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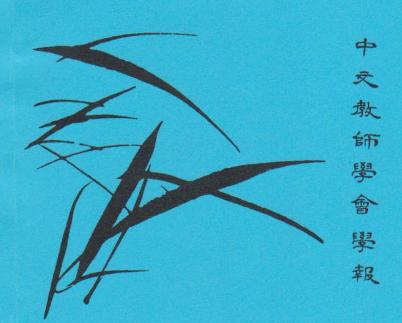
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Acquisition Sequence of Three Constructions: An Analysis of the Interlanguage of learners of Chinese as a Foreign Language[1]

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Abstract: The present study investigates the acquisition sequence of three Chinese constructions that vary from SVO to SOV word order. The grammatical elements include the verb complement, non-interrogative question words and the *ba* construction. The participants were fifty CFL students at four proficiency levels in a nine-week summer intensive program at an American college. The speech data, collected through interviews in the form of spontaneous conversation, were transcribed, compared, and analyzed. The results of the study show that certain linguistic features are more perceivable and learnable than others. Learners prefer the SVO word order and produce it at the earlier stage of their language acquisition. In addition, lexical, semantic, and pragmatic factors also contribute to the processes of acquisition. The constructions that present a high level of linguistic complexity and language-specific features are acquired at the late stage of acquisition.

提要：本研究探索学习中文的美国大学生习得不同语序（主谓宾）的情况。着重考察了三个不同的语法现象，述补结构，疑问代词非疑问句，"把"字句。这三个结构的一个特点是从主谓宾语序（述补结构）到非主谓宾语序。研究结果说明学生首先习得了述补结构，然后是疑问代词非疑问句，"把"字句在二年级时才开始在其中介语中出现。此外，如果述补结构的动词没有宾语时，低年级的学生很快就能掌握。除了词序与句法外，语义、功能、和认知概念方面的复杂性与灵活性也影响着学习者对这三个句式的习得过程。学生习得这三个语法结构的顺序意味着对语序的习得有一个过程，宾语提前的句式，及在语言与认知方面不太直观的句式结构需要一定的时间与语言经验的积累。

It is traditionally believed that in a formal instructional setting, when students are presented with clear language instruction and when they exert the necessary effort in learning, they will successfully acquire the material. If a student fails to acquire grammatical structures of a language, it would be most likely that either the instructor did not present the material effectively, or the student did not learn diligently.

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Research on second language acquisition has challenged this viewpoint. (E.g. Clahsen, 1984, 1987; Duff, 1990; Pienemann 1987, 1989; Bardovi-Harlig, 1995; VanPatten & Sanz, 1995). Language acquisition is not so much influenced by instructional presentation, but is critically affected by mental systems and the readiness of the learner. Second language (L2) learners process language input in their own ways that are frequently inconsistent with the intent of the teacher or textbook. Furthermore, learners are not capable of acquiring structures that are far beyond their current stage of interlanguage development. The process of language acquisition may be influenced by mental systems that operate on linguistic structures and govern certain vital aspects of learning processes in addition to other internal and external learning variables.

Clahsen and his associates (1984, 1987) state that learners build up their own grammar, and pass general acquisitional stages when learning a L2. Clahsen (1984) and Pienemann (1987) assessed interlanguage development through the examination of word orders and sentence constructions. They took the "integrativist" approach and conducted broad studies on acquisition of German word order and negation by Spanish- and Portuguese-speakers. The integrativist model, proposed by Fodor, Bever, and Garrett (1974), hypothesizes that the underlying structure is seen as an inter-level between the surface forms and the abstract formulas of "Mentalese". The grammatical processor functions as a coordinator that maps the underlying configurations onto surface forms. In addition to the grammatical processor, the model has a "general problem solver" (GPS) which allows direct mapping between the underlying structure and surface form. In this way, the GPS bypasses the grammatical processor. Linguistic structures and rules that can be processed by the strategies of the GPS should be easy in language use and are required at the early stage of language acquisition. Based on the integrativist model, Clahsen posits that speech comprehension and speech production are seen as mental activities that involve actively mapping internal structures onto external sequences.

The results of Clahsen's cross-sectional and longitudinal studies show that the fundamental aspects of the observed sequences can be explained by certain constraints inherent in the mental system with which linguistic structures are perceived, processed, and produced. Certain linguistic structures are more perceivable and memorable than others. The structures that require a high degree of processing capacity will be acquired late and the ones that are most consistent with the learner's language processing strategies will be acquired early. He drew

on three language acquisition process strategies to explain the order of acquisition of a number of word order and negative placement rules by learners in formal and informal instructional settings in Germany.

The first is Canonical Order Strategy (COS). The canonical word order refers to the Subject-Verb-Object (SVO) order. Second language learners, regardless of their first languages, start to produce word order in the SVO form. Processing complexity results from the reordering and reconstructing of various levels of underlying linguistic units. Language learners prefer the SVO order at the beginning stage because the mapping between the underlying process and the surface form is straightforward. There is no reordering of underlying materials. Slobin (1985) reports that the interruption of basic linguistic units is avoided in the early stages of first language (L1) acquisition. The results of studies (Gass, 1987; Wen 1995) on sentence comprehension strategies suggest that despite the typological differences of learners' L1, foreign language learners prefer a canonical SVO and agent-verb-patient word sequence when comprehending sentences.

The second is Initialization / Finalization Strategies (IFS). In perception and memorization, the first and the final positions of a stimulus are more salient than the stimuli-internal position. In sentence processing, the constituent in the initial or final position is easier to memorize than the sentence-internal position. In studies of first language acquisition, Slobin (1985) proposes that children "pay attention to the last syllable of an extracted speech unit. Store it separately and also in relation to the unit which it occurs," children also "pay attention to the first syllable of an extracted speech unit. Store it separately and also in relation to the unit with which it occurs" (p.1166). The third is Subordinate Clause Strategy (SCS). Subordinate clauses are processed differently from main clauses. Word order in subordinate clauses is more restrictive than that in main clauses.

Pienemann (1987, 1989) also investigated the acquisition of German word order. He was interested in the question of the teachability of language, i.e. whether the process of natural L2 acquisition can be substantially influenced by formal instruction. Pienemann (1987) studied four acquisition processes: 1) canonical word order, 2) adverb fronting, 3) particle shift; and 4) subject-verb inversion. The acquisitional criterion of the four rules was defined not as the mastery of the forms but as "the first systematic use of a structure" (p. 147). The results of the study revealed that formal instruction had an influence on the acquisition of certain rules with certain students, but not with others. Furthermore, the unequal effects of the instruction on the learners were due to learner-internal fac-

tors, as he stated "the most apparent internal difference between our informants is the acquisitional stage of their L2's" (p. 153). Pienemann concluded that a given linguistic structure cannot be added through instruction to the learner's interlanguage at any desired point of time. Rather, the influence of formal instruction is constrained in a certain way that is closely related to the mental processing capacity. For instance, subject-verb inversion (Rule 4) cannot be learned without prior acquisition of the particle (Rule 3). Formal instruction can have an influence with respect to the speed of acquisition and the frequency of rule application only on the condition that the learner's interlanguage is close to the point when this structure is acquired in a natural sequence.

When grammatical structures should be taught seems to have a pedagogical application in classroom instruction. From a different angle, Bardovi-Harlig (1995) examined the interaction of pedagogy and natural sequences in the acquisition of temporal, tenses, and aspects. First, she compared the acquisition of tutored and untutored learners. She summarized that tutored and untutored learners followed the same early stages of temporal expression. Tutored learners seemed to surpass untutored learners in formal accuracy, but the distribution of past tense morphology across aspectual categories was the same between the two groups. Therefore, it appeared that instruction did not change the basic learning stages of form-meaning associations. In a related study, Bardovi-Harlig investigated the effects of instruction intervention. Her subjects were high beginners and intermediates learning English in an intensive program in the USA. The subjects were given a pretest, a posttest immediately following the instruction period, and a retention test four weekdays after the instruction. The results of her study revealed that the effect of instruction is predictable on the basis of the stage of acquisition. Learners benefit from instruction only when they are at the stage at which they would have naturally acquired the rule. The key to the effect of instruction seems to be the timing of instruction relative to interlanguage development.

Few studies have been conducted on the acquisition of Chinese word order as a foreign language (CFL) in formal instructional settings. Along the same line, the present study will investigate the acquisition sequence of three Chinese constructions that vary from SVO to SOV word order: the verb complement, question words as indefinite pronouns functioning as the object, and the *ba* sentence. (Sentences 1-3 respectively).

1. 我　弟弟　下　象棋　下　得　很好。

My brother play chess play Part. Very well.

My brother plays chess very well.

2. 我什么　运动　都　喜欢。

I whatever sports all like.

I like all sports, especially volleyball.

3. 小孩子　把　书　都　整理　好了。

Children Part. books all tidy well Part.

Children have tidied up all the books.

In addition to the syntactic features, the three constructions demonstrate shared and varied semantic and pragmatic properties. Both the verb complement and the *ba* construction emphasize the result of the verb. Both the construction of non-interrogative question words and the *ba* construction are used for pragmatic functions to achieve different communicative goals. The former is used to emphasize the inclusiveness and the latter is used to show the affectedness of the object. The object in the *ba* construction not only precedes the verb, but also has to be definite or generic, known to both speaker and listener. Similarly the object in the non-interrogative question word construction also precedes the verb to convey a strong notion of totality. In order to capture the interactions of word order, meaning, and function, compare the acquisition sequence of three constructions, and be consistent with the previous studies (Clahsen 1984, 1987; Pienemann 1987, 1989), an Integrativist approach is employed. The research questions are 1) whether there is a sequence in acquiring the three constructions; 2) if there is one, what is it?

Target Constructions

Verb complement

A verb complement is a word or a phrase that immediately follows the verb to indicate the result, manner, degree, and quantity of the verb. A grammar particle such as "*de*" or "*le*" follows the verb to constitute the complement structure. If a verb does not have an object, the word order is SVComp. If a verb has an object, the word order varies, either the object is fronted to precede the verb (SOVComp.) or the verb is duplicated (SVOVComp.) (Sentence 4) so that both the object and the complement are immediately post-verbal.

When a verb is a disyllabic compound, it can be in the form of verb or verb+object. One needs to be able to distinguish between these cases so that the operation of SVOVComp can be performed. The distinction between the forms of verb and verb+object is frequently not transparent. The form does not help since they are both disyllabic compounds. Semantic cues frequently do not provide sufficient information. For example, the compounds *yóuyǒng* (to swim), *jiéhūn* (to marry), and *shuìjiào* (to sleep) are in the form of verb + object whereas *xiūxi* (to rest) is not. The VO form of disyllabic verb compounds, however, bears distinctive features, i.e. the object ("*-yǒng, -hūn, -jiào*") is not referential and not the directly affected theme.

4. 我们都 学得 很 努力.
   We all study Part. very diligently.
   We all study diligently.

5. 我 学 中文 学了 一年了.
   I study Chinese study Asp. one year Part.
   I have studied Chinese for one year.

Question words as indefinite pronouns

Question words such as *shéi* (who), *shénme* (what), and *nǎr* (where) function as indefinite pronouns denoting such notions of absoluteness and totality as "whoever", "whatever", "wherever", "anyone", "anything" (Li and Thompson, 1981). The nominal question word is used together with the adverb *dōu* (all) to convey the meaning of indefiniteness. The expressions "*shénme zuòyè dōu*" in sentence 6 and "*nǎr dōu*" in sentence 7 stand for nonspecific referents whereas "*dōu*" is the quantifier "all" to indicate the inclusiveness of the NP. The question words in this construction lose their original lexical meaning, i.e. the question words are not seeking answers (Sentences 6-7).

6. 今天 我什么 作业 都 没 做 呢.
   Today, I what homework all not do Part.
   I have not done any homework yet today.

7. 我 哪儿 都 没去 过.
   I where all not go Asp.
   I have not been anywhere yet.

The *Ba* construction

The object in the *ba* construction precedes the verb and immediately follows the grammatical particle *ba* (Sentence 8). The object is definite or generic, and its affectedness by the verb is specified by the verb complement at the end of the sentence. In a context when the *ba* construction is used, the referent of the *ba* NP is known to both the speaker and the listener.

The *ba* construction depends on two conditions, a strong sense of disposability of the VP and the definiteness of the NP. The more the message concerns the affectedness of the object, the more likely the *ba* construction is used. For example, the same idea can be expressed by Sentences 8a and 8b when the sense of affectedness of the object is not so strong. Sentence 9, however, is canonically expressed in the *ba* construction because of the strong sense of disposability of the VP to the NP, i.e. the emphasis of the result of the action to the object. The NP in the *ba* construction is usually the direct object playing the thematic role of patient. The VP requires a complement to show the complete affectedness of the object. The word order of the construction is Subject + Ba + NP+ Verb + Complement.

8. a. 我买了   那   辆   车.
      I buy Particle that Classifier car.
        I bought that car.
8. b. 我把 那   辆   车 买了.
      I BA that Classifier car buy Particle.
        I bought that car.
9. 别 把 东西   扔进   水里.
    Not BA things throw to water in.
    Don't dump things into the water.

The three Chinese constructions, the verb complement, question words as indefinite pronouns functioning as the object, and the *ba* construction are selected because of their intrinsic syntactic, semantic, and pragmatic properties. The three constructions vary from the SVO to SOV word order. Furthermore, the functions of the constructions overlap and differ among themselves. Both the verb complement structure and the *ba* construction emphasize the result of the verb; the latter, however, focuses on the affectedness of the object due to the result of the verb. The construction of question words as indefinite pronouns is used when the speaker wants to emphasize the notion of totality.

Present Study

Fifty English-speaking students who enrolled in a nine-week summer intensive Chinese program at a college in the USA participated in this study. Of the fifty, fifteen each were from elementary and intermediate levels and 10 students each were from the advanced I and II levels. Students had been taking 4.5 hours of formal classes and spending a minimum of 5 hours on their homework every day. The participants were placed into different instructional levels according to their scores from an Oral Proficiency Interview (OPI) based on ratings from two Chinese instructors, and a written placement test, a standardized test to measure the proficiency level of students. The same test is used in this intensive summer program. The placement test assesses participants' knowledge and skills of grammar, vocabulary, reading, writing, and language use. The OPI takes the oral interview form. Its appraisal factors at each level include vocabulary, grammar, pronunciation, fluency, linguistic tasks, and socio-linguistic/cultural awareness. Students who received an OPI score of 0 and 0+ were placed in the elementary level, those who received 1 (from 1- to 1+ "survival proficiency") were placed in the intermediate level, those who received 2 (from 2- to 2+ "limited working proficiency") were in the advanced I level, and those who received 3 (from 3- to 3 "general professional proficiency") were in the advanced II level. Table 1 presents the information on the participants.

Table 1:   Participants' information

Proficiency levels	Elementary	Intermediate	Advanced I	Advanced II
Number of students	15	15	10	10
Average age	21	22	24	26

At the time when the data were collected, all participants had been studying Chinese in an intensive summer program for more than 7 weeks in addition to their previous Chinese instruction. The participants at the elementary level were beginners who did not have any Chinese instructions before. They learned the three structures from their curriculum during the period of more than 7 weeks in this intensive summer program. The participants at the intermediate and advanced levels learned the three structures in their first-year curriculum and reviewed the structures in the curricula subsequently of all levels.

Procedure and coding

Over a period of ten days, all participants were individually interviewed. The interview took the form of informal conversation, consisting of two tasks that were identical for all participants. The first task was to answer questions from the researcher in a conversational fashion. The topics included travel, sport, entertainment, school life, academic studies, etc. (Appendix I). The second task was picture-based (Appendix II). Four pictures were presented to each participant. The participants were asked to describe the given pictures and answer questions about the pictures. All the questions in both tasks are intended to elicit verb complements, question words as the object in non-interrogatory sentences, the *ba* construction, and other constructions. The scope of the present paper, however, is restricted to the three constructions only. The data other than the three constructions are not presented in the present study.

All interviews were recorded, and the speech data were subsequently transcribed. The manuscripts were proofread against the tape before coding for analysis. Two steps, "identification" and "judgment of accuracy", were taken in coding the data. First, all the clauses that contain the three linguistic features (verb complements, non-interrogative question words, and the *ba* construction) were identified. Two categories, accurate and inaccurate, were assigned in examining the produced clauses. Accurate clauses are those deemed acceptable both syntactically and semantically, and inaccurate clauses are those found unacceptable either syntactically, semantically, or both. The judgment of accuracy depends on each produced clause. In other words, there is not a predetermined standard. For example, the clause "别把 NP 扔到/在水/河里！" is rated as accurate. Clauses such as "别把 NP 扔." and "别把 NP 扔掉在水/河" are rated inaccurate. Clauses such as "别扔 NP 到/在水/河里" are considered as avoidance of the *ba* construction because the NP was very much affected and disposed by the verb; whereas "（这些）NP，别扔到/在水/河里." is not considered as avoidance but is not included in the analysis because it does not present any of the three linguistic features examined in this study.

Results

The participants produced a total of 267 clauses that included verb complements, question words as indefinite pronouns, and *ba* sentences. The boundaries between clauses were determined by meaning and intonation of the spoken data. Table 2 presents a summary of the distribution between the correct productions of

the constructions against the total number of the constructions produced by all the participants.

The data show that two factors affect the accuracy of the three constructions. One is the proficiency level of the participants, as expected. The accuracy level of the three constructions became steadily higher as their level of proficiency increased. The other is the complexity of the linguistic structures, in which word order plays an important role. Consistent with the findings of previous studies on different L2 acquisition (e.g. Clahsen 1984, 1987; Pienemann 1987, 1989), the word order of SVO is preferred by the participants and emerged at the earlier stages of acquisition. In addition, the transparency of connections between form and meaning, the change of lexical meanings, the pragmatic function, and features specific to the target language also affect the accuracy of the production, all of which will be discussed in the following sections.

Table 2:   Accurate production (% and numerical) of the three constructions

Structure	V-Compl.		QW+dōu/yě		Ba Constr.	
Levels	N/total	%	N /total	%	N/total	%
Elem.	33/51	64.7	9/19	47.4	0/0	0
Interm.	41/52	78.8	9/14	64.3	6/14	42.8
Adv. I	30/34	88.2	11/14	78.5	6/11	54.5
Adv. II	33/35	94.2	9/10	90	9/13	69.2
Total	137/172	79.7%	38/57	66.6%	21/38	55.3%

Table 2 reveals three general acquisition processes regarding the three constructions respectively. First, the correct percentage of the verb complement structure is high starting from the intermediate level (78.8%), which suggests that, although the accurate structure appears in the elementary level (64.7%), the structure is generally constructed by most of the participants by the end of the second year, and consolidated by the end of the advanced I level. That is why the difference between the levels of Advance I and Advanced II is relatively small, 88.2% versus 94.2%.

Second, the correct percentage of the construction of non-interrogative question words is high from the advanced I level (78.5%), which may indicate that the structure starts to be constructed by most of the participants by the end of instruction in the third year, and consolidated by the end of the advanced II level. The acquisition variations in the construction of non-interrogative question words across four proficiency levels are bigger than those in the verb complement struc-

ture. The correct production appeared in the interlanguage of learners at the elementary level (47.4%) and continuously improved by the end of the Advanced II level (90%).

Third, there is a big gap in the production of the *ba* construction between the elementary and intermediate levels (0% versus 42.8%). Starting from the intermediate level, the production of the *ba* construction increases consistently and steadily across the proficiency levels (42.8%, 54.5%, and 69.2% respectively). Different from the other two constructions, where a high level of accuracy of production is reached at the advanced II level (94.2% and 90% respectively), the accuracy level of the production of the *ba* construction at the advanced II level is moderate at 69.2%. This suggests that participants continue to acquire the *ba* construction after their proficiency reaches the advanced II level.

Verb complement

Participants produced a total of 172 verb complement clauses. Two characteristics of the production of the verb complement emerged when the data were analyzed. First, the object plays an important role. When the verb did not have an object, the accuracy rate was comparatively high (64.7% with students at the elementary level, 78.8% at the intermediate level, 88.2% and 94.2% at the advanced I and II levels respectively); otherwise the accuracy rate dropped (55.6% with students at the elementary level, 70.1% at the intermediate level, 85.0% and 90.5% at the advanced I and II levels respectively), as displayed in Table 3. Sentences 10 and 11, produced by the same student at the elementary level, are such examples. Table 3 also shows that the acquisition rate of the verb complement construction increased quite rapidly. When students reached advanced level I, their accuracy rate was high.

The form of the verb complement structure is different if there is an object. It requires an operation of object fronting or verb duplication. Data show that participants, especially at the beginning and intermediate levels, preferred to duplicate the verb to form the word order of SVOVComp.

10. 在日本 的 时候 玩 得 很好.
    In Japan Part when, play Part very well.
    I enjoyed the time when visiting Japan

11.*我玩 网球 得 不错.

I play tennis Part not bad.
I play tennis well.

Table 3:   Frequency of accurate production of the verb complement

	V. Compl.				V. Compl. w/Obj.			
Levels	N/total	%	M	SD/M	N/total	%	M	SD/M
Elem.	33/51	64.7	2.2	0.88	15/27	55.6	1.0	1.3
Interm.	41/52	78.8	2.7	0.45	18/26	69.2	1.2	0.7
Adv. I	30/34	88.2	3.0	0.57	13/16	81.3	1.3	0.7
Adv. II	33/35	94.2	3.3	0.43	14/15	93.3	1.4	0.6

Furthermore, students at the elementary and intermediate levels frequently had difficulties in matching the form and the function. Correct function and incorrect form were found, e.g. in negative constructions (Sentences 12-14); the correct form and incorrect usages were also found in various situations (Sentences 15-17).

Incorrect forms and correct functions:

12. *他准备　　不好. (By a student at the elementary level)
　　He prepare not well.
　　He did not prepare well.

13. *我不　吃饭　　吃得　很多. (By a student at the elementary level)
　　I not eat food eat Part. very much.
　　I do not eat very much.

14. *我游泳得　不好. (By a student at the intermediate level)
　　I swim Part. not well.
　　I do not swim well.

Correct forms and incorrect usages:

15. *我想　我　进步进　得不错. (By a student at the elementary level)
　　I think I progress Part. not bad.
　　I think I made good progress.

16. *他　工作　得　很多. (By a student at the intermediate level)

He work Part. very much
He works a lot.

17. *我很 喜欢走 得快. (By a student at the advanced I level)
    I very like walk Part. Fast.
    I like to walk fast.

One difficulty experienced by participants at the lower level was that of distinguishing a verb (e.g. *xiūxi*, to rest) from VO (e.g. *yóuyǒng*, to swim) in a verb compound (e.g. Sentence15). The verb complement structure requires that learners know the components of the verb compound, i.e., whether the form is a verb as opposed to verb+object when it is a disyllabic compound. The participants at higher levels made few mistakes in distinguishing verb from verb+object when using a verb compound. In other words, as learners accumulate sufficient experience and knowledge on disyllabic verb compounds, they are able to correctly operate the SVOVComp.

Question words as indefinite pronouns

Table 4 (on the following page) presents the production accuracy of the construction of question words as indefinite pronouns. The data show that as the level of proficiency increases, the correct usage of the construction also improves (42.1% with students at the elementary level, 64.3% at the intermediate level, 78.5% and 90% at the advanced I and II levels respectively). Almost all the question words produced by the participants are the object of the sentence. In this situation, the object must be fronted at the sentence initial position or immediately follow the subject and precede the verb. This seems to pose a high level of difficulty to the participants, as shown in sentences 18-21.

Table 5 (on the following page) presents the frequency of misplacement of the object. The objects were incorrectly placed post-verb in both statements and negative sentences (sentences 18-21). Participants at the elementary level consistently placed the object after the verb, using the SVO word order.

It should be noted that participants at the elementary level attempted to use the construction more frequently than the participants at higher levels (table 4), although their rate of accuracy was the lowest. This may suggest that the notion of inclusiveness and totality is easily expressed in their interlanguage. It might

also be the effect of instruction since the participants had just learned the construction from their curriculum when the data were collected. Sentences 18-21 were produced by students at the elementary level.

18. *我没有去过　什么　地方　都.
    I not　go Asp. what place all.
    I have not been to any places.

19. *我很喜欢　什么都　国　　饭.
    I very like what all country food
    I like any country's food.

20. *我想　　做什么　都.
    I want do what all.
    I like to do everything.

21. *我不喜欢喝　什么　　都　酒.
    I not like drink what all wine
    I do not like to drink wine.

Table 4:   Accurate production of question words as indefinite pronouns

Levels	N/total	%	M	SD/M
Elem.	9/19	47.4	0.6	1.5
Interm.	9/14	64.3	0.6	1.2
Adv. I	11/14	78.5	1.1	0.9
Adv. II	9/10	90.0	0.9	0.6

Table 5:   Frequency and percentage of the misplacement of the object

Levels	N/total	%
Elem.	8/19	42.1
Interm.	4/14	28.6
Adv. I	1/14	7.1
Adv. II	0/10	0

Participants at advanced levels are more flexible with the construction of the word order of question words as indefinite pronouns. The data from the participants at higher levels suggest that they were not only aware of the object fronting feature of the construction, but also placed the object before the verb. The errors

made by them were mostly on the complement and the position of the adverb *dōu* (Sentences 22-23). In other words, what has made the construction difficult includes not only the object NP that has to be fronted to precede the verb but also the position of the adverb *dōu* (all) in the construction.

22. *什么 事　 都没 准　 我。
 What thing all not permit me.
 (They) did not permit me to do anything.

23. *什么 都地方 我还 没 去 过。
 What all place I still not go Asp.
 I have not been to any places yet.

The *Ba* construction

Participants produced a total of 38 *ba* sentences. At the interview, a few situations obligated the usage of the *ba* construction. The *ba* construction was introduced in the curriculum of the first-year participants a few times, and practiced both in class and in homework. Despite formal instruction and practice, the *ba* construction was absent in the interlanguage at the elementary level. The construction started to emerge at the intermediate level. As indicated in Table 6 below, the frequency of the correct use of the construction went up steadily as the level of proficiency increased.

Table 6:　Accurate production of the *ba* construction

Levels	N/total	%	M	SD/M
Elem.	0/0	0	0	0
Interm.	6/14	42.8	0.4	1.3
Adv. I	6/11	54.5	0.6	1.2
Adv. II	9/13	69.2	0.9	0.6

The participants did not make many errors on the definiteness of the *ba* NP, but did make errors on the verb complement in addition to the frequent avoidance of the *ba* construction (Sentences 24-25). A *ba* sentence, especially those produced by participants at the lower levels, frequently had more than one error. The errors can be classified into three categories. The first is a bare verb with no verb complement to indicate the result of the action and the affectedness of the NP (Sentence 26). This type of error suggests that learners produced the form *ba* without fully conceptualizing its function, i.e. to convey a strong sense of affect-

edness of the object. They might take the *ba* construction simply as a word order of S+*ba*+Obj.+V. . Although the form, i.e. the grammatical particle *ba* is there and the object is fronted, the meaning and the pragmatic function are absent.

24. *别 在水　扔　　这些 菜. (By a participant at the elementary level)
    Not in water throw these vegetable.
    Do not throw the vegetables in the water.

25. *别　扔　这些　菜　　在水. (By a participant at the intermediate level)
    Not throw these vegetable in water.
    Do not throw these vegetables in the water.

26. *他们　正在　　把　床　搬。(By a participant at the intermediate level)
    They Prog. Part. BA bed move
    They are moving the bed.

The second type of error is on the form and meaning of the verb complement. This includes incorrect word order and misuse of prepositions (Sentences 27-28). The data have shown that preposition usages are difficult and subtle, which often reveals diverse perceptions between the native speakers and second language learners. To the target sentence "*bié bǎ tǔdòu rēngdào shuǐ/hé lǐ*!" (Do not throw the potatoes into the water/river!), the perceptions of some participants seem to present the scenario of throwing potatoes on the surface of the water (*zài shuǐlǐ*) as if the potatoes are floating all over the water (Sentences 27-28). In comparison, the focus of the native speakers with the verb "*rēng*" (to throw) is on the direction of the action rather than the surface area of the location.

The third type of the error is the incomplete expression on the affectedness of the *ba* NP (Sentences 27). This type of error occurs across all the levels including the advanced II level. It seems that participants gradually conceptualize the meaning of "affectedness of the object due to the result of the action of the verb" and attempted to match the meaning to the form of the *ba* construction. Many forms of the verb complement are not complete, e.g. "lǐ" in "*rēng dào shuǐlǐ*" (to throw in the water) and "*fàng zài / dào xìnfēng lǐ*" (to place into the envelope), "shàng" in "*guàzài qiángshàng*" and "*fàng zài zhuōzi shàng*" are all missing in the production data.

Avoidance of the *ba* construction was found mostly in the interlanguage of participants at lower levels (Sentences 24-25). The fact that no production of the *ba* construction appears in the data of the participants at the elementary level is

evidence. After the interview, the researcher individually asked several partici-
pants at the elementary level if they knew the *ba* construction and why they did
not use it in the task of describing the pictures. They all said they knew the con-
struction. Some said that the construction was complex and they preferred simple
forms. Others said they did not want to bother because the construction seemed
to involve word order movements. They took the *ba* construction as an option
rather than an obligation. They did not seem to acquire the pragmatic function of
the *ba* construction in addition to the form; that is, the construction is restricted
and obligated to those situations when the emphasis is on the affectedness of the
object due to the results of the action.

27. *别 把   土豆   扔   在 水. (By a participant at the advanced I level)
    Not BA potatoes throw in water
    Do not throw the potatoes in the water.

28. *你   不要   把 这些 土豆   扔掉   在 水里. (At the advanced II level)
    You not want BA these potatoes throw to at water in
    You do not throw these potatoes into the water.

Discussion

The Learning Sequences of the Word Order

The results of the present study have shown that among the three construc-
tions, the verb complement is acquired at the earliest and the *ba* construction at
the latest stage. Based on the results of this study, it is hypothesized that there
may be three stages of Chinese word order acquisition. Initially, learners use a
SVO word order. Since the verb complement construction generally follows the
word order of SVO, it is acquired by learners at the elementary level. When the
verb complement structure has an object, participants at the lower levels fre-
quently used the VOVComp. form that still fits into the SVO order. The next
stage is a verb-object interruption and restructuring stage. Take again the verb
complement structure as an example. If the sentence has an object, the object has
to be fronted to precede the verb, or the verb is duplicated. The same rule also
applies to question words as indefinite pronouns. If the nominal question word
functions as an object, it is fronted to precede the verb, which interrupts the ca-
nonical word order of VO. The final stage is characterized by the rearrangement
of the order of verb-object and the whole sentence. In the case of the *ba* con-
struction, the object is fronted, the grammatical particle *ba* is inserted between
the subject and verb, and the verb complement is used to express the affectedness

of the object. The findings of this study support the hypothesis of restructuring proposed by Mclaughlin (1990) and Ke (2005).

The results of the study have shown that learners prefer the SVO word order and produce it at the beginning stage of their acquisition. Findings from research into sentence processing reveal that a SVO word order is psychologically the simplest way of marking underlying grammatical and sentence-semantic relations, and the SVO strategy is a basic form for sentence comprehension (e.g. Gass, 1987, Wen, 1995). As Clahsen (1984) suggests, the Canonical Order Strategy, that is, the SVO word order corresponds to a direct mapping of the underlying relations to surface strings. It does not take much mental capacity to process the form and function of the material.

Even though Chinese is a topic-comment language and its word order is more flexible than English, processing and producing strategies of the SVO order seem to be used by both children who acquire Chinese as a first language and CFL learners. Erbaugh (1983) has reported that Chinese children acquire Chinese word order just like English, that is, in the semantic form of agent+action+patient.

The second stage is characterized with verb-object reordering and restructuring of the underlying units. When the verb has an object, participants, especially at the elementary level, produced more SVOVComp than SOVComp forms. It is only at the later transitional stage that students began to produce sentences with more flexible word orders such as fronting the object to precede the verb. In the case of the non-interrogatory question words functioning as the object, learners not only understand the function of the construction where the notion of inclusiveness is emphasized, but also can produce the correct form that is not in the VO word order.

The third stage is characterized by the flexible position of the object. Learners are able to produce correct word orders that present the connection of form and function at the higher level of complexity. They are able to restructure the underlying structure relations with a broad scope to fit the specific linguistic features of the target language. The acquisition of the *ba* construction is such an example.

Other Psycholinguistic Constraints and the Acquisition Sequence

Word order plays an important role in the acquisition sequence as discussed above. Word order , however, is only one explanation accounting for the acquisition sequence. The formal complexity also includes the operational processes in constructing a sentence. For example, the operation of the verb complement structure, even when it has an object, is relatively simple. The verb is duplicated so that both the object and the complement can follow the verb immediately. The construction of question words as indefinite pronouns is more complex because it involves more elements than the verb complement structure. The construction must have the adverb *dōu* (all) that is not the equivalent of the English pronoun *all.*. The syntactic correspondence between *dōu* and English *all* is opaque. The *ba* construction is formally complex for these reasons: (1) The grammatical marker *ba* is inserted between the subject and verb, and (2) The complexity of the verb complement form often involves aspect and sentence final particles and preposition phrases, both of which are notoriously challenging to CFL learners.

The functional complexity may also affect the acquisition sequence of the three constructions. The notion of "inclusiveness and totality" is cognitively transparent whereas the notions of "affectedness of the object" and "disposition of the verb" are linguistic conceptualizations, abstract, and cognitively less transparent. Furthermore these notions are frequently contextually specific. There is not a reliable or concrete rule on when to use the *ba* construction since it depends on a number of contextual factors.

Transparency of form-meaning connections may also contribute to the acquisition sequence. In the case of disyllabic verb compounds of the verb complement structure, many connections of form and meaning are transparent. Those that are not transparent (e.g. *yóuyǒng,* to swim; *jiéhūn,* to marry) can be comparatively easily learned through a lexical approach after accumulation of language experiences. The connection of form and meaning of question words as indefinite pronouns is not so transparent since the meaning of the question words has changed in the construction. They no longer ask questions but convey the notion of totality together with the adverb *dōu.* Lastly, the form and meaning connection of the *ba* construction is opaque. The form of verb complement in the *ba* construction, for example, can be as short as a particle *"le"* that is already sufficient under many contexts (e.g. *Wǒ bǎ nǐde fàn chīle.* I ate your food), whereas in other situations, the form is long yet the function is the same, to emphasize the affectedness of the object.

Certain language learning tasks are easier than others. Language specific

features concerning both form and function also determine the degree of mental processing required. The *ba* construction presents a number of features that contrast to the first language of the participants. The word order, formal operations, semantic complexity, and functional complexity of the *ba* construction manifest language specific properties. As Clahsen (1987) posits, language specific features require a considerable amount of mental processing to reorder the underlying units, and to associate the appropriate function to the accurate grammatical form. The findings of the present study have shown that learners most easily acquire those structures that are most consistent with their on-level language processing strategies. The structures that have the effect of separating and reordering a linguistic unit, reconstructing the connections of form, meaning, and function require a high level of processing, and thus are acquired later.

Pedagogical Implications

The timing of the instruction seems to play a role in language acquisition[2]. In this study, formal instruction on all three constructions was provided to participants at all levels. The instruction, however, appears to have the least effect on the acquisition of the *ba* construction with participants at the elementary level. The findings of the present study suggest that the acquisition of the *ba* construction is based on the acquisition of verb complement structures and flexible word orders. Instruction on the *ba* construction seems to be most effective to those whose interlanguage has reached stability with respect to sentence inversion (interrupting the verb object unit by fronting the object), and the verb complement. In other words, instruction may be more effective if it is provided at the "right time" when students are linguistically ready, as VanPatten (1991) stated after reviewing several studies on acquisition sequences of different L2 languages: "...that there are stages of acquisition for many features of syntax, that certain things must be precede others, ...In short, there are cognitive and psycholinguistic constraints on the acquisition of grammatical structure, constraints that instruction cannot overcome (especially for early and intermediate learners."(p. 55)

A similar conclusion was reached by Bardovi-Harlig (1995) in a study of the interaction of pedagogy and natural sequences in the acquisition of tense and aspect by ESL learners. The results of her investigation indicate that the effect of

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[2] Timing is concerned with the instruction relative to learners' progression from one developmental stage to another. The progression has been defined in terms of the emergence of a small number of tokens of the structural types of the relevant stage in learners' spontaneous language production (Pienemann, 1987).

instruction is predictable on the basis of the stage of acquisition. Instruction will have no effect if the prerequisite stage has not been attained.

Since the acquisition of new rules takes time, and learners cannot acquire the linguistic structures that are far beyond their current stage of interlanguage development despite the instruction provided to them, it would be more effective if teachers understand and respect the developmental stage of learners, and provide curriculum and instruction that build up learners interlanguage system gradually in a learner-centered instructional setting.

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Appendix I: Sample questions asked by the researcher in the interview

1. 你喜欢在明德学习吗？你学得怎么样？你的同学呢？
2. 上个学期你都修了什么课？这些课你学得怎么样？你的朋友呢？
3. 今天的作业你都做完了吗？明天的小考你准备得怎么样？你把生字都记住了吗？ 你的同学呢？同屋呢？
4. 你喜欢旅行吗？你去过哪些地方？最喜欢什么地方？
5. 你喜欢运动吗？你常常做什么运动？什么运动你做得好？
6. 你每天都游泳吗？游得怎么样？
7. 你喜欢看什么电影？你觉得谁演得好？为什么？
8. 你喜欢吃什么饭？哪国的饭？
9. 酒呢？
10. 两个月以前，你到明德来学习的时候，你是不是从家里带来一些东西？你把什么从你的家或是你的宿舍带到明德来了？

Appendix II: Four pictures

Please talk about the pictures.