ABSTRACT
This study investigates the acquisition of the ba-construction by English-speaking learners of Chinese. Written sentences produced by CFL learners at three proficiency levels and NSs were examined. The findings show that, although some learners at the elementary level were able to produce the ba-construction, their production on average was much lower than that of NSs. Three characteristics have been revealed. First, learners are in the process of conceptualizing the function of the ba-construction as shown by their generally correct word order and semantic organizations on one hand, and misplacing or missing components of the verbal complement on the other. Second, when given a choice, learners at the lower levels uniformly used the simpler structures of the verbal complement that present more transparent form-meaning mapping. Native-like variations only started to appear at the advanced level. Third, pragmatics and discourse also played a role, which may partially explain the verbal complement errors made by learners.

SUBJECT KEYWORDS
Chinese language acquisition  Chinese grammar acquisition  The ba construction
Acquisition of the Chinese verb-complement structure  Form-meaning connections

1. INTRODUCTION
Research in second language acquisition (SLA) has produced a variety of works on Universal Grammar with emphasis on the acquisition of formal structures. In this paradigm, linguistic structures and forms provide the focus for accounts of language acquisition. These, however, account for only a portion of the complexities of SLA. In an integrated paradigm, (Gass and Selinker, 2001), the interaction of both form and function has been called into consideration. The literature (e.g., Bardovi-
Harlig, 1992; DeKayser, 2005; Gass 2004; Polio, 1995; VanPatten, Williams, Rott & Overstreet 2004) draws not only upon the perspectives of formal grammar, but also on semantics and communicative functions. Complexities of the form-meaning and form-function relationships are investigated. Researchers first define the concepts and functions to be encoded, and then analyze the mechanisms used by learners to convey the concepts and functions at different stages in SLA, as suggested by Meisel (1987). The purpose of such an approach is to capture the interaction of both form and function, to discover underlying mechanisms used by learners, and to broaden the framework of research on SLA. The present study takes this approach to investigate the acquisition of the Mandarin Chinese (henceforth, Chinese) ba-construction by English-speaking learners of Chinese.

The ba-construction is frequently used by native speakers (NSs) of Chinese. Acquisition of the construction, however, does not occur at the early stage of language development. The ba-construction presents a number of difficulties for both L1 and L2 Chinese language learners (Cui, 2003; Duff, 1990; Huang & Yang, 2004; Jepson, 1989; Jin, 1992; Wen, 2006). It requires a noncanonical word order of SOV. It usually requires a post-verbal complement to elaborate the effects of the verb on the direct object (the ba-NP as in this study). A bare-verb in the ba-construction is acceptable only if the sentence meets prosodic constraints (Feng, 2001). In addition, learners must determine when it is obligatory and when it is preferred or optional.

There are a few studies on the acquisition of the ba-construction by learners of Chinese as foreign language (CFL). An early study conducted by Jin (1992) proposed that there is a development from subject- to topic- prominent language with increasing pragmaticization in the process of acquiring the ba-construction by English-speaking learners of Chinese. The sample of her study was composed of 46 participants, who were asked to complete two tasks of grammatical judgment, and production that included written translation exercises and oral production based on two cartoon films. The results of the study have demonstrated that syntactic constraints of the ba-construction were acquired earlier, whereas those which were more pragmatically controlled were much more difficult to acquire (e.g., the sentence 他把橘子剥了皮 tā bǎ júzi bōle pí “He peeled the orange”, where the ba-NP is not a directly affected object but an attributive). Furthermore, the participants seemed to undergo a gradual change from being merely sensitive to the structural meaning of the ba-construction to adding pragmatic meanings when using the construction. Jin considered this to be the process of pragmaticization, to transfer the first language that is subject prominent to the target language that is topic prominent.
The position that the first language transfer caused the process of pragmaticization may be tentative because the subjects of Jin’s study were NSs of English only. Yu (2000) drew her sample from three NS language backgrounds: Japanese, Korean, and English. Japanese and Korean are also topic-prominent languages, similar to Chinese and different from English. The findings of Yu’s study have demonstrated that there was little difference in the acquisition of the ba-construction among her subjects of three different language backgrounds. For example, all of them acquired one basic form of the ba-construction (Subj. ba N1 Vzai / dao N2 V Complement; 他把书包放在桌子上 tā bǎ shūbāo fāng zài zhuōzi shàng. “He put the bag on the table.”) with similar accuracy.

Huang & Yang (2004) took an aspectual analysis approach to investigate the acquisition of the ba-construction by English-speaking learners who took Chinese language courses at universities in Beijing. In the study, they categorized verbs into four classes according to semantic properties of the verb. They are stative (爱 ài “to love”), action (叫 jiào “to yell”), resultative (造 zào “to build”; 拆 chāi “to dismantle”), and termination (赢 yíng “to win”). They proposed that the ba-construction must satisfy two distinctive features: telic, i.e. the action denotes a clear final end on the lexical level, and perfective on the sentential level. Students from four universities in Beijing participated in the study. They completed three tasks: grammatical judgment, rewriting given sentences by using the ba-construction, and making sentences by using the given vocabulary. The findings suggested that learners were highly sensitive to the semantic features of telicity and completion compared with other types of verbs. The rate of correct telic verbs in the second and third tasks was 77% and 86% respectively. In addition, the accuracy rate with sentences that have a post-verbal NP as a locative was high (83%). The study had a small number of subjects (N=14) who were all at the advanced level.

One important factor absent from the previous studies is data from NSs of Chinese. It is critical to include NSs in the study of acquisition of the ba-construction. This is because obligatory contexts requiring use of the ba-construction are usually hard to identify. Even NSs vary in their choices of the ba-construction in a given context. Without NS data, it is hard to make comparisons and determine errors. In a preliminary study of the acquisition of the ba-construction by CFL learners, Wen (2008) included NSs. Nevertheless, her sample size in each proficiency level was not consistent, and the production of ba-sentences was low.

The low production of the ba-construction in previous studies may be due to the given context, which did not maximally elicit the use of the ba-construction. Liu and Wang (2002) investigated optimal contexts where the ba-construction occurs. They discovered that both CFL learners and NSs of Chinese used the ba-construction.
most frequently when describing a location change of the object in narratives. They summarized that in the context where action verbs convey a telic meaning such as 切 qiē “to cut”, 放 fàng “to put”, 倒 dào “to pour” and resultative complements consist of location and direction, the use of the ba-construction is warranted.

Further investigation of the acquisition of the ba-construction is in order. The present study is designed to avoid the weaknesses of the previous studies. The investigation focuses on the displacement of the ba-construction. The displacement of the ba-construction has the form “Subj. ba-NP V. directional / locative Complement”, which conveys the meaning of the spatial relocation of the object as an effect of the action of the verb. The study will analyze inter-relationships of form and function at semantic, syntactic, and pragmatic levels. The purpose of the study is two-fold. First, it investigates the effect of CFL learners’ proficiency level on the degree of their production of the ba-construction in a written task. Second, it examines the form and function relationships of the ba-sentences produced by CFL learners.

2. THE TARGET CONSTRUCTION

The form of the ba-construction is presented in (1).

(1) Subj. ba-NP V-Complement.

Syntactically, the word order of the ba-construction is OV. The object (the ba-NP) is immediately after the accusative marker ba and precedes the verb. The use of the ba-construction is syntactically obligatory if the verb has two post-verb NPs with the first NP not as a topic of the sentence and the second NP as a locative (Liu, 2003, Liu, Pan & Gu, 2001; Lv, 1994). Semantically, the ba-NP is definite. The verbs in the ba-construction are highly transitive, inhering punctuality and telicity to convey the temporal structure of the verb phrase (Huang & Yang, 2004; Sun, 1995). The post-verbal complement denotes the result, degree, and quantity of the verb. The displacement post-verbal complement conveys perfective, directional, and resultative meanings. Prosodically, the verb in the ba construction can stand alone if it is disyllabic and/or featured with nuclear stress (Feng, 2001). At the discourse level, Sun and Givon (1985) proposed that the ba-construction functions as a discourse device to indicate emphasis or contrast in a discourse. It should also be noted that some components of the complement, e.g. the sentence final directional verb or the particle le, can be omitted and the omission is discourse-sensitive. They are optional in first clauses but not at the end of a discourse as shown in (2b). The locative particle 里 lǐ “in”, sentence final directional verb 来 lái “come” and the
grammatical particle 了 le are omitted in the first clause of (2b), but not in the second clause.

(2a) 他 把 花儿 搬 进来 了。
Tā bā huār bān jǐnlái le.
He moved the plant in.

(2b) 他把花儿搬进 房间, 也 把 衣服 收进 房间 里 来 了。
Tā bā huār bān fāngjiān, yě bā yīfū shōu jīn fāngjiān lǐ lái le.
He moved the plant into the room, and also collected the clothes into the room.

Whether the ba-construction is used depends on the pragmatic emphasis on the ba-NP. As Li & Thompson (1989) discussed, the more prominent the referent of the ba-NP is, the more likely it is to use the construction. Since the affectedness of ba-NP is achieved by the verb and elaborated by the complement, the more the verb and its complement specify the effects of the action on the ba-NP, the more appropriate it is to use the construction. In (3a), a regular SVO order simply reports an event; in (3b), the sentence describes how and to what extent the car is handled, and thus, the ba-construction is used. The differences between the canonical word order of SVO and the ba-construction are further illustrated in (4a) and (4b). Everything is identical between (4a) and (4b) except the latter has a verbal complement. Sentence (4a), however, is not acceptable because the ba-construction should not be used. The ba-construction is preferred when the verbal complement specifies to what extent and intensity the ba-NP is affected as shown in (4b).

(3a) 我 昨天 卖了 一辆 车。
Wǒ zuótiān mài le yī liàng chē.
I sold a car yesterday.

(3b) 我 昨天 把 那 辆 车 卖 给 旧 车店了。
Wǒ zuótiān bā nà liàng chē mài gěi jiù chē diàn le.
I sold that car to a used car dealer yesterday.
Recent studies (Cui, 1995; Qi, 1998; Zhang, 2001) have focused on displacement verbs such as 搬 “to move”, 送 “to send”, 寄 “to mail”, 拿 “to carry”, 扔 “to throw”. They are a type of action verb denoting that the ba-NP undergoes a location change. Zhang (2001) randomly collected 2160 ba-sentences from a Chinese newspaper, People’s Daily, in the first quarter of 1996. All ba-sentences were classified into two major categories. The first indicated a physical displacement of the object. The structure required a directional verbal complement to specify the location change of the ba-NP. The second expressed the displacement of the ba-NP in a metaphorical sense. He concluded that, “What is emphasized in a typical Ba-sentence is the process of spatial displacement of an object under the action of an external force.” (p. 10). The findings of Zhang’s study support Cui’s (1995) proposal that one of the typical functions of the verbal complement of the ba-construction is to describe a spatial change of the NP.

In this study, the ba-construction is classified into three different types according to its meaning. The first type has the ba-NP as an animate noun (human) to make comparisons with other two types. It is interesting to examine if the feature of animacy affects the choice of use of the construction. Since the ba-construction conveys a strong notion of accusative to the object or affectedness of the ba-NP (Sun, 1995), animacy of the ba-NP might play a role in the choice of using the ba-construction. The second type describes the ba-NP being moved in a particular direction (2a). The third type conveys the meaning that the ba-NP has been displaced to a particular place (2b, 3b). The second type (2a) does not specify a location, only direction; whereas the complement in the third type (2b, 3b) describes where the ba-NP is relocated.

Based on the previous research, the present study focuses its investigation on displacement verbs and directional resultative complements. Displacement verbs inherently imply that the ba-NP is physically affected to undergo a location change. The study is designed to maximally elicit the ba-construction and to investigate typical uses of the ba-construction. The research questions to be investigated are: 1)
Do English-speaking learners of Chinese at three proficiency levels differ significantly in their overall production of the ba-construction? 2) Is one type of ba-construction being acquired earlier than others? The hypothesis to be tested is whether participants produce one particular type of the ba-construction with higher frequency and accuracy than other types.

3. METHOD

Participants

Ninety English-speaking learners of Chinese enrolled in Chinese language courses at a U.S. university participated in the study. Since language backgrounds (Mandarin or Chinese dialects) may have an impact on the results of the study, 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 to speak Chinese, were excluded. 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 when data were collected, 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.

In addition to CFL learners, 20 NSs also participated in the study. The NSs’ data were included because the obligatory contexts of 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 to which the ba-production of NNSs may be compared.

<table>
<thead>
<tr>
<th>Proficiency levels</th>
<th>N</th>
<th>Instructional hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elem.</td>
<td>30</td>
<td>140</td>
</tr>
<tr>
<td>Interm.</td>
<td>30</td>
<td>220</td>
</tr>
<tr>
<td>Adv.</td>
<td>30</td>
<td>330</td>
</tr>
<tr>
<td>NSs</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Instrument

The instrument was composed of 7 questions that were based on 6 pictures given to the participants. Each picture had one question except picture 2, which had two questions. (Appendix I). The instrument used in this study was based on a
previous study (Wen 2008). The participants were required to answer the questions in written form. One reason to use pictures is that since the ba-construction is often used in narratives (Liu & Wang, 2002; Liu, Pang & Gu, 2001), describing given pictures is likely to elicit the targeted construction. Furthermore, pictures usually provide a specific external context for referents. The direction given for the task was as follows: “Please answer the following questions in complete sentences based on the given pictures below. You may write in character or pinyin.”

Procedure
The 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 relatively unstructured writing task. They could spend as much time on the task as needed. None of the participants, including the NSs, knew the intent of the researcher, and all were given identical tasks.

After the writing of the participants 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 one or more than one error in form, meaning, and function. For example, (5) was rated incorrect. It has errors in verb-complement and absence of the aspectual marker.

(5) *他 把 花 搬 进 来 房间。
Tā bǎ huā bān jìn lái fāngjiān。
He moved the plant into the room.

4. RESULTS
Overall Production of the ba-construction
The participants at three proficiency levels wrote 603 clauses in response to the seven questions based on 6 pictures. Each participant produced 6.7 clauses on average. The average number of produced clauses is less 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, 27, and 54 ba-clauses respectively. The NSs of Chinese produced 108 clauses using the ba-construction, which is 80% of their total production of clauses. The percentage of ba-constructions produced by the participants is 8.4% at the elementary level, 13.4% at the intermediate level, and 27.1% at the advanced level (Table 2). As
anticipated, the percentage and accuracy of ba-constructions increase as the proficiency level of the participants progresses. It is obvious that the acquisition of the ba-construction is a challenging task for NNSs. The percentage of production of ba-sentences by the participants, even at the advanced level, is much lower than that of the NSs (27.1% and 80.0% respectively). It should be noted that even the NSs did not use the ba-construction uniformly.3

Table 2 Descriptive information on the production of the ba-construction

<table>
<thead>
<tr>
<th>Level</th>
<th>Subjects</th>
<th>Total</th>
<th>% of BA</th>
<th>% of Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elem.</td>
<td>30</td>
<td>17</td>
<td>8.4%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Intern.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>27</td>
<td>13.4%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Adv.</td>
<td>30</td>
<td>54</td>
<td>27.1%</td>
<td>50.0%</td>
</tr>
<tr>
<td>NSs</td>
<td>20</td>
<td>108</td>
<td>80.0%</td>
<td></td>
</tr>
</tbody>
</table>

The non-ba clauses produced by the participants can be categorized into two major classes, canonical SVO sentences and topic-comment sentences. Participants at the elementary and intermediate levels did not produce any topic-comment sentences. Participants at the advanced level and NSs produced a few topic-comment sentences.

A Chi-squared procedure was employed to analyze the difference in production of the ba-construction across the proficiency levels. The results of Chi-squared revealed that there was a significant difference among subjects at three proficiency levels ($\chi^2 = 95.5$, df = 5, $p = .000$). To answer the first research question (Do English-speaking learners of Chinese at different proficiency levels differ significantly in their overall production of the ba-construction?), the results have shown that there is a significant difference in the frequency of production of the ba-construction across proficiency levels.

Three Sentence Types
The participants, including NSs, produced a total of 206 ba-construction clauses when answering the questions. All the clauses can be categorized into three types based on the meaning and the structure.

Type I. Subj. + ba-NP (human) + V. dao + location (+VC).
Type II. Subj. + ba-NP + V. + directional VC.
Type III. Subj. + ba-NP + V. + directional VC. + location-locative particle + VC.
Although the three types were briefly introduced previously, it is necessary to make comparisons for more detailed analyses. The different types present a few distinctive features. First, the ba-NP in Type I is human and the location does not require a locative particle as displayed in (6). Type II has a short verbal complement that does not specify the location of the displacement of the ba-NP. Finally, the verbal complement of Type III is an extension of Type II, which not only elaborates the location of the displacement of the ba-NP, but also has a locative particle immediately following the place noun. In comparison with Type II, the place word in Type III is inserted into the complement by splitting the verbal complement into two segments, as illustrated in (7) and (8) respectively.

(6) 李先生 把李太太 送 到了 商店。
Mr. Li has given Mrs. Li a ride to the store.

(7) 王先生 正在 把 花儿 搬 进来。
Mr. Wang is moving the plant inside.

(8) 王先生 正在 把 花儿 搬 进 房间 里 来。
Mr. Wang is moving the plant inside the room.

Type I. Subj. + ba-NP(human) + V. dao + location
Participants produced only Type I sentences in response to two questions on pictures 1 and 5. The given questions are similar. (Questions 1 and 5 in English translation are: “Mrs. Li wants to go to JinYuan Store but she cannot drive. What did Mr. Li do just then?” “Li Ming must go to school. But he has no car. What did his father do just then?”) Type I has the lowest frequency of production among all the types. The percentages of production by the participants at the elementary, intermediate, and advanced levels are 3.4%, 5.1%, and 10.4% respectively. Table 3 presents the frequency of Type I production and the non-ba clauses produced on pictures 1 and 5.

Errors made by the participants include missing the temporal words such as yijing (already) and gangcai (just) or the particle le. There is a variation of Type I in
the production of 4 NSs, e.g. adding a directional verbal complement *lai* (to come) to signal the direction of the motion toward the speaker of the sentence, as demonstrated in (9).

Table 3. Frequency of Type I production on Pictures 1 & 5

<table>
<thead>
<tr>
<th>Level</th>
<th>Ba clauses</th>
<th></th>
<th>Non-ba clauses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.</td>
<td>%</td>
<td>N.</td>
<td>%</td>
</tr>
<tr>
<td>Elem.</td>
<td>2</td>
<td>3.4%</td>
<td>57</td>
<td>96.6%</td>
</tr>
<tr>
<td>Inter.</td>
<td>3</td>
<td>5.1%</td>
<td>56</td>
<td>94.9%</td>
</tr>
<tr>
<td>Adv.</td>
<td>6</td>
<td>10.4%</td>
<td>52</td>
<td>89.7%</td>
</tr>
<tr>
<td>NSs</td>
<td>23</td>
<td>57.5%</td>
<td>17</td>
<td>42.5%</td>
</tr>
</tbody>
</table>

Sentences without the ba-construction, such as (10), are acceptable. Sentences such as (11) may be unacceptable in a discourse where there are no contextual connections between the question and answer. Some participants produced (11) to describe the picture rather than to address the question based on the picture.

(9) 李明的爸爸刚把李明送到学校来了。（NSs）
Li Ming GEN dad just BA Li Ming drive to school DIR Part.
Li Ming’s father just drove Li Ming to school.

(10) 李明的爸爸送李明到（了）学校（来了）。（NNs and NSs）
Li Ming GEN dad drive Li Ming arrive (PFV) school (DIR Part)
Li Ming’s father just drove Li Ming to school.

(11) 李明跟爸爸说再见/告别。（NNs and NSs）
Li Ming to father say bye-bye / farewell
Li Ming is saying bye-bye to his father.

As mentioned previously, what distinguishes Type I from Types II and III is that the object in Type I is a human (Mr. Li or Li Ming). The accusability of a human is weaker than that of a non-human. The data seem to indicate that animacy of the object plays a role in the choice of using the ba-construction.
Comparisons of Type II and Type III
Type II. Subj. + ba-NP + V. + directional VC.
Type III. Subj. + ba-NP + V. + directional VC. + location-locative particle + VC.

Participants produced Type II and type III sentences when answering questions based on pictures 2, 3, 4 and 6. Type II, such as (7), does not specify where the ba-NP is displaced. It only states the direction, such as inside or outside, towards or away from, the speaker of the sentence. Since there is no location word in Type II, the locative particle such as 里 lǐ “in” is unnecessary.

The form of Type III, as in (8), is more complex than Type II because of the word order of the locative and its locative particle. Type III also has a few variations in regard to the direction of the motion toward the speaker (V. 进 jìn… 来 lái) or away from the speaker (V. 到 dào … 去 qù). The directional complement at the end of the sentence, 来 lái “to come” and 去 qù “to go”, is sometimes optional depending on the emphasis of the speaker and the linguistic environment in a discourse. Omission of certain complement components is discourse-sensitive. For instance, the sentence-final directional verb-complement 来 lài is omitted in the first clause of (13), but not in the second clause, the end of the discourse.

When given a choice, participants at the elementary and intermediate levels uniformly produced Type II ba-sentences as shown in Table 4. Native-like variations started to appear when CFL learners reached the advanced level. The NSs produced Type II and Type III sentences in approximately equal numbers. Table 4 presents the frequency of the production from Picture 2. The choice of using Type II or Type III occurred when answering two questions about Picture 2. The questions in English are “It is going to rain. Mr. and Mrs. Li are afraid that their plants and clothes are going to be wet. What is Mr. Li going to do? And Mrs. Li?” The answer can be (12) or (13).

(12) 李先生 正在 把 花 搬 进来， 李太太 要 把 衣服 拿 下来。
Li xiānshēng zhèngzài bǎ huā bān jìn lái, lǐ tài tài yào bā yīfu ná xiàlai.
Mr. Li in progress BA plant move in DIR, Mrs. Li will BA clothes take down DIR
Mr. Li is moving the plant inside and Mrs. Li will take the clothes down.

(13) 李先生正在把花搬进屋子里， 李太太要把衣服拿进屋子里来。
Li xiānshēng zhèngzài bǎ huā bān jìn wū zi lǐ, lǐ tài tài yào bā yīfu ná jìn wū zi lǐ lái.
Mr. Li in progress BA plant move in room inside, Mrs. Li will BA clothes take in room inside DIR.
Mr. Li is moving the plant inside the room and Mrs. Li will take the clothes inside the room.
Participants at the elementary and intermediate levels did produce Type III ba-sentences based on pictures 3, 4, and 6. Table 5 shows the total of Type II and Type III ba-clauses produced by the participants at three proficiency levels. As the proficiency level increases, the frequency of Type III also increases (4.2% with the elementary, 9.9% with the intermediate, and 24.1% with the advanced participants). Table 5 shows that the participants exhibit a steady increase in production of Type II and Type III sentences towards that of the NSs.

By virtue of the shorter and simpler form, the accuracy level of Type II sentences is higher than that of Type III: 70.8% versus 33.4% on average with the participants at all proficiency levels. Although the accuracy levels for both Type II and Type III increase with the proficiency levels, only a 41.1% mean accuracy rate was observed when producing Type III whereas a 71.4% mean accuracy when producing Type II sentences by the participants at the advanced level (Table 5). The most common error in Type II was the absence of temporal words or the perfective aspect particle le. Similar errors were also demonstrated in the data of Du’s study (2004). In addition to the absence of the particle le or temporal words, errors in Type III sentences occur largely in verbal complements that specify the effects of the verb on the ba-NP. These errors can be classified into four categories: missing the sentence-final directional verb such as 来 lái “come” or 去 qù “go” in (14); misuse or absence of the post-verbal directional complement such as 到 dào “to”, 进 jìn
“to”, or 在 zài “in/at”, as an example in (15); missing the locative particle such as 里 lǐ “in” as in (16); and using incorrect word order for the complement as in (17). There is often more than one error in each sentence.

(14) *安娜 把 照片 送 到 英国。 (Interm.13, Adv.11)
Anna bǎ zhàopiàn sòng dào yīngguó.
Anna is sending her pictures to England.

(15) *安娜 把 长城 的 照片 寄 在 英国。 (Elem.12)
Annà bǎ chángchéng de zhàopiàn jì zài yīngguó.
Anna is sending her pictures of the Great Wall to England.

(16) *工人 把 小面包 扔 在河 (了)。 (Interm.11, Adv. 29)
Gōngrén bǎ xiǎo miànbāo rēng zài hé (le)。
Workers are dumping small buns into the river.

(17) *工人 把 床 从 楼上 到 楼下 搬 下来 了。 (Interm.7)
Gōngrén bǎ chuáng cóng lóu shàng dào lóuxià bān xiálai le.
Workers are moving the bed from upstairs to downstairs.

Incomplete Complements

The production across the three proficiency levels frequently contains an incomplete complement in the post-locative position as demonstrated in (14, 16, 18a-c, 19). The missing component of the complement can be a locative particle immediately after the locative (e.g. 里 lǐ in 18a-c), or a directional word (19). The meaning of these ba-sentences may not be seriously hindered. Therefore, (19) is marked not as wrong but questionable when comparing to language use variations among NSs. Another frequently missed component is the particle le or temporal words. The rates of absence were 52.9%, 48.2% and 51.9% for participants at the elementary, intermediate, and advanced levels respectively. Participants at the intermediate level missed fewer le or temporal words due to the restructuring. As reported in the previous section, missing elements of the verbal complement occurred primarily in Type III sentences.
(18a) *安娜把她长城的照片放在信封。 (Interm.10, 12)
Annà bǎ tā chángchéng de zhàopiàn fàng zài xīnfēng.
Anna is placing her Great Wall pictures at /into the envelope.

(18b) *他/工人把小面包扔在河。(Elem.26, Adv. 29)
Tā / gōngrén bǎ xiǎo miànbāo rēng zài hé ．
He/The worker has dumped the bun to the river.

(18c) *工人把小面包扔在河了。 (Interm.11)
Gōngrén bǎ xiǎo miànbāo rēng zài hé (le) ．
The worker has dumped the bun to the river.

(19) ?她/安娜把（她的）照片寄在/到/去英国。 (Elem.12, Adv. 1, 2)
Tā / ānnà bǎ (tāde) zhàopiān jì zài/ dào /qù yīngguó ．
She/Anna has mailed her pictures to England.

In comparison, the production of NSs also showed omissions of the locative particle after the locative and the particle le. Their omissions, however, occurred early in a discourse, rarely in the last sentence of the discourse (20a-c). The missing elements such as the locative or the sentence final particle le sometimes function as a closure at the discourse level, to indicate the end of the statement as suggested by Li & Thompson (1989). The frequency of missing a component of the complement at the post-locative position is relatively high across the proficiency levels, as demonstrated in Table 6.

(20a) 王先生正把晒在外面的衣服拿进屋, 也要把花搬进房间里。
Wáng xiānshēng zhèng bǎ shài zài wài biān de yīfū ná jin wū , yě yào bǎ huā bān jìn fángjiān lǐ ．
Mr. Wang is taking the clothes outside to inside the room, and will take the plant inside the room.

(20b) 王先生正在把花搬进屋里, 然后他会把衣服收回来。
Wáng xiānshēng zhèngzài bǎ huā bān jìn wū lǐ , ránhòu tā huì bǎ yīfū shōu huí lái ．
Mr. Wang is taking the plant inside the room, and then he will take the clothes down.

(20c) 王先生正在把花搬到屋里，他还会把衣服收进屋里来。

Mr. Wang is moving the plant to the room and he will also take the clothes inside the room.

Table 6. Frequency of incomplete complements

<table>
<thead>
<tr>
<th>Level</th>
<th>Missing directional and/or locative Particles</th>
<th>Missing the particle le or temporal words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elem.</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Interm.</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Adv.</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>NSs.</td>
<td>18</td>
<td>3</td>
</tr>
</tbody>
</table>

Based on the comparisons and analyses, we can now answer the second research question “Is one type of ba-construction being acquired earlier than others?” The production data have shown that the ba-construction that has a simple and transparent verb-complement, e.g., with no requirements of location and locative words or directional words, is acquired first. CFL learners at the elementary and intermediate levels have shown a clear preference and a relatively high level of accuracy for the ba-construction that has concrete one-to-one form-meaning mapping in the verbal complement as in the Type II ba-construction. Such results suggest that complexity of the complement plays a significant role in relation to the acquisition of the ba-construction. What makes the acquisition difficult may not be so much the structure of the ba-construction itself but the complexity of the verbal complement that elaborates results of the action as demonstrated in the Type III ba-construction.

Misplacement of the Locative

The present study focuses on one subtype of ba-construction describing a process of spatial displacement of the definite object. Participants at all levels indeed produced ba-sentences with a place word to indicate the displacement. Nevertheless, participants at lower proficiency levels put the place word before the verb (21a-d). Although their production makes up a small percentage of the total data, it should be addressed.
Sentences (21a-d) present a typical word order in SVO sentences where the locative usually follows the subject and precedes the verb to specify where the action takes place. The ba-construction, however, requires the place word to be post-verbal. The misplacement of the locative suggests that learners over-generalized the old form (the locative precedes the verb in the SVO order) to the new function of the ba-construction. It also suggests that learners might not have conceptualized the core function of the ba-construction despite their ability to use the basic form in their interlanguage. There may be a misconnection between form and function with correct function but incorrect form.

(21a) *王先生把花房子里搬，他也把衣服拿下来了。(Interm. 7)
Wáng xiānsheng bā huā fángzǐ lǐ bān , tā yě bā yīfū ná xiàlái le.
Mr. Wang BA plant room inside move, he also BA clothes take down Part.
Mr. Wang moved the plant inside the room and took the clothes down.

(21b) *工人把床从楼上到楼下搬(下来了)。(Elem.26, Interm.7)
Gōngrén bā chuáng cóng lóu shàng dào lóuxià bān ( xialai liāo/liāo Worker BA bed from upstairs to downstairs move (down come) Part.
Workers have moved the bed down from the upstairs to the downstairs.

(21c) *工人正在把小面包河里扔(呢)。(Elem.15, Interm. 7)
Gōngrén zhèngzài bā xiǎo miànbāo hé lǐ rēng (ne).
The worker is throwing buns into the river.

(21d) *安娜把长城的照片在信封里放。(Elem. 26)
Annà bā chángchéng de zhàopiàn zài xìnfiēng lǐ fāng ।
Anna BA Great Wall Nom picture in envelop inside put
Anna is placing the pictures of the Great Wall into the envelope.

5. DISCUSSION

Syntactic and Semantic Constraints

There are syntactic and semantic constraints on the production of the ba-construction by CFL learners. The first evidence is in the production of the ba-NP. Syntactically, the objects (i.e., the ba-NP in this study) produced by the participants at the three levels all immediately follow the marker ba and precede the verb. Semantically, they are definite and specific in the context. Furthermore, the ba-NPs produced are mostly nonhuman and inanimate. When the ba-NP refers to humans,
production of the ba-construction becomes less frequent (Table 3). Therefore, the semantic constraint on the ba-NP seems to play a role in relation to the accusativity of the object and the choice of using the ba-construction.

Second, in the course of acquisition of the ba-construction, CFL learners seem to gradually realize that the form of the ba-construction is not just OV and S. ba-NP V. They must have learned that, syntactically, the form of the ba-construction is more like S. ba-NP V. + Complement. According to the “noticing” theory (e.g., Fotos, 1993; Schmidt, 1990, 1993), when the form is more salient, it is easier for learners to notice. This is evidenced by the fact that there are only a few ba-sentences (as illustrated in Sentences 21a-d) that end with a bare verb. The majority of the ba-sentences produced by participants at all levels had the OV order plus a verbal complement despite the fact that there are many errors in the complement. This suggests that at the semantic level, learners may have generally interpreted the function of the ba-construction with an emphasis on the effects of the verb on the ba-NP.

Complexity of the form and meaning

The complexity of the form plays a critical role in the production of the ba-construction by CFL learners. Ellis (2002) defined “formal complexity” as “the extent to which the structure involves just a single or many elements.” (p. 28). Chaudron and Parker (1990) proposed that marked forms, with “surface structure complexity”, are acquired later than structurally unmarked forms. The results of the present study and others (e.g. Cui, 2005; Du, 2004) have shown that one of the major difficulties subsists in the verbal complement rather than the ba-structure itself. The verbal complement can be as “simple” as one word (e.g., a particle le) or a directional verb phrase such as 进来 jīnlái “to enter over here”; and be as complex as a combination of a directional verb, a locative, a locative particle, and a particle le such as 进屋子里来了 jìn wūzi lǐ lái le “entered the room over here”. Feng (2001) conducted a careful study on the inter-relationship between syntax and prosody regarding the bare-verb in the ba-construction. He concluded that the bare-verb phrase needs to be disyllabic and strong enough to hold a prosodically strong position at the lexical level such as 打倒 dàdǎo “to overthrow”; or to be disyllabic at the phrase level such as 做好 zuòhào, “to do well”. These bare verbs are verb compounds with distinctive prosodic stress, perceptually concrete meaning, and relatively simple structure. This type of ba-construction, similar to the Type II sentences in the present study, may be acquired earlier than Type III, which has a much more complex verbal complement.

CFL learners prefer not only the simpler form, but also the more concrete meaning. When the form is less complex, such as a directional VP 进来 jīnlái “to
enter over here”, the meaning is correspondingly direct: “enter to the direction of the speaker”. When it has a number of linguistic components such as 进屋子 里 来了 jìn wūzi lǐ lái le “entered the room over here”, learners must go through choices of words that present slight differences in meaning, e.g. 进 jìn can be replaced by 到 dào, and 里 lǐ or 来 lái can be optional depending on the context. Indeed, these variations appeared in the production of the NSs as displayed in (20a-c) and Table 6. Learners must reorganize the meaning of each component of a verbal complement, some of which express notions that are hard to infer from the input, and select words to map the underlying semantics onto the surface forms.

Although the verbal complement construction is commonly used in Chinese, it is not easy for CFL learners to acquire. Wen (2006) investigated the acquisition sequence of three constructions: the verbal complement, non-interrogative question words, and the ba-construction. It was discovered that the verbal complement, even as an independent construction by itself, poses challenges to learners especially when the construction has a post-verbal NP. The verbal complement increases the complexity of the ba-construction and thus the difficulty of the acquisition task.

Conceptualization of the Function
The data have suggested that participants seem to be in the process of conceptualizing the function of the ba-construction. First, the low likelihood of using the ba-construction when it has a human object implies that learners interpret the ba-construction with a notion of the strong accusative function. Human objects are less accusative than non-human objects, therefore, Type I ba-sentences were produced the least. This also explains why the majority of the ba-sentences did not end with a bare verb. To a certain extent, learners may have conceptualized the general function of the ba-construction.

Second, the participants may not be clearly aware of that the ba-construction generally requires a detailed verbal complement to specify the thorough affectedness of the ba-NP. The ba-construction emphasizes the function of “what has happened to the object”, i.e. how and to what extent the ba-NP is handled. The ability to produce the ba-NP and the OV word order does not mean that learners have clearly conceptualized the function of the ba-construction. As the study of Bardovi-Harlig (1995) suggests, learners in a formal instructional setting frequently appear to be stronger in form than in meaning or use. The ba-clauses that end with a bare verb suggest that although the form is present and the object is fronted, the meaning and the pragmatic function are missing. Numerous errors in the verbal complement suggest that the focus of the learners, at least at the elementary level, is on the conversion from VO to OV order. They might consider the use of the ba-
construction as a syntactic option rather than a pragmatic obligation. This may explain why the place words were misplaced before the verb as in the SVO word order (21a-d). As the proficiency level progresses, the conceptualization of the ba-construction seems to be more focused on the affectedness of the ba-NP, and thus errors in the verbal complement decrease.

Third, even when learners have conceptualized the function of the ba-construction, to produce the ba-construction correctly may still be an arduous job. This is not only because the construction is formally complex, but also because the meaning realized by the structure is often not clearly transparent. The usages of the particle *le* are one example. It functions as a perfective aspect marker or a sentence final particle, or both, in the same form “*le*”. It is highly challenging to CFL learners (Du, 2004, Teng, 1999; Wen, 1995, 1997). Furthermore, the optionality of certain elements, such as the locative particle *lǐ* “in”, “inside” and the directional word *lái, qù* “come”, “go” to indicate if the motion is towards the speaker, make the form-meaning mapping not directly clear. They are sometimes optional such as in (20a), and at other times redundant such as the locative particle *lǐ* in *rēng jìn dào hé lǐ “to throw into / to river inside*”. The form *lǐ* is not semantically necessary because its meaning is already embedded in the phrase. 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 of the form-meaning mapping that causes difficulty in learning.

Finally, the acquisition of functions may occur at the discourse level. There are variations in the use of the locative particle and the directional word among the NS participants. Take, for example, the production data from picture 2. The variations include the choice between directional words such as 进 jìn “enter” and 到 dào “to”, omission of the locative particle *lǐ* “in”, and the directional word 米 lái or 去 qù “come” or “go”, as demonstrated in (20a-c). There is, however, a general consistency in their omission. It is discourse-sensitive and appears in the first clause of the discourse. In comparison, the missing elements of the verb-complements produced by the NNSs appear rather random. It is possible that the production of the participants might be influenced by the input from native speakers’ variations. The production data of NNS learners indeed seem to exhibit a general approximation to that of NSs, as demonstrated in Tables 2-6. It may also be possible that NNS learners considered that the meaning was already complete without the locative particle or the *le* particle. NNS learners need to distinguish in what discourse environments certain components of the verbal complement are optional. They must “notice” the variations in the discourse where certain components of the verbal complement may be omitted legally.
6. CONCLUSION

Acquisition of the ba-construction is an arduous task for CFL learners. Syntactically, the ba-construction is structurally marked not only with the noncanonical OV word order but also a post-verb complement. Semantically, the ba-construction emphasizes the effect of the verb on the accusative object, a notion that is comparatively abstract. Prosodically, the verbal complement can be unnecessary if the verb is disyllabic or not a nuclear stress assigner. Pragmatically, the participants seem to have difficulties in determining when to use the construction.

The ba-constructions produced in this study have three characteristics, suggesting the processes in which participants are engaged in building up their interlanguage. First, learners are in the process of conceptualizing the function of the ba-construction as shown by their generally correct word order and semantic organizations on one hand, and misplacing or missing components of the verbal complement on the other. Second, when given a choice, learners at the lower levels uniformly used simpler structures of the verbal complement that present more transparent form-meaning mapping. Native-like structural variations only started to appear at the advanced level. Third, pragmatics and discourse also played a role, which may partially explain why there are verbal complement errors made by the learners. The results also suggest that complex form and meaning of the verbal complement pose great challenges to learning in the ba-construction, whereas the structure of the ba-construction itself seems to be acquired earlier.

APPENDIX

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

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

1. Mrs. Li wants to go to JinYuan Store but she cannot drive. What did Mr. Li do just then?
2. It is going to rain. Ms. and Mrs. Li are afraid that their plants and clothes are going to be wet. What is Mr. Li going to do? and Mrs. Li?
3. Anna went to the Great Wall and took lots of pictures. What is Anna doing?
4. Mr. Li’s bed is upstairs. He wants it to be downstairs. What did the workers just do?
5. Li Ming must go to school. But he has no car. What did his father do just then?
6. The worker does not like small buns. What did he just do?
1. 李太太想去金源商店可是她不会开车。李先生刚刚做了什么了？
2. 要下雨了。李先生李太太怕衣服和花淋湿了。李先生要干什么呢？李太太呢？
3. 安娜去了长城，照了很多相。她正在干什么呢？
4. 李先生的床在床上。他希望他的床在楼下。工人们刚刚做了什么了？
5. 李明得去学校，可是他没有车。他的爸爸刚刚做了什么了？
6. 这个工人不喜欢面包。他刚刚做了什么了？

NOTES

1. 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 if it is preceded by some adverb (Li & Thompson, 1989), or is disyllabic to satisfy the prosodical constraints (Feng, 2001).

2. Explanations for the complement omission can be varied. Feng (2001) posited a prosodic explanation for the complement omission. The verb of the ba-construction is constrained by prosody, e.g., the verb syllable and nuclear stress. Since “他把花儿搬进房间” in (2b) is not the main clause of the sentence, the nuclear stress is not on the verb of the first clause. Consequently, the component of the complement in the first clause of (2b) can be omitted.

3. There is a variation in the choice of using the ba-construction between NSs who speak a northern dialect and those who speak a southern dialect. The variation among the NSs is not the focus of this study; it may be of interest to future studies.

4. The frequencies presented in the tables are the total production of the specified items for the entire task performed by all participants divided by the total number of sentences produced.

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REFERENCES


美国学生习得把字句的调查报告

温晓虹
休士顿大学

提要
本文调查了英语为母语的汉语学习者对把字句的习得过程。语料来自汉语水平为初、中、高三个年级的学生对指定的图画所做的书面描述。尽管把字句较早地出现于学生的中介语中（如在低年级就出现了把字句），学生所造的把字句的频率远远低于操本族语的中国人。研究结果表明三点。第一，把字句的习得过程包括对其语用功能进行认识与概念化的过程，学习者一方面能够造出语序和语义正确的句式，另一方面却出现大量的动补成分丢失的错误。第二，在可以选择的条件下，低年级的学生一致采用了比较简单的，在语序和语义之间有较清晰的一对一关系的补语表达方式，不同形式的运用只是在语言水平的高级阶段才出现。第三，语用和篇章也会直接影响到把字句的习得，在所收集的数据中，不少偏误片说明了这一点。

关键词
汉语习得，汉语语法习得，把字句，动补结构习得，语言形式与意义的连接