table 3. Frequency and percentage of four variations of Type I ba-clauses

Level	1. V. zai PL shang (V. on PL)	2. V.dao/jin/ru panzi li (V. to/into/in plate)	3. V. zai panzi li (V. on plate)	4. V. dao/hui PL shang (V. to/return PL)	5. others
Elementary	6 100%	0	0	0	
Intermediate	8 80.0%	2 20.0%	0	0	
Advanced	23 79.3%	2 6.9%	2 6.9%	0	2 6.9%
NNSs	25 35.2%	8 11.3%	5 7.0%	33 46.5%	

- (12) 张 先生 正在 把蛋糕 放在 盘子上。(By all, Variation 1)
Zhang Mr. Prg. BA cake put on plate on
Mr. Zhang is putting the cake on the plate.
- (13) 他 在 把 蛋糕 放 到盘子里。(By all but Elem. level, Variation 2)
He Prg. BA cake put to plate in
He is putting the cake on the plate.
- (14) 他 在 把 蛋糕 放 在 盘子里。(By Advanced and NSs only, Variation 3)
He Prg. BA cake put on plate in
He is putting the cake on the plate.

- (15) 这两个小孩在把书放回书架上。(NSs only, Variation 4)
 This two M. Children Prg. BA book put back bookshelf on.
 These two children are putting the books on the bookshelf.

Sentences (12)-(14) were produced to answer the same question based on Picture One. Variations appeared in two elements of the complement. One is the word immediately after the verb, which can be a preposition *zai* (in Variations 1 and 3) or a directional verbal complement *dao / jin / ru* (in Variations 2 and 4). Another is the locative particle *shang* (on) or *li* (in), which is grammatically obligatory. NNSs obviously had a preference for Variation 1: *V. zai locative shang* (with a frequency of 86.4%). Although NSs produced all the variations, the one with the highest frequency is the directional verbal complement *dao/hui* (to/return). The data (Table 3) suggest that NNSs, especially at the elementary level, focused on the locative itself and took it as one unit that is composed of a prepositional phrase (*zai Place shang*); whereas NSs focused on the direction of the verb that causes the ba-NP to be displaced. They used varied words to convey directions such as *dao* (to), *jin* (in/enter), *ru* (into/enter), and *hui* (return/back) to express how the ba-NP is relocated.

Type II. Subj. + ba-NP + V. + Prep. + Locative.

Missing a locative particle, as (16) and (17) demonstrate, is a common error made by participants across all levels. A complement of the displacement ba-construction is often composed of several elements including a locative particle, although the meaning of the locative particle may already be embedded in other parts of the complement. Therefore, missing the locative particle does not seriously hinder comprehension.⁸ It is, however, grammatically required in the modern Chinese language.

The percentages of missing the locative particle are 41.2%, 29.2%, and 31.9% at the elementary, intermediate, and the advanced levels respectively. The results are consistent with previous studies (Cui, 2003; Wen, 2008) that have shown that the frequency of missing a component of the complement at the post-locative position is relatively high across proficiency levels. Table 4 shows the frequency and the percentage of the absence of the locative particles produced by participants across all levels.

Table 4. Frequency and percentage of missing the locative particle

Level	Panzi (plate)	Shujia (book- shelf)	Qiang (wall)	Zhuozi (ta- ble)
Elem.	3 30%	4 40%	2 20%	1 10%
Inter- m.	4 23.1%	6 46.2%	3 23.1%	0 0%
Adv.	3 20.0%	7 46.7%	4 26.7%	1 6.7%
NS	1 100%	0	0	0

A closer examination of the absence of the locative particle reveals two points. First, the frequency effect may play a role. The phrase “*fangzai zhuozi shang*” appeared earlier in the first year Chinese curriculum and was likely to occur more frequently in the input than the phrase “*fangzai panzi /shujia shang*”. The participants may have had more opportunities to use the former than the latter. Second, there is a connection between the place word and the missing of the locative particle. When a place word does not offer multiple perceptual possibilities, such as *zhuozi* (table), learners missed the locative particle least frequently. When a place word offers different perceptual possibilities such as *shujia* (bookshelf) or *panzi* (plate), learners missed the locative particle most frequently. It is easy to perceive that an object is put ON the table (*ba hua fangzai zhuozi shang*). It is, however, not so obvious whether to choose the word “in” or “on” when putting a piece of cake on a plate (both are grammatical in Chinese) or putting books on or in the shelf (both are again grammatical in Chinese). Most participants either used one form (*shang*) as in Type I or omitted it as in Type II. Furthermore, the requirement for the locative particle is rather language specific. Indeed, (16) and (17) are fine in English but not in Chinese.

- (16) *张先生 把蛋糕 放在 盘子。 (e.g. elem. #3)
 Zhang Mr. BA cake put on plate
 Mr. Zhang puts the cake on the plate.

(17) *小李 把 书 放 在 书架。(e.g. Elem. #4)

Xiao Li BA books put on bookshelf.

Xiao Li puts the book on the bookshelf.

Type III. Subj. + ba-NP + Prep. + Locative + V.

Participants at three proficiency levels produced 7 Type III clauses and the NSs did not produce any, as shown in Table 2. Although the frequency of Type III clauses is not high, their presence should be addressed.

Sentences (18-19) actually present a typical word order of SVO where the locative usually follows the subject and precedes the verb to specify where the action takes place. The misplacement of the locative suggests that learners over-generalize the old form (the locative precedes the verb in the SVO order) to the new function of the ba-construction. It also indicates that learners might not have conceptualized the core function of the ba-construction (i.e., the construction emphasizes the notion “what has happened to the ba-NP”, which is conveyed through the post-verb complement), despite the fact that they can produce ba-clauses that do have OV order.

Functionally, the ba-construction emphasizes the effect of the verb on the ba-NP. The effect is specified through the complement. If the complement is incomplete or positioned incorrectly as in (16-19), it defeats the purpose of using the ba-construction. The incomplete complements as presented in Type II and locative misplacement in Type III suggest that learners are in the process of conceptualizing the function of the ba-construction to acquire the correct form and the meaning.

(18) *张先生 正在把(那块) 蛋糕(在) 盘子里 放。(Interm. 7. Adv. 26)

Zhang Mr. Prg. BA (that piece) cake (on) plate inside put

Mr. Zhang is putting (that piece of) cake on the plate.

(19) *小李和小虎把书在书架放, 小王把照片在墙挂。(Elem.6, 14)

Xiao Li & Xiaohu BA book on bookshelf put, Xiaowang BA photo on wall hang

Xiao Li & Xiaohu are putting books on the bookshelf and Xiaowang is hanging the photos on the wall.

There is an alternative interpretation for the Type III error. Learners missed a directional adverbial *wang-locative* and misused a locative preposition *zai*; or they conflated the preposition *zai* with *wang*. In that case, the verb can be indeed sentence final.⁴

3.2 Task II

On Item 1, filling the blank (Appendix II), 17 (56.7%) participants at the elementary level, 19 (63.3%) participants at the intermediate, and 22 (73.3%) participants at the advanced level filled the blank correctly with the grammatical particle *ba*, as shown in (20).

(20) 小王 对 邮局 的 服务员说: “我要 把 这些书
寄 到中国。” Xiao Wang to post office NOM clerk say I want BA these book
mail to China

Xiao Wang said to the post office clerk: “I want to mail these books to China.”

On Item 2, using the *ba*-construction to describe the picture, 27 (90%) participants at the elementary level, 29 (96.7%) participants at the intermediate, and 30 (100%) participants at the advanced level produced the *ba*-sentence. Participants made errors mostly on the complement, similar to the errors that appeared in Task I such as (16-19). Table 5 presents the frequency and percentage of the Task II performance.

Table 5. Frequency and percentage of Task II performance

Level	Item 1: Fill BA	Item 2: Use BA	Item 2 Accuracy
Elementary	17 56.7%	27 90%	12 40%
Intermediate	19 63.3%	29 96.7%	19 63.3%

⁴ Feng (2001) proposed that the presence of the adverbial phrase, such as *wang an shang* “to the bank”, can save the bare verb in the *ba*-construction: *nimen yinygai [ba chuan] cong shuili wang an-shang la*. “You should pull the boat from the water to the bank.”

m.			
Ad	22	30	24
v.	73.3%	100%	80%
NS	20	20	
s	100%	100%	

As Table 5 shows, the frequency of using the ba-construction on Item 2 is higher than that of Item 1. Two reasons may explain the difference. First, elicitation in the former is less direct than the latter. Second, the sentence in Item 1 uses the directional verbal complement *dao* (to / toward) to indicate how and where the ba-NP is displaced whereas in Item 2, the preposition *zai* is likely to be used. We recall from the results of Task I that NNS participants produced only a few ba-clauses with the directional verbal complement. Instead, they preferred to use *zai* with a locative, as shown in Table 3.

To address the second research question, "Can learners use the spatial displacement ba-construction if the construction is directly elicited?" the results showed that participants were able to use the ba-construction when required. They may have developed a certain level of explicit knowledge of the ba-construction that is accessible and usable when directly requested. These results contrast with their performance in Task I, where the percentages were much lower when the ba-construction was not directly elicited.

4. Discussion

4.1 Favored Sub-types of the Ba-construction

The present study investigates the acquisition of the spatial displacement ba-construction, the most frequently used sub-type of ba-construction. The results have shown that learners across three levels predominantly produced one form: *S. ba-NP V. zai locative (shang)*, as examples (12, 16-17) and tables 3 and 4 demonstrate. Learners at the intermediate and advanced levels produced more varied forms, although these forms made up a small percentage of their total production. These forms reveal their perceptions on how the ba-NP is handled and displaced, which reflects their conceptualization of the function of the ba-construction.

Three reasons may account for why one form was significantly preferred by the NNS participants. The first may be the different perception of the semantic organization of the spatial displacement of the ba-NP. Bowerman (1989) demonstrates cross-linguistic differences in perceptions and semantic organizations with spatial relationships. She proposes that languages use different criteria for classi-

fyng referents and “structuring the categories of meanings to which words, grammatical morphemes, or construction patterns are linked” (p. 143). The task of learning spatial relationships of the displacement ba-construction, therefore, includes reorganizing perceptual and conceptual structures. For instance, NSs of Chinese regard the proposition “to put the cake on the plate” as having a few subtly different meanings based on different emphasis. If the focus is on the locative, the expression is similar to that of English as in “put the cake on the plate” (*ba dangao fang zai panzi shang*). If the focus is on the direction of the action toward the object, the directional verbal complement is used as in “put the cake TO / INTO the plate” (*ba dangao fang dao/jin/ru panzi li*). The latter is more frequently used by NSs as the data have shown. Similarly, the proposition of “to put the book on the shelf” in Chinese can be expressed the same as in English (*ba shu fang zai shujia shang*), or frequently, different: “put the book to / back to on the shelf” (*ba shu fang dao /hui shujia shang*). In Chinese, the direction of the verb is an important feature, and thus a directional verbal complement serves the purpose. In contrast, it may be that the NNS participants focused their perception on the locative, and used the formulaic expression *zai locative(shang)* when conveying spatial relationships.

Second, the perception and conceptualization of the form-meaning mapping seem to influence the use of the locative particle. Learners across three proficiency levels missed locative particles as demonstrated in Type II clauses (Table 4). Their omission seems to be selective for those that do not provide a clear form-meaning connection. The locative particle *shang* in “put the flower on the table” was missed least but that in “put books on the bookshelf” was missed most (Table 4). The spatial configuration of “on the table” may be perceptually more unambiguous than the spatial configuration of “on the bookshelf”. A bookshelf can contain books inside it or hold books on its surface. Similarly, a plate can hold a piece of cake on its surface (*fang zai panzi shang*) or contain it (*fang jin panzi li*). The choice of the locative particle depends on speakers’ emphasis, and their perception, which may be affected by the Chinese language.

Third, even if learners are able to perceive the spatial relationships of the displacement ba-construction in a native-like manner, to produce the form is still an arduous task. The complement of the displacement ba-construction is frequently composed of a few elements with a directional verbal complement (e.g., *dao/jin/ru*) preceding a locative, and a locative particle (*shang/li*) following the place word. Such a componential structure at the post-verb position presents language-specific features and requires collocation “linking rules” (Pinker, 1989) that correlate grammatical categories, semantic properties, and pragmatic functions among the subject, the ba-NP, the verb, and the complement. Furthermore,

form-meaning connections presented in the verb complement can be redundant and thus, not very transparent. The meaning of the locative particle is already implied in the other parts of the complement, yet the form is grammatically required. In addition, certain elements in the verb complement are optional and NSs omit them for pragmatic purposes in discourse (Wen, 2008). Finally, the form can have different variations that reflect subtle emphasis in meaning and function, as Table 3 shows. In a comprehensive review of the studies of grammar acquisition, DeKeyser (2005) points out that redundancy and optionality of the form-meaning relationship create a lack of transparency that causes difficulty in learning. Consequently, learners acquire one form first. This form has certain correspondences to their first language, a more transparent form-meaning mapping of spatial relationships, and has a high frequency of occurrence in input.

4.2 Low production of the ba-construction

The low production of the ba-construction on Task I suggests that participants either chose not to use the ba-construction, or the use of the ba-construction did not occur to them. After finishing the data collection, the researcher individually interviewed several students who did not use the ba-construction in order to find out if they were aware of the ba-construction.⁵ One constant element in their replies was that they were aware of the construction but regarded it to be “troublesome and complicated to use because of the conversion of the word order (from VO to OV)”. They considered the use of the ba-construction as a syntactic alternative, with a more complicated OV order.

Bialystok (1988) posits that L2 learners in a formal instructional setting possess “analyzed and non-automatic” competence. She further states that: “an individual’s retrieval procedures vary according to the demands of the situation, the information required, and the fluency or automaticity of the individual’s control over the information” (p. 36). The results of the present study seem to suggest that some participants’ knowledge of the ba construction may not have been analyzed or internalized yet, especially learners at the lower proficiency levels. Furthermore, automaticity varies depending on how “basic” the target construction or structure is, as the data have shown in this study.

English-speaking learners of Chinese start to produce a “basic” spatial displacement ba-construction by the end of the elementary proficiency level. As their proficiency level increases, learners begin to add more varied forms. Learners later develop a correct usage of the prepositional complement. More native-like variations of the verb complement emphasizing the direction of the verb

⁵ The researcher asked students these questions: “Are you aware of the ba-construction?” “If you are, why didn’t you use it?”

such as *dao/jin/hui locative li* appear only at the advanced level. The most frequently produced form (*S. ba-NP V. zai locative shang*) presents concrete one-to-one form-meaning associations. The contrasts between the performance of Task I and Task II suggest that learners may have developed a certain level of knowledge of the ba-construction that is usable when elicitation is direct. There are significant differences, however, between using the ba-construction when explicitly told to use it and the ability to automatically produce the construction with correct form and meaning, and in an appropriate context.

4.3 Limitations of the Study

Although the present study recruited 90 CFL students, the data collected were small in size. The number of test items in each task was not large. In addition, participants may have just started the process and not acquired the ba-construction yet. Consequently, they were not able to produce the ba-construction in all the given contexts. The low production number of the ba-construction limits a robust generalization of the results. Although learners were able to produce the ba-construction when explicitly required as demonstrated in Table 5, interpretations of the results should be taken with caution because of the small number of ba-sentences produced and the unnatural conditions used. Another limitation of this study is that the ba-sentences elicited are confined to the displacement ba-construction. Although there were reasons why this type of ba-construction was investigated, it sets a relatively narrow scope for the study on the ba-construction. The ba-construction is an important Chinese construction with unique syntactic, semantic, and pragmatic constraints. Further studies are needed to investigate the acquisition of the ba-construction, especially in relation to the verb complement.

5. Implications

Based on the findings of the study, three instructional implications are discussed below.

First, the acquisition of the ba-construction requires a lengthy process. The results of this study have shown that the participants have exhibited a slow yet steady progress towards the correct usage of the target language. Their first ba production involves the use of a formulaic expression of the prepositional phrase: *zai + locative + shang*. The verb complement in the ba-construction is acquired on the basis of mapping the meaning of spatial relationships to a simple form at the beginning level and more varied forms at the more advanced level. Instruction on the ba construction, therefore, should start with verbal complements that

represent clear and concrete one-to-one form-meaning associations. For instance, instruction may include realistic communicative requests as input for students to comprehend and to perform, e.g., 把你的中文书拿出来 (Take your book out.). 把你的中文书放在桌子上 (Put your book on the table). 把你的名字写在书上 (Write your name on the book). 把书打开, 翻到 X 页 (Open your book and turn to page X). 把书合起来 (Close your book). 把书放回书包里 (Put your book into your backpack). Topics for such activities are many. They may include sports (把球传 / 踢过来 / 过去 / 到他那儿去。Pass the ball over here / over there / over there close to him), or in real situations when the instructor distributes or collects the homework / tests (把作业 / 考试给我/给你的同桌/给你后边的同学。Pass the homework / test to me/ to your partner/ to the person behind you). While doing these activities, students may notice that the ba-NP is the focus and its status or location is changing because of the action exerted on it. Furthermore, the action has to be completed and resultative.

Second, the most frequent error made by participants is on the verb complement as in (16-19). A good mastery of the verb complement lays a foundation for the acquisition of the ba-construction. To combine the topic-prominent construction with the verb complement can be an effective way to learn the verb complement, and subsequently, the ba-construction. The instruction may start with the topic-comment structure to describe “what has happened to the NP” such as:

- (21). 蛋糕 放 在 盘子上了。
 Cake put at plate on CRS
 The cake is on the plate.
- (22). 书 放 回 书架 上 了。
 Book put back bookshelf on CRS
 The books are back on the bookshelf.
- (23). 照片 挂 到 墙 上 了。
 Photo hang to wall on CRS
 The photo has been hung on the wall.
- (24). 照片 都 寄 到 英国 去了。
 Photos all mail to England go CRS

Photos were all mailed to England.

As a second step, the ba-construction is introduced to describe the concept “who has done what to the NP”, such as 老王把蛋糕放在盘子上了 (Mr. Wang placed the cake on the plate.); 小虎把书放回书架上了 (Xiaohu put the book back on the bookshelf). 安迪把他的照片寄到英国去了 (Andy mailed his photos to England). To teach the ba-construction in a sequence from simpler to more complex and from a shorter to a longer sentence fits the learning process.

Third, the fact that students are able to use the form and produce ba-sentences as they did in Task II (grammar exercises) does not mean they have “acquired” the ba-construction. They may not be able to produce the construction when the elicitation is not direct as in Task I. This has instructional implications, i.e., it is necessary for learners to perform different tasks in order to achieve linguistic automaticity. Since the major difficulties encountered by students are related to form, various exercises and activities focusing on the form (especially the form of the verb complement) and based on meaning are highly recommended.

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APPENDIX I

Directions: Please answer the following questions in complete sentences based on the given situations and the pictures. You may write in character or pinyin. Words in the parentheses are provided for your convenience.

(The questions were originally written in Chinese. They were translated for readers' convenience.)

1. Mr. Zhang wanted to offer friends cake. First, he cut the cake into small pieces. What is he doing now after cutting the cake?
2. Children are tidying up their classroom now. What have Xiao hua and Xiao Peng done? What about Xiao Hong? And Xiao Hu?
1. 张先生想请朋友吃蛋糕。他先是切蛋糕。蛋糕切好以后, 张先生现在正做什么呢?

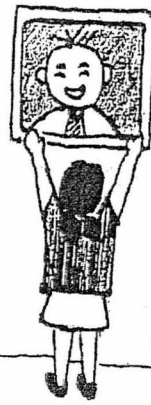
2. 孩子们正在整理教室。小花和小朋已经做什么了？小红呢？小虎呢？（书架bookshelf, 挂to hang, 照片pictures, 墙wall）



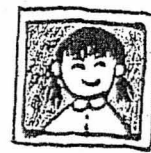
张先生



小花和小朋



小红



小虎

APPENDIX II

1. Please fill the blank by using a contextually relevant character in the sentence below.

小王对邮局的服务员说：“我要 _____ 这些书寄到中国。”

2. Please use the ba-construction to describe what the boy in the picture is doing.

