

The Principle of Temporal Sequence in the Teaching of Chinese as a Second Language

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Abstract

This study investigates the capacity of elementary-level Chinese second language learners to memorize serial verb sentences based on the results of a questionnaire. Our findings show that adult second language learners employ the concept of temporal sequence in language learning, consciously or unconsciously, whether or not the chronological principle has been formally taught. Therefore, we propose that specific cognitive principles, such as the chronological principle, should be carefully applied or formally taught in language training to maximize teaching and learning effectiveness.

Keywords: teaching Chinese as a second language, serial verb sentences, temporal sequence, cross-linguistic similarity and difference

1. Motivation and Aims

As a fundamental human skill, the perception of space also manifests in other ways, such as the use of time as a metaphor for space. (Piaget, 1989). According to cognitive linguistics, syntactic iconicity is a notion that states that grammatical structures are derived from symbols of reality. Studies on children's language development support this claim of syntactic iconicity in terms of the temporal sequence in the description of complex events, which is apparent in the early forms of language (Clark, 1974; Slobin, 1992). The principle of temporal sequence in language was also investigated by James H-Y Tai (Haoyi Dai) (1985, quoted in Tai 1988), who went on with a design of Chinese cognitive grammar.

Human languages share certain fundamental concepts that only vary in the particular ways that each language expresses them. (Wang, 1956: 5) Language typological research has long been interested in and supportive of such cognitively based language universals. (Croft, 1990) The concept of temporal sequence, which has achieved widespread recognition, is an example of linguistic universals that can be seen in both English and Chinese. "The temporal order of states governs the relative order of two syntactic units in the conceptual domain they represent" ("两个句法单位的相对次序决定于它们所表示的概念领域里的状态的时间顺序。") is one way to convey the notion of temporal order. (Tai 1988: 10) Numerous Chinese linguistic constructions, such as Chinese serial verb sentences, prove this idea.

In the fundamental stage of teaching Chinese as a second language, the learning objective is the most essential, i.e. learning the language for the most basic communication and less involving complex linguistic expressions denoting delicacy in meaning, such as expressions containing discourse conjunctions, modifying phrases, etc. Additionally, most of the instruction is aimed at adult second language learners, who have considerable cognitive competence and have already mastered at least one language. In general, they are capable and motivated to learn things on their own, and this is seen in a variety of ways, including the creation and use of learning strategies. Therefore, do second-language learners of Chinese recognize the principle of temporal sequence from their elementary Chinese learning and employ it in their language use consciously or unconsciously?

The purpose of this paper is to examine the relationship between the principle of temporal sequence and the acquisition of Chinese as a second language by using a typical construction in Chinese, serial verb sentences. Below are our research questions:

1. Do students apply the principle of temporal sequence in their language use?

2. Does teaching the principle of temporal sequence in class have an impact on students' formation and application of the principle?

2. Research Method

Three classes of students who took the elementary Chinese course were enrolled in this study to investigate the role of cognitive principles in the instruction of elementary Chinese. Students were exposed to different ways that the Chinese serial verb sentences were involved in class before being tested on their use of temporal sequence.

2.1 Subjects

The subjects were first-year students from the Elementary Chinese Department at a university in Beijing. Students from Asia, Europe, and America entered the school in February 2004, speaking English, Japanese, Chinese, Thai, and Indonesian as their first languages. At the most elementary level, all of them were able to speak Chinese for basic communication. The placement test was administered with HSK, a widely-accepted Chinese proficiency examination.

2.2 Test Items

The Chinese serial verb sentences are the basic grammar items in the grammar syllabus (Liu, 1996). In addition, it is one of the most common expressions in students' everyday conversations; at the same time, it more clearly reflects the temporal sequence principle, making it the ideal test question for language students' understanding of this concept. (Xue & Dai, 1994) Typical Chinese serial verb constructions mainly include one phrase containing "come, go, use" and other verb phrases expressing the first action's purpose and manners. The examples are as follows:

- (1) 我来 中国 学习汉语。
I came to China learn Chinese ("come" + verb)
I came to China to learn Chinese. (*Literal Translation*)
- (2) 我去 商店 买东西。
I went to the store buy something. ("go" + verb)
I went to the store to buy something. (*Literal Translation*)
- (3) 我们 骑车 去 公园 玩儿。
We ride bike go to the park have some fun. (Verb 1 + Verb 2 + Verb 3)
We rode bikes to the park to have some fun. (*Literal Translation*)
- (4) 他 用 英语 翻译 这篇 文章。
He use English translate this article. (Verb 1 (denoting the manners) + Verb 2)

He translated the article in English. (*Literal Translation*)

This study does not deal with the conjunctive sentences containing adjectives that are not included in the widespread syllabus for elementary Chinese grammar, such as "大家听了这个消息都非常高兴。 (Everyone was very happy to hear the news)" (Liu et al., 2001: 701). Our selection of test materials makes the research aim clear and prominent on one hand and conforms to the actual situation of elementary Chinese teaching on the other hand (Yang, 1999).

2.3 Test Questionnaire

A test questionnaire was designed to find out students' knowledge about the principle of temporal sequence. The test was conducted by asking the subjects to judge whether the sentences were acceptable, give reasons when they were judged unacceptable, and give acceptable forms of expressions. All test items were arranged randomly. In order to make sure that the test items were judged in accordance with the sense of speech of native Chinese speakers, two native Chinese speakers who had not had formal instruction in Chinese grammar were also invited to complete the questionnaire.

Eight items, four test types and four control types, were prepared. As seen in Table 1, the test items consist of one right answer and three wrong answers, each representing a distinct kind of conjunctive sentence. One pivotal sentence and one verb reduplicative sentence made up the control items. Since these two types of construction are frequently taught together in the teaching of Chinese grammar, we used them to make it easier to identify potential response tactics the subjects possibly relied on. One of these was right, while the other was wrong. To

see if subjects would pay attention to the semantic connections in the components of complex events, we included two simple causal complicated sentences with varying acceptability in the test.

Table 1. List of test items

Test items				
No.	Answer	Sentence type	Test Sentence	Suggested explanation
1	Error	"come" + verb	1. 我爸爸明天参观来北京。(My dad tomorrow visit come Beijing)	我爸爸明天来北京参观。(My dad will come to visit Beijing tomorrow.)
3	Error	manner + "go" + verb	3. 他们打算去商店骑自行车买东西(They plan to go to the store ride a bike buy something)	他们打算骑自行车去商店买东西(They are going to ride their bikes to the store to buy something.)
5	Correct	manner + verb	5. 请你用汉语翻译这个句子(Please use Chinese translate this sentence)	
7	Error	verb 1 + verb 2 + verb 3	7. 中午下课以后, 我马上回家睡午觉吃午饭(After class at noon I immediately go home take a nap and eat lunch)	中午下课以后, 我马上回家吃午饭睡午觉(After class ended at noon, I immediately went home for lunch and a nap.)
Control items				
2	Error	verb reduplicative	2. 来北京学学汉语很有意思(Come Beijing learn Chinese very interesting)	来北京学汉语很有意思(It was fun to come to Beijing to learn Chinese.)
6	Correct	partitive	6. 老师说他有事儿, 他叫我别去他那儿了(Teacher say he afternoon have something he ask me not to go to his place)	
4	Correct	causal compound sentence	4. 我不能上课, 感冒了(I can't go to class have a cold)	
8	Correct	causal compound sentence	8. 我没有办法回北京, 没买到火车票(I have no way to go back to Beijing not buy a train ticket)	

Notes: Below each test item is its literal translation.

2.4 Test Method

In class, students received the test questionnaire, which they individually filled out. Prior to the test's materials being introduced, some unrelated tasks were completed.

For the test, three classes, namely Experimental Class A, Control Class B, and Control Class C, were chosen. Class A had 12 students, Class B had 13, and Class C had 18. In the end, we collected a sample of 43 completed questionnaires.

3. Teaching Methods

As introduced above, we recruited three classes for our test; one was used as the test class to specifically highlight the teaching of temporal sequence, while the other two served as the control classes, using the regular teaching method without any special instruction on the target test item.

In the test class, teachers in the test class primarily used real-world examples, physical demonstration, and diagrams on the blackboard when teaching serial verb sentences to help students understand the existence of the chronological principle. Teachers also used examples like the following to subtly reinforce this principle during instruction:

(5) 我们 来 北京 学习 汉语。

We come Beijing learn Chinese (*Literal Translation*)

We came to Beijing to learn Chinese.

(6) 我们 坐 飞机 来 北京。

We take plane come Beijing (*Literal Translation*)

We came to Beijing by plane.

(7) 我们坐飞机来北京学习汉语。

We take plane come Beijing learn Chinese (*Literal Translation*)

We came to Beijing to learn Chinese by plane.

In the process of instruction, (5) and (6) were given to students separately, and then (7), a combination of (5) and (6), was given. Taught in this way, students could come to recognize the natural sequence in time between the three events "flying", "coming to Beijing", and "learning Chinese". The temporal sequence of these events and language expressions is illustrated in Diagram 1:

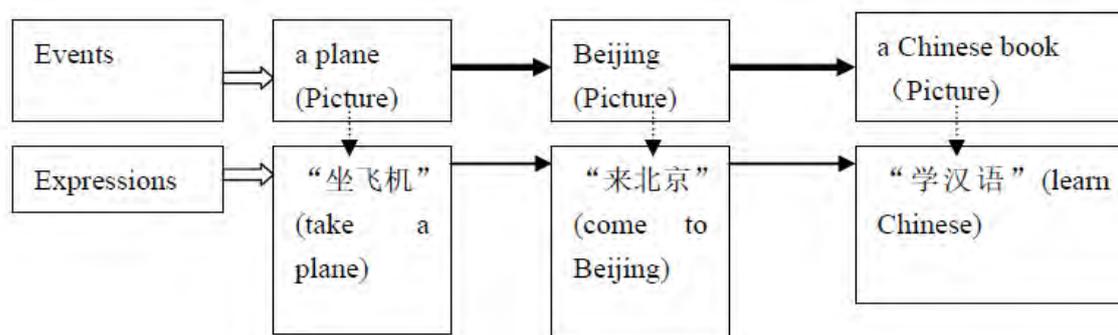


Figure 1. The diagram of the relationship between time sequence and language expression

In addition to the pictures illustrating the objects and places in the events, the teacher's body language was used to demonstrate the events, such as the actions of "riding a bike", "opening the door in the cafeteria", "buying food" or "eating" when she taught the sentences (8), (9), and (10). The purpose was also to help students understand the correspondence between the occurrence of events and the expressions in language.

(8) 我去食堂吃饭。

I go to cafeteria have a meal (*Literal Translation*)

I went to the cafeteria to have a meal.

(9) 我骑车去食堂

I ride a bike go to cafeteria (*Literal Translation*)

I rode a bike to the cafeteria

(10) 我骑车去食堂吃饭。

I ride a bike go to cafeteria have a meal (*Literal Translation*)

I rode a bike to the cafeteria to have a meal.

4. Test Results

Results for the test items and the control items were separately counted. It was considered "correct" if the subject deemed the unacceptable sentence to be unacceptable or the acceptable sentence to be acceptable. Besides, the subject had to give a testimony to support his decision that a sentence was undesirable. We kept looking at the test sentence and his justification for selecting "correct" or "incorrect" as the response. "NA" denotes the situation in which a subject did not respond. Moreover, we recorded the participants' judgment regarding control items 4 and 8, as well as any alterations they made to the original sentences, such as changing the sentences' causal order and adding words. A comparison of the results between Experimental Class A and Control Class B, C can be found in Table 2.

The findings demonstrated that the individuals were adept at determining if an item was suitable or not as well as providing acceptable forms; however, correcting errors proved to be more challenging than making judgments. The manifestations of behavioral patterns and various acts were incorporated in test item 3, and subjects in both classes accurately judged and corrected them. On the contrary, test item 7 involved the expression of many sequential acts, and the subjects' error rate increased noticeably; the only difference between classes was the

increase in percentage. This might be a result of the subjects' limited familiarity with on-campus residents' life styles and their inability to understand the connections between the actions accurately.

As for the explanation of their judgments, there were also subjects who could not clearly express the reason, such as A04 and A06, and subject C07 more clearly stated that he did not know how to describe it. However, two subjects in Experimental Class A pointed out that it was a problem of word order, and one of them expressed it in English; moreover, five subjects in Control Class C pointed out the problem of word order.

Table 2. Subjects' errors

Items Classes	No. 1		No. 3		No. 5		No. 7	
	Incorrect judgment	Correction						
Class A	1/12	1/12	0/12	0/12	2/12	2/12	5/12	6/12
Class B	0/13	1/13	0/13	1/13	7/13	5/13	2/13	3/13
Class C	2/18	2/18	0/18	0/18	3/18	2/18	3/18	3/18
					NA1	NA1	NA1	NA1
Total	3/43	4/43	0/43	1/43	12/43	9/43	10/43	12/43
					NA1	NA1	NA1	NA1

Notes: The denominator is the number of subjects in the corresponding class, and the numerator is the number of incorrect judgments; the number after "NA" is the number of subjects who did not answer.

In addition, the responses to control items 4 and 8 showed that the subjects were concerned about the semantic relationships inherent in the expressions and the logical order of the propositional content. As shown in Tables 3 and 4, 28 out of 43 subjects judged the control item 4 to be unacceptable, 14 of them adjusted the order to "cause and effect", and 9 of them added a conjunctive word to clarify the semantic relationship. Among them, the subject A09 clearly said that the regular expression should be "cause first then effect" after judging control item 4 as "wrong", and subject C01 still suggested adding "because" after having judged control item 4 as "correct".

Table 3. Numbers of subjects' responses to control items 4 and 8

Items Answer situation	Control item 4			Control items 8		
	Correct	Error	NA	Correct	Error	NA
Class A	41.67%(5/12)	58.33%(7/12)	0.00%(0/12)	33.33%(4/12)	58.33%(7/12)	8.33%(1/12)
Class B	23.08%(3/13)	76.92%(10/13)	0.00%(0/13)	15.38%(2/13)	84.62%(11/13)	0.00%(0/13)
Class C	33.33%(6/18)	61.11%(11/18)	5.56%(1/18)	38.89%(7/18)	61.11%(11/18)	0.00%(0/18)
Total	32.56%(14/43)	65.12%(28/43)	2.33%(1/43)	30.23%(13/43)	67.44%(29/43)	2.33%(1/43)

Table 4. Strategies of subjects to correct control items 4 and 8

Items Strategies	control items 4		control item 8	
	Change according to the cause-and-effect sequence	Add conjunctive words	Change according to the cause-and-effect sequence	Add conjunctive words
Class A	41.67%(5/12)	16.67%(2/12)	8.33%(1/12)	8.33%(1/12)
Class B	23.08%(3/13)	23.08%(3/13)	23.08%(3/13)	38.46%(5/13)
Class C	33.33%(6/18)	22.22%(4/18)	16.67%(3/18)	27.78%(5/18)
Total	32.56%(14/43)	20.93%(9/43)	16.28%(7/43)	25.58%(11/43)

When completing the questionnaire, the subjects employed certain response strategies, especially on test item 5. Subjects in control class B gave a strong response, i.e. they believed that the items on the questionnaire should be wrong. For the correct test item 5, 7 out of 13 subjects judged it as unacceptable, and one of them changed the original sentence into a topicalized sentence, the one with the object at the initial position of the sentence, i.e. "这个句子请你用汉语翻译(This sentence, please translate it into Chinese.)".

5. Pedagogical Reflections

Our test results demonstrated that the subjects did apply the chronological principle, either unconsciously—they were able to rectify errors but did not provide justification—or consciously—they were able to correct errors and gave justification. This is a side indication that the subjects paid attention to the cross-linguistic similarity regarding the temporal sequence in an account of multiple events and the logic integrating language expressions. In particular, for control items 4 and 8, the subjects commented that acceptable sentences should conform to the natural sequence of cause and effect and noted the use of related words that signify logical relationships. This

proves that adult second language learners consciously or unconsciously use cognitive principles like the chronological principle.

On the other hand, we also noted no significant difference in subjects' error rates between the experimental and control classes. This study did not find any significant effect of the formal instruction of chronological principles in class on students' application of chronological principles. So, how did the students form the chronological order principle? Reasons for such results include effective classroom language instruction and adults' pre-existing cognitive experiences. Other possible influences may come from post-class correction training, immediate correction of errors in class, post-class homework review, positive language input, and so on. This area needs a further detailed examination.

Dai (1988) argues that the principle of temporal sequence, as a general cognitive principle, is widely manifested in Chinese and has considerable explanatory power. At the same time, the principle of chronological sequence, as a universal cognitive concept (Zhang, 2019), should be given some attention in teachers' minds and become an active awareness of teachers. To better integrate the teaching with the students' already-existing cognitive rules implicitly and increase teaching efficiency, teaching elementary Chinese should take the cognitive rules of the learners into consideration.

6. Conclusion

The purpose of this paper is to explore a way to apply the findings of cognitive linguistic theory to the teaching of Chinese as a second language.

It has been suggested in the previous literature that the principle of chronological sequence is more prominent in Chinese. Our data shows that students from different language backgrounds have more or less developed the principle of chronological sequence, and they apply it consciously or unconsciously in their learning of Chinese. Such findings suggest that knowledge about chronological order should be reflected in the design of Chinese grammar textbooks. Moreover, cognitive studies of language have verified other principles and their applications in language processing and use, such as the principle of distance and the rule of "of" omission in noun phrases (Zhang 1998). If teachers put these principles into practice in their teaching, they will facilitate students' further understanding of Chinese.

In future studies, other test methods, such as the test of elicitation, may be used. The temporal sequence in which language is processed and used can be further validated if the same results can be drawn from data collected in other methods. Additionally, more subjects could be enlisted, and their linguistic backgrounds could be thoroughly investigated. The picture of the research problem can, of course, be more clearly delineated if more test items are employed in studies.

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