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Review

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Second language acquisition of the Chinese particle le

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This study investigates English speakers' interlanguage constructions using the Chinese perfective aspect and the sentence-final modal particle. The speech data produced by two different levels of learners were collected, compared and analyzed. The results show that although the surface forms of the perfective aspect -le and sentence-final le are identical, they are learned differently, with the perfective aspect -le acquired first. Furthermore, at the early stage of acquisition of sentence-final le, English-speaking learners experience acquisition difficulties and transfer their L1-based default value to their L2 Chinese. The explanation for the variation in the acquisition le is due both to syntactic and semantic/functional sources. Structural markedness and functional and pragmatic complexity are important factors in accounting for the variation in acquiring le for Chinese L2 learners.

Introduction

Research on second language acquisition (SLA) has included various works on universal grammar with the focus on the acquisition of formal structures. In this paradigm, linguistic structures and forms provide the focus for accounts of language acquisition. Recently, researchers have called for the consideration of both linguistic forms and language functions (Hakuta 1985; Ellis 1986; Rutherford 1987; Bailey 1989). They argue that form and function are interactive, constituting an integral whole which accounts for SLA. These works draw upon the perspectives of formal grammar, semantics, and communicative function. They attempt to capture the interaction of both form and function, to broaden the framework of research on SLA, and to achieve a more complete explanation of SLA. Rutherford (1987) pointed out that more investigation is needed to discover how grammar, meaning, and function inter-relate.

Ellis (1989) proposes a coherent model of SLA in his study of variation in interlanguage development. His model emphasizes the need not only for recognizing and accounting for emerging forms of second language but also for integrating social uses of language as a major source of language variation and language development. He concludes that "form and function are so closely intertwined in the process of interlanguage development that we cannot separate one from the other" (Ellis 1989: 42).

Bailey (1989) investigated the acquisition of the present and past progressive tenses by ESL learners. The results of his study indicate that the variation observed in their learning of the progressive tenses depends upon the tense and is conditioned by discourse function. Learners acquire the present progressive earlier than the past progressive. This is due to the past progressive's having a marked discourse function, and it requires supplying background information. Bailey argues that similar forms are learned differently depending upon their meaning and function. The unmarked meaning or function (simpler or more natural) is learned before the marked one.

This study follows along the lines of Bailey and Ellis. It focuses on the acquisition of the Mandarin Chinese particle le by English-speaking learners at an American college. It investigates the learning strategies and the roles that semantic, syntactic, and pragmatic factors play in the process of acquiring this element of Mandarin Chinese. This study demonstrates that the various functions of le may be learned differently depending upon the syntactic markedness, semantics, and communicative function. Furthermore, as suggested by Bailey, we find the unmarked element is learned earlier than the marked one.

THE MANDARIN CHINESE PARTICLE LE

In Chinese, the particle le can be classified as having two functions: a perfective verb suffix and a sentence-final particle. The verb suffix -le indicates completed action. The completion of an action has no relationship to time, so it is possible to use -le in sentences where actions occur in the future. However, most completed actions occur in the past, and therefore the perfective aspect verb suffix -le is frequently translated into English in the past or perfect tense. For example, the verb in sentence (1) below may be translated both as 'bought' or 'has bought':

1) Ta maile xuduo dongxi.
s/he buy-PFV lots things
'S/he bought/has bought lots of things.'

When the verb suffix -le functions as a perfective aspect marker, it expresses the semantic notion of boundedness (Li & Thompson 1981). It is used for events that are viewed as a whole, in the sense that they are quantified and specific (2 and 3), or that there are following events (4):

2) Ta xuele san nian Zhongwen. s/he study-PFV three years Chinese 'S/he has studied Chinese for three years.'

- 3) Ta women yiqi kanle nei chang dianying. s/he with us together see-PFV that CLASSIFIER movie 'S/he saw the movie with us.'
- 4) Ta chile fan jiu kan qiusai le. s/he eat-PFV meal then go see game PARTICLE 'S/he went to see the game after finishing his/her meal.'

When le is used at the end of a sentence, it is the modal particle, 'yuqici' as defined by traditional Chinese grammarians. 'Yuqici' indicates that the function of sentence-final le is closely related to the mood of the speaker and listener, e.g. how the sentence is to be taken by the speaker and listener in a discourse context. Li & Thompson (1981: 240) point out that sentence-final le indicates a 'currently relevant state'; that is, "a state of affairs [that] has special current relevance with respect to some particular situation". For example, when a person is asked whether or not he/she wants to see a movie, instead of answering 'yes' or 'no', the person may say Na ge dianying, wo yijing kan le ('I have seen that movie already'). Here, le indicates that 'having seen the movie' is currently relevant to the question and to the situation in which the speaker and listener are engaged. The person not only declines the invitation but also tells the reason for not wanting to see the movie.

Sentence-final le has a strong communicative function which signals the end of the sentence and of the speaker's turn. Its semantic functions can be generally grouped into the categories of change of state (5), a new situation (6), correcting a wrong assumption (7), advising or warning (8), or closing a statement (9):

- 5) Wo zhidao le. know PARTICLE 'I know.'
- 6) Yao xia yu le. will descend rain PARTICLE 'It is going to rain soon.'
- 7) Wo yijing liang bai gei ta kuai qian already give her/him two hundred CL money PART. 'I gave her/him \$200 already.'
- 8) Bie xiyan le. don't smoke PARTICLE 'Don't smoke anymore.'

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9) Wo ba haizi dai lai le.
I PARTICLE child bring VCOMP PARTICLE
'I have brought the child here.'

	- ie	ia
Sentence position	after verb	end of sentence
Syntactic category	aspect marker	model particle
Semantic notions	- completion of an action - boundedness, events are quantified, specified or followed by another event	- occurrence of events - current relevance - change of state - correct an assumption - advice/warning - close a statement
Function	syntactic marker	pragmatic

Figure 1: Summary of the functions of le.

Sometimes, however, when le comes after a verb and at the end of a sentence, it is not easy to determine whether it is the perfective verb suffix -le or sentence-final particle le. Sentences (5) and (9) are such examples. This can usually be resolved by looking at the speech context. If (5) were used to interrupt the speaker, le in Wo zhidao le would be a sentence-final particle conveying the meaning 'I know it already and do not tell me anymore', or if what was known was sad/happy news, 'I know it already and I share the sorrow/joy with you'. Similarly, le in (9) conveys a currently relevant meaning of 'What shall we do with the child since s/he is here with us?' or 'What a surprise, I have brought the child here!' In this way, even though formally it is difficult to distinguish the functions of le, pragmatically and contextually, le in the above sentences conveys the notion of 'current relevance', which makes it a sentence-final particle.

In some cases, le can be considered to be either the perfective aspect marker or the sentence-final modal, depending on the context. For example, (10b) as an answer to (10a) suggests both the completed state of the verb 'know' and a currently relevant event in the discourse. Similarly, (11b) in answer to (11a) indicates both the completion of the action of 'bringing' and the currently relevant situation 'the child is right here'. Thus, the function of le is very contextualized.

10a) Ni zhidao Lao Zhang zuotian chu shi le ma? you know Old Zhang yesterday have accident PART. QUES 'Do you know that Old Zhang had an accident yesterday?'

- 10b) Wo zhidao le.
 I know PARTICLE/PFV
 'I knew.'
- 11a) Haizi ne?
 child QUES
 'What about the child?'
- 11b) Wo ba haizi dai lai le.

 I PARTICLE child bring come PARTICLE/PFV
 'I brought the child here.'

Little research has been done on the acquisition of the particle le. Erbaugh (1985) conducted a study on the acquisition of le by Mandarin speaking children. Her subjects were two-year-old children who produced short sentences (their mean length of utterance was 2.20). All instances of le they produced were at the end of sentences, which was unhelpful in distinguishing between the perfective aspect -le and the sentence-final modal particle le. Yet a careful analysis showed that between 80% and 90% of les produced by her subjects referred to an event in the immediate past, making them markers of completed action and thus of the perfective aspect. Erbaugh (1985: 56) posited that "given the nature of human experience, most of the completed events which we describe have occurred in the past" and thus learners can be said to prefer the perfective aspect function of le.

The research questions

This study investigates three questions. First, is one function of le acquired before the other? The hypothesis to be tested is whether students at the beginning and more advanced levels differ significantly in the frequency of their correct use of the verb suffix -le and sentence-final le. Second, if one function of le is acquired before the other, what accounts for this order of acquisition? Finally, what are the mechanisms learners employ in acquiring le? It is hypothesized that, although the surface forms are identical, the processes of learning these two functions might be different. Furthermore, the unmarked and simple meaning and function (perfective aspect) will be learned before the marked one (modal).

Methods

SUBJECTS

Fourteen subjects participated in this study. They were all native speakers of

English learning Mandarin Chinese at an American college in regular Chinese language classes which met five hours per week. There were 8 beginning-level students who had been learning Chinese for 14 months and 6 more advanced students who had been learning Chinese for twenty-six months.

PROCEDURE

Over a period of three weeks, all of the subjects were interviewed individually three times. Each interview lasted approximately 25 minutes and took the form of an informal conversation. Each interview included three tasks, which were identical for all subjects. The first task was to answer questions in a conversational fashion. The researcher started with questions which required using le, e.g. Shangge Zhoumo ni zuo shenme le? ('What did you do last weekend?') or Zuotian ni qu nar le? ('Where did you go yesterday?'). Correctly formulated answers required the use of either the verb suffix -le or sentence-final le. The second and third tasks were picture-based. For task two, subjects answered carefully constructed questions about the pictures which necessitated the use of the appropriate le. The third task was to describe the pictures, which were arranged in such a way that the use of the particle le was required.

The stimulus questions and pictures were carefully designed so that instances of the particle *le* produced by the subjects could be easily distinguished as either the verb suffix *le* or sentence-final *le*. A pilot study was conducted with a smaller number of advanced students (n=3), after which the questions and the use of the pictures were further refined.

SCORING

All of the interviews were recorded, and all speech data were subsequently transcribed. The manuscripts were checked against the tapes before coding for analysis. An error was scored for a response in which le was missing or displaced in the sentence, based on the speech context. For example, for question (12) the target response is (13), so (14) and (15) would be scored as having one error each because the responses were not consistent with the question and were pragmatically unacceptable.

- 12) Ni zai shangdian maile ji ben shu? you in store buy-PFV how many CL book 'How many books did you buy in the store?'
- 13) Wo zai shangdian maile X ben shu.
 I in store buy-PFV X CL book
 'I bought X books in the store'
- 14) *Wo zai shangdian mai san ben shu.
 I in store buy three CL book
 'I bought three books in the store'

15) *Wo zai shangdian mai ben shu le. san in store three book PARTICLE buy CL'I bought three books in the store'

For question (16) with the target response (17), sentence (18) would be scored as containing two errors because both the verb suffix -le and sentence-final le were missing. Sentences (19) and (20) were scored as containing one error each because they were not consistent with the question and the speech context.

- 16) Ni xuele nian de Zhongwen le? ji you study-PFV how many year NOM Chinese PARTICLE 'How many years did you study Chinese?'
- 17) X nian de Zhongwen study-PFV X year NOM Chinese PARTICLE 'I studied Chinese for X years.'
- 18) *Wo xue уi nian de Zhongwen. study one year NOM Chinese 'I studied Chinese for one year.'
- 19) *Wo xuele уi nian de Zhongwen. study-PFV one year NOM Chinese 'I studied Chinese for one year.'
- 20) *Wo xue nian de Zhongwen yi le. study one year NOM Chinese PARTICLE 'I studied Chinese for one year.'

Results

RESULTS OF T-TESTS

Occurrences of le were classified as either the perfective aspect marker or the sentence-final modal particle, although it was sometimes difficult to distinguish the two functions. The categorization was based on Li & Thompson's analysis and the speech context.

The number of sentences containing le produced by a subject ranged from 76 to 129. The correct use of each form of le was calculated for each subject; the results are presented in Tables 1 and 2.

-le			le .			
oubject	total	correct	% correct	total	correct	% correct
1	36	27	75.0	40	15	37.5
2	43	30	69.8	57	19	33.3
3	48	3 7	77.1	66.	28	42.4
4	60	51	85.0	69	27	39.1
5	56	34	60.7	69	47	68.1
6	47	44	93.6	70	38	54.2
7	50	28	56.0	5.5	19	34.6
8	45	38	84.4	39	9	23.0
total	385	289	75.2	465	202	41.5

Table 1: Correct use of le by beginning-level subjects

Table 2: Correct use of le by more advanced-level subjects

-le		le le		_		
subject	total	correct	% correct	total	correct	% correct
1	57	52	91.2	65	48	73.9
2	45	42	93.3	41	3 7	90.2
3	44	36	81.8	71	5 .5	77.5
4	51	3 5	68.4	67	42	62.7
5	49	39	80.0	52	41	78.9
6	59	4.8	81.4	67	54	80.6
total	305	252	82.7	363	277	77.3

The first hypothesis tested was that students at the beginning and more advanced levels differ in the frequency of their correct use of the verb suffix -le. A t-test for independent samples was run to test whether the mean percentages of correct uses of -le in these two groups are equal. The level of significance was set at p=.05. The sample mean for the subjects at the beginning level was 75.2, meaning that, on average, 75.2% of the subjects at the beginning level correctly used -le. The sample mean for the subjects at the more advanced level was 82.7. Because of the large difference in the variances of the two samples - 161.62 for the beginners and 79.78 for the more advanced students - a separate variance method was used to calculate the t-value. Based on the resulting t-value (t=-1.29, df=11.98, p=.22), the conclusion is that the students at the beginning and more advanced levels do not differ significantly in the frequency of their correct use of the verb suffix -le.

The second hypothesis tested was that students at the beginning and advanced levels differ in the frequency of their correct use of sentence-final le. A t-test for independent samples was run to test whether the mean percentages of correct uses of le in these two groups are equal, with the level of significance set at p=.05. The sample means were 41.5 and 77.3 for the subjects at the

beginning and more advanced levels, respectively. Again, because of the large difference in the variances of the two samples - 192.65 and 81.93 - a separate variance method was used to calculate the t-value. Based on the resulting tvalue (t=-5.84, df=11.84, p=.00), the conclusion is that the students at the beginning and more advanced levels do differ significantly in the frequency of their correct use of le; the more advanced students are more often able to correctly use sentence-final le. The results of the t-tests are presented in Table 3.

	– le	le
t-lest score	-1.29	-5.480
df	11.98	11.84
ъ	220	000

Table 3: Summary of t-test results

SENTENCE STRUCTURES WITH THE PARTICLE LE

Both sets of subjects consistently used the verb suffix -le and the sentence particle le in certain sentences. These sentences can be categorized into 5 major patterns. The first pattern contains two actions, with one taking place immediately after the other. When the perfective aspect -le is used, it must follow the first verb to indicate that the first action is completed. Sentences (21)-(23) are examples of this pattern.

- 21) Wo chile zaofan jiu qu shang Zhongwen ke le. eat-PFV breakfast then go take Chinese class PART. 'I went to Chinese class right after I finished my breakfast.'
- 22) Zhongwen ke, Shang wanle ta jiu qu kandaifu le. take finish-PFV Chinese class, he then go see doctor PART. 'He went to see the doctor after finishing his Chinese classes.'
- 23) Wo laile Bowdoin yihou, wo gei wo fumu daguo dianhua. I come-PFV Bowdoin after, I to my parents telephone 'After I arrived at Bowdoin, I called my parents.'

Both the beginning-level and more advanced subjects used the verb suffix -le in this pattern with high rates of accuracy: 79% and 89% respectively. What should be noted is that the verb suffix -le in (22) and (23) can be omitted, yet 5 subjects produced it.

The second sentence pattern expresses duration of time (24 and 25). The aspect marker -le follows the verb to indicate completion of the action. The rates of correct use of the verb suffix -le in this pattern are quite high: 74% for

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the beginning-level subjects and 84% for the more advanced. The percentages of correct use of sentence-final le in this pattern are 53% and 80%, respectively.

- 24) Wo xue Zhongwen xuele yi nian le.

 I study Chinese study-PFV one year PARTICLE
 'I studied Chinese for one year.'
- Zuotian wanshang, wo shuile liu ge xiaoshi. yesterday evening I sleep-PFV six CL hours 'Last evening, I slept for six hours.'

The third pattern, with an adverb and sentence-final le, expresses the immediate future (26-28). The percentages of correct use of sentence-final le in this pattern are low: 37% for the beginning-level subjects and 64% for the more advanced. The stimuli for the production of these sentences were pictures. For example, subjects were encouraged to describe a picture which presented a situation at an airport. Each subject produced approximately 7 sentences describing this picture. It should be noted that when the sentence ended with a monosyllabic verb (e.g. 27 and 28), the rate of correct use of sentence-final le increased.

- Gubo he Palanka jiuyao qu Beijing xue Zhongwen le.
 Gubo and Palanka soon go Beijing study Chinese PART.
 'Gubo and Palanka are going to Beijing soon to study Chinese.'
- 27) Gubo he Palanka jiuyao zou le.
 Gubo and Palanka soon leave PARTICLE
 'Gubo and Palanka are going to leave very soon.'
- 28) Bulang Taitai jiuyao ku le.
 Brown Mrs soon cry PARTICLE
 'Mrs. Brown is about to cry.'

The fourth pattern indicates a change of a situation, with sentence-final le used to indicate the new situation (29). The rates of correct use of sentence-final le with this pattern are low: 38% and 63% for subjects at the beginning and the more advanced levels, respectively. The most frequent mistakes were omitting sentence-final le (30a) and placing le incorrectly in the sentence (30b). Eight students erred by placing sentence-final le at the end of the first clause.

29) Yiqian ta hele henduo jiu, xianzai ta bu he jiu le. before s/he drink-PFV much wine, now s/he not drink wine PART 'Before s/he drank a lot, now s/he does not drink anymore.'

- 30a) *Yiqian ta hele henduo jiu, xianzai ta bu he jiu. before s/he drink-PFV much wine, now s/he not drink wine
- 30b) *Yiqian ta he henduo jiu le, xianzai ta bu he jiu. before s/he drink much wine PART, now s/he not drink wine

The fifth pattern emphasizes the occurrence of the event and its current relevancy. These sentences contain the sentence-final le and, frequently, the adverb yijing ('already'). The accuracy of using sentence-final le in this patterns was 62% and 79%, respectively. What should be noted is that the adverb yijing seems to play an important role in obtaining this result. When the students used yijing, they consistently included sentence-final le in their sentences (31 and 32). However when they did not use yijing, they frequently omitted sentence-final le (33 and 34), even though the meaning is similar to the sentences which contain yijing. When sentences do not have yijing, the rates of correct usage of sentence-final le are 34% and 52%, respectively.

- 31) Q: Ni yijing maile Zhongwen cidian le ma? you already buy-pfv Chinese dictionary PARTICLE QUES 'Have you already bought a Chinese dictionary?'
 - A: Wo yijing maile Zhongwen cidian le.

 I already buy-PFV Chinese dictionary PARTICLE
 'I have already bought a Chinese dictionary.'
- Q: Palanka yijing gei shei da dianhua le?
 Palanka already to who telephone PARTICLE
 'Whom did Palanka call already?'
 - A: Palanka yijing gei Gubo da dianhua le.
 Palanka already to Gubo telephone PARTICLE
 'Palanka already called Gubo.'
- 33) Q: Ni mai Zhongwen keben le ma?
 you buy Chinese textbook PARTICLE QUES
 'Have you bought a Chinese text book?'
 - A: *Wo mai/maile Zhongwen keben.
 I buy/buy-prv Chinese textbook
 'I bought the Chinese textbook.'
- Q: Ding Yun gei shei xie xin le?
 Ding Yun to who write letter PARTICLE
 'To whom did Dingyun write the letter?'

A: *Ta gei Palanka xie xin. she to Palanka write letter 'She wrote the letter to Palanka.'

In addition, two interesting findings emerge. First, when the verb is sentence-final and does not have any objects or resultative verb complements, the sentence-final particle le was used correctly 55% of the time by beginning-level subjects and 80% by the more advanced level. However, subjects frequently omitted sentence-final le when it followed a verb phrase with an object (36) or a resultative verb complement (35, 37b); correct usage was 29% for the beginners and 72% for the more advanced subjects. It is possible that students may take the resultative verb complement as an indicator of completion of the action and thus omit using le. It is true that the resultative verb complement frequently fulfills the aspectual function of le in indicating that the action is concluded. Yet, even in these situations, sentence-final le is needed to express the notion of current relevancy.

- 35) *Chuntian lai le, huaer kai le, shu yezi bian lü. spring come PART flower bloom PART tree leaf change green 'Spring has come. Flowers have bloomed and tree leaves have become green.'
- 36) *Ta xianzai lei le, bu yao wan le, ye bu yao he jui. he now tired PART not want play PART also not want drink wine 'He is tired now, and does not want to play or drink wine any more.'
- 37a) Ta hui jia de shihou, hen wan le tian hei le. she return home NOM time very late PART sky dark PART 'When she went home, it was very late and it was dark.
- 37b *Ta hui jia de shihou, tian bian hei. she return home NOM time sky change dark 'When she returned home, it became dark.'

Second, subjects usually used the verb suffix -le with verbs which have an inherent end-point built into their meaning or when a durative verb expresses a clear-cut end-point: e.g., the rates of correct usage of -le for verbs such as wang ('to forget'), chi ('to eat'), he ('to drink'), and mui ('to buy') was 78% for the beginning-level students and 84% for the more advanced level.

Daifu wangle ta (bingren) de mingzi le.

doctor forget-PFV her/his NOM name PARTICLE

'The doctor forgot her/his [the patient's] name.'

39) Shangge zhoumo, wo qu shudian maile hen duo shu. weekend I go bookstore buy-PFV very many books 'Last weekend, I went to the book store and bought lots of books.'

Table 4: Sentence structures with le

		% correct		
	Sentence pattern	beginners	more advanced	
1)	2 actions:			
	-le on first verb	79	89	
2)	time duration:			
	–le	7.4	84	
	sentfinal le	53	8.0	
3)	immediate future:			
	adverh + sentfinal le	3 7	64	
4)	change of situation:			
<u> </u>	sentfinal le	38	63	
5)	occurrence of event, current			
	relevance:			
]	yijing + sentfinal le	62	79	
	sentfinal le without yijing	3 4	5.2	
6)	no object or resultative comp.:			
	sentfinal le	5.5	80	
	with object or resultative comp.			
 	sentfinal le	29	7 2	
7)	verb with inherent end-point:			
Ĺ	-le	78	84	

Discussion

LEARNING APPROACHES FOR LE

Though sentence-final le and the perfective verb suffix -le have the same surface form, they are not learned in the same fashion. Students seem to use two major approaches when they acquire sentence-final le. On the one hand, they largely employ problem-solving strategies and piecemeal approaches. On the other hand, they also employ a meaning-based approach. Two pieces of evidence were found for the first approach. First, the subjects consistently relied on local context cues such as the adverb yijing ('already') as seen in the fifth sentence pattern. They used sentence-final le with yijing, and omitted le when the sentences expressed a similar meaning but did not contain yijing (see 31-35).

Another contextual cue that students use is the adverb tai ('too'), as in Tai hao le ('terrific)' and Tai lei le ('too tired'). Subjects also produced tai in negative sentences like Wode zhongwen bu tai hao le ('My Chinese is not good any more') to mean 'My Chinese is not too good'. Because they connected the adverb tai with sentence-final le, they correctly produced sentence-final le in the statements and misused it in negative sentences. The data seem to suggest that when students, especially at the beginning level, are faced with a linguistic element that is of considerable difficulty, they employ low-level strategies for applying grammatical knowledge and depend on local context cues to a large extent.

The evidence for the second (meaning-based) approach is found in certain sentence patterns. The second sentence pattern expresses an action which may or may not continue to the present. Students at both levels consistently produced sentence-final le in sentences where the action continues to the present (e.g. 24). When the action did not continue to the present, the students did not produce final le (e.g. 25).

After the interview, the researcher asked the subjects why they used or avoided sentence-final le with the second sentence pattern. They said that if the action continued to the present, it was clearly currently relevant and sentence-final le should be used. Otherwise, le does not have a specific reference point and should be left out, as in (25). In other words, students use sentence-final le when they can refer it to a specific situation and attribute it with a specific meaning.

By comparing the usage of sentence-final le in the second, third and fourth sentence patterns, we found that, semantically, it has a more concrete reference in the second pattern; i.e., the action continues to the moment of utterance. This criterion is clear-cut and easier for students to master. However the meaning of sentence-final le in the third and fourth sentence patterns is not as specific as in the second. Instead, it is its communicative function in these sentences that is of primary importance.

When students acquire the verb suffix -le, their strategies seem to be unitary and meaning-based. The first evidence for this proposition is that the subjects at both levels consistently used the verb suffix -le with the first sentence pattern. In such cases, because the two actions are linear and conducted by the same agent, the sequence of completion of the first action before the start of the second one is logical and easily understood, and thus is mastered by students.

Additional evidence is found in the following three situations. The first one is with the verb complement wan ('finished'). Students at both levels consistently use the verb suffix -le to signal the completion of the action, even though -le is optional in this situation (see 22). The second is with the time adverby ihou ('after'), which signals the completion of an event (23). Here, the verb suffix -le is also optional, but students still use it. Sentences (29) and (30) provide further examples, this time with the adverb yiqian ('formerly'). The

third situation occurs when the verb has an inherent end-point built into its meaning or when the durative verb expresses a clear-cut end-point. Students then also consistently used the verb suffix -le (see 38-39). This suggests that students conceptualize the notion of completeness signalled by the verb suffix -le, especially when they find semantic cues which indicate the action is at the stage of completion, such as wan, yihou, yiqian or a verb implying an endpoint.

Acquisition of semantic meanings and pragmatic functions

The results of this study suggest that the default learning approach of Chinese L2 learners is meaning-based. They conceptualize the function of a word, including grammatical words, on a semantic basis. When the grammatical function of a word is connected with a concrete, specific meaning, learners acquire this linguistic element at an early stage. When the linguistic elements do not present straightforward references, and when meanings are not concrete, students seem to approach such linguistic elements through problem-solving strategies.

What makes sentence-final le difficult to learn is that it expresses strong pragmatic functions, and some of the functions do not have a specific meaning. The mistake students make is that they frequently leave out sentence-final le, although it can often be deleted without impeding meaning. The problem involves its pragmatic function in the sentence. Without sentence-final le, these sentences sound incomplete, as if the speaker intended to say more, and the listener would wait for the end of the sentence, which can make for an awkward situation. The results of this study suggest that it is more difficult to learn the function of le which signals the end of a speaker's contribution to the conversation.

THE ORDER OF ACQUISITION OF THE PARTICLE LE

Students acquire the perfective -le earlier and more easily than sentence-final le. Erbaugh (1985) also reported that Mandarin-speaking children acquire the verb suffix -le earlier than sentence-final le. The finding that Chinese-speaking children and English-speaking learners of Chinese both acquire the perfective aspect -le earlier than sentence-final le indicates that the latter contains certain linguistic and non-linguistic difficulties for learners.

First, it seems that learners are more sensitive to constraints on verbs than on whole sentences. A verb requires a smaller memory load for processing than a sentence, yet a verb builds the structure of the sentence with its noun arguments. Furthermore, since, in English, different forms of verbs signal the different tenses, modalities and moods, the English-speaking learners are sensitive to the forms and functions of verbs. The findings of a number of studies have also indicated that, generally, the constraints on verbs are active in the minds of children and adult speakers (Pinker 1989; Gropen, Pinker, Hollander, Goldberg & Wilson 1988).

Second, semantically, the meaning of the verb suffix -le is more concrete and less varied than sentence-final le, and is consistent across different speech situations. This reveals the operation of the Relevance Principle (Slobin 1985). The perfective aspect -le is most relevant to the verb to which it is attached to convey the meaning of 'completion of an action'. It also reveals the operation of the One-Form One-Function Principle (Andersen 1989), by which the perfective aspect -le clearly and uniformly encodes the notion of 'completion', and thus students find it comparatively easy to learn. By contrast, the meanings of sentence-final le vary across a variety of communicative situations.

Third, pragmatically, sentence-final le manifests a variety of functions and semantic implications in different communicative situations. It may signal the end of a speaker's current contribution to the conversation. In this context, sentence-final le functions as a 'mark of finality'. Li & Thompson (1981: 288) noted that "Western languages do not have any element function similarly in conversations" to the sentence-final particle le in Chinese. Other languages change verb forms to indicate such meanings or functions rather than adding a particle at the end of the sentence. Such features of sentence-final le inject difficulty for all Chinese language learners, as the findings of Erbaugh and this study indicate.

TRANSFER

The results of this study demonstrate that a learner's first language has a considerable influence on the acquisition of both the verb suffix -le and sentence-final le. The properties of the first language experience emerge at the beginning of the acquisition of both forms. As the proficiency level of the subjects increases, the influence of the first language decreases. However, there is still evidence that subjects at the more advanced level transfer their first language experience into their acquisition of sentence-final le. Two pieces of evidence of transfer were found in this study.

The first occurred at the early stage of acquisition of the perfective verb suffix -le. In this context, the English-based default value is transferred. The beginning-level students took the verb suffix -le as a marker of the past tense and used it when the action happened in the past (see 30). They constantly avoid the verb suffix -le when action would be completed in the present or future. But since most completed actions occur in the past, the transfer of the English past tense may frequently yield a correct Chinese sentence on the surface level. For example, it is not clear whether or not (25) is a result of transfer; that is, whether students used the verb suffix -le because of the past time adverb zuotian ('yesterday') or as a result of their mastery of the perfective aspect marker -le.

25) Zuotian wanshang, wo shuile liu ge xiaoshi. yesterday evening I sleep-PFV six CL hours 'Last evening, I slept for six hours.'

Additional evidence of transfer is found in the data from subjects at both levels, especially with the beginning-level subjects. Ninety-six percent of the errors made with sentence-final le involved omission. Li & Thompson (1981: 288) also pointed out that "omitting it is probably the most common error made by non-native speakers". The error of omitting sentence-final le indicates that the English-speaking learners transfer their L1-based default values into their L2 Chinese. Since their L1 does not have such a linguistic element, this Chinese particle is frequently absent in their early interlanguage.

Conclusion

The results of this study demonstrate that English-speaking learners of Chinese acquire the perfective aspect marker -le earlier than the sentence-final modal particle le. Furthermore, the two identical forms seem to be learned differently due to structural markedness and functional and pragmatic complexity. Sentence-final le is structurally marked, requires contextual information, and has a varied pragmatic functions. At the early stage of acquisition of sentencefinal le, English-speaking learners experience acquisition difficulties and transfer their L1-based default values into their L2 Chinese. Their strategies for acquiring sentence-final le are both problem-solving-based and meaning-based.

In comparison, the perfective verb suffix -le is semantically and functionally less complex. It is a grammatical marker indicating the completion of an action. When students acquire the perfective verb suffix -le, they rely on the semantic notions of completeness of the action and of occurrence in the past. They also transfer their L1 notion of the past tense to their L2 Chinese. This strategy of transfer often leads them to correct responses, because many completed actions occur in the past. However, completed actions can also occur in the present or in the future, and in these situations, beginners sometimes avoid using -le and make mistakes.

The explanation for the variation in the acquisition of le comes from syntactic, semantic, and functional sources. Form is important, especially the position of le in the sentence. The verb suffix -le is much more favored than sentence-final -le. The complexity of pragmatic functions also plays a significant role. Variation in the learning of le is greatly influenced by its syntactic structures and conditioned by its pragmatic function. Structure, meaning, and function are interdependent and form a broad explanation that accounts for variation in second language acquisition of Chinese.

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