DE GRUYTER MOUTON
DOI 10.1515/caslar-2012-0002 — CASLAR 2012; 1(1): 3–32

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Aspectual marking among English and Korean learners of Mandarin Chinese

Abstract: The present study reports on a small-scale investigation of Mandarin aspectual marking among two groups of pre-intermediate learners of Mandarin Chinese: native English speakers and native Korean speakers. The use of -le, -guo, and -zhe in the learners' written work was examined, with particular attention to three variables: (i) overall frequency of aspectual marking, (ii) frequency of occurrence of each marker, and (iii) interaction between these markers and situation types (Smith 1997). The learners' patterns were also compared with those of a group of native Mandarin speakers and analysed in terms of the postulates of the Aspect Hypothesis (Andersen & Shirai 1996, Bardovi-Harlig 2000). The overall analysis discerned both similarities and differences in the usage of the three markers among the learners. Such patterns are likely to be related to the distinctive nature of the markers, type of genre, the learners' L1 aspectual systems, and classroom/textbook input.

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1 Background

In the study of the acquisition of aspectual marking, the Primacy of Aspect Hypothesis (AH) postulates the following (Andersen and Shirai 1996: 533, Bardovi-Harlig 2000: 227):

- Learners first use (perfective) past marking on achievements and accomplishments, eventually extending use to activities and statives.
- In languages that encode the perfective/imperfective distinction, imperfective past appears later than perfective past, and imperfective past marking begins with statives, extending next to activities, then to accomplishments, and finally to achievements.
- In languages that have progressive aspect, progressive marking begins with activities, then extends to accomplishments and achievements.
- Progressive markings are not incorrectly overextended to statives.

These postulates highlight the developmental patterns of aspectual marking and the possible interaction between aspectual markers and different kinds of verb (e.g., statives vs. activities).

As reviewed by Slabakova (2002), the AH was derived from and has been largely supported by first language (L1) data. As a result of the robustness of the hypothesis, there have been different studies examining the degree to which second language (L2) data, mostly with English as the L2, would display the predictions of the hypothesis. It is in this background that the present study aims at investigating L2 data collected from English and Korean learners of Mandarin Chinese in light of the tenets of the AH.

In what follows, studies on the L2 acquisition of Chinese aspectual marking are first reviewed. Then, there is a brief description of the aspectual systems of the three languages concerned, namely Mandarin Chinese, English and Korean, followed by the research focus of the present study. The research design and data analysis are then presented, which serve as the basis for the discussion of the key patterns in terms of the AH.

2 Aspectual systems of Chinese, English, and Korean

In light of the types of learners involved in the present study, this section describes briefly the aspectual system of Mandarin Chinese and those of the learners' L1s, namely English and Korean.

First, the Chinese aspectual system. There is a perfective-non-perfective distinction in Mandarin Chinese and both are overtly marked by certain lexical items. The perfective aspect is mainly realized by *-le* and *-guo* while the imperfective aspect is expressed by *-zhe* and *zai* (e.g., Smith 1997, Yip and Rimmington 1997):

(1) *Zhangsan shui-**le*** (from Tsang 2003: 54)
Zhangsan sleep-PERF
'Zhangsan has slept.'
(2) *Zhangsan shui-**guo*** (from Tsang 2003: 54)
Zhangsan sleep-EXP
'Zhangsan has been asleep and he is awake now.'
(3) *Zhangsan shui-**zhe*** (from Tsang 2003: 54)
Zhangsan sleep-PROG
'Zhangsan is sleeping.'

(4) *Zhangsan* ***zai*** *shui*
Zhangsan PROG sleep
'Zhangsan is sleeping.'

The two perfective markers differ in terms of the focus of the perfective meaning. *Le* emphasises the meaning of completion while *-guo* highlights the meaning of 'having the experience of an action'. *Guo* is therefore labelled as an experiential marker (EXP) in some studies such as Li and Thompson (1981).[1] *Zai* contrasts with the other three markers in that it is placed before the verb (as in [4]) and is a 'word' (Li and Thompson 1981: 217) which can function as other word classes such as verb (e.g., *ta zai nali* 'He is there.'). The other three markers, on the other hand, follow the verb (as in [1], [2] and [3]) and are 'suffixes' (Li and Thompson 1981: 217) which must be attached to verbs. These contrasts in turn possibly imply that *zai* possesses some specific structural properties and was therefore not included in the present analysis.

The perfective-non-perfective distinction is also displayed in English (Huddleston and Pullum 2005, Smith 1997). However, the perfective is not overtly marked (as in [5]) while the imperfective is indicated by the presence of an auxiliary *be* and the suffix *-ing* (example [6]):

(5) Mary talked. (from Smith 1997: 170)
(6) Mary **was** talk**ing**. (from Smith 1997: 170)

Unlike English, Korean has overt markers for both perfective and imperfective meanings. However, it has fewer markers than Mandarin Chinese. The perfective marker is *-ess-*, and the imperfective markers are *-ko iss-* (imperfective progressive) and *-a iss-* (imperfective resultative) (e.g., Kim 2009, Lee 2008, Lee and Ramsey 2000, Oh 2003, Shirai 1998, Sohn 1995, Song 2005):

(7) *Kkoch-i [e phi-taka] ci-****ess****-ta* (from Sohn 1995, p. 28)
flowers-Nm bloom-Trans fade-Past-Dec
'The flowers died while they were still blooming.'
*Kkoch-i [e phi-****ess****-taka] ci-ess-ta* (from Sohn 1995, p. 28)
'The flowers bloomed and died.'
(8) *Haksayng-tul-i motwu uica-ey anc-****ko iss****-ta* (from Lee 2008: 118)
student-PL-NM all chair-LC sit-CN exist-DC
'The students are all taking a seat.'

1 For the sake of analyzing the learner data in the terms of the tenets of the AH, the current study adopts Smith's framework in labelling *-le* and *-guo* as perfective markers.

(9) *Haksayng-tul-i motwu uica-ey anc-**a iss**-ta* (from Lee 2008: 118)
student-PL-NM all chair-LC sit-CN exist-DC
'The students are all in their seats.'
(Key: NM: nominative case marker; TRANS: Transferentive; DC [or Dec]: declarative sentence ending; PL: plural marker; LC: Locative; CN: connectives)

The table below summarises and compares the aspectual systems of Mandarin Chinese, English and Korean. Mandarin Chinese seems to have the most robust system in aspectual marking, followed by Korean and English.

Aspects	Mandarin	English	Korean
Perfective	-le -guo (experiential)	Ø	-ess-
Imperfective	-zhe zai	-ing	-ko iss- (progressive) -a iss-/-e iss-/-ô iss- (resultative)

Table 1: A comparison of Chinese, English and Korean aspectual systems

3 L2 acquisition of Chinese aspects

There have been extensive studies on the L2 acquisition of Chinese aspectual marking (Duff and Li 2002, Jin and Hendriks 2005, Ke 2005, Teng 2010, reprinted from 1999, Wen 1995, Yang, Huang and Sun 1999, Yang, Huang and Sun 2000, to name just a few). These cited studies examine verb-final *-le*. Some compare verb-final *-le* with other aspectual markers such as *-zhe* and *-guo*, as in Yang et al. (1999), Ke (2005) and Jin and Hendriks (2005). Some others contrast verb-final *-le* with sentence-final *-le*, as in Wen (1995), Teng (2010, reprinted from 1999) and Jin and Hendriks (2005).

Yang et al. (1999) note that their L2 learners used verb-final *-le* most, followed by *-guo* and *-zhe*, although verb-final *-le* was likely to be a consistent problem for the learners. They further point out the strong effect of lexical aspect (i.e., verb types) on verb-final *-le* and *-zhe* in the learner data: (1) *-le* was found to be with achievement and accomplishment verbs more frequently than stative and activity verbs; (2) *-zhe* was more likely to show the opposite pattern: being used more often with statives and activities than with achievements and accomplishments. In a later study, Yang et al. (2000) revealed both overuse and underuse of *-le*, *-guo* and *-zhe* among another group of L2 learners, with the underuse of *-le* for activity

verbs being the most serious. Meanwhile, Duff and Li (2002) found that learners tended to overuse *-le* with stative and non-perfective activity verbs. Jin and Hendriks (2005) noted that achievement verbs were most aspectually marked among the learners and *-zhe* was more often used with stative and activity verbs. While the above studies do not directly address the AH in their discussion (except Jin and Hendriks [2005]), the findings help support the possible interaction between verb types and aspectual marking, which is one of the tenets of the AH.

In comparing verb-final *-le* and sentence-final *-le*, Wen (1995) noticed a high accuracy rate for verb-final *-le* among the learners but significantly lower accuracy rate for sentence-final *-le* among the beginners in the study, suggesting the acquisition of verb-final *-le* before sentence-final *-le*. A similar claim about the possible developmental sequence of verb-final *-le* and sentence-final *-le* is also made in Jin and Hendriks.

The patterns of L2 aspectual marking revealed in the above studies are explained from different perspectives. Influence from L1 is highlighted in Duff and Li (2002) and Jin and Hendriks. Other than L1, other factors are also explored. Influence from situation/lexical aspects (i.e., verb types) is discussed in Yang et al. (2000) and Duff and Li (2002). While Duff and Li also explore the different meanings and roles of *-le*, Yang et al. point out the role of the syntactic structures and phonological environment in which the aspect marker is used. Proficiency of the learners and their perceived differences between their L1 and Mandarin are also pointed out by Ke (2005). Besides the linguistic factors, some other non-linguistic accounts are also considered. Teng (2010, reprinted from 1999) and Duff and Li (2002) draw our attention to the possible role of classroom input (e.g., instructions and textbooks) and exposure to naturalistic input.

From the above review, we can see that the L2 Mandarin aspectual marking is an intriguing area which is much discussed. Meanwhile, most of the studies are based on speech data and on data from English learners of Mandarin (except Yang et al. 2000, on Korean and Japanese speakers). With a growing number of learners of different L1s learning Mandarin Chinese as a second or foreign language, there is a need to study the linguistic patterns different learners produce in their written work. Among the linguistic patterns, aspectual marking is the focus of the present study.

4 Research focus and question

The present study reports on an analysis of aspectual marking among native English speakers and native Korean speakers who are also L2 Chinese learners. It aims to serve as a descriptive account of the pattern of aspectual marking among

two groups of learners of Mandarin Chinese, without specific labelling of or comparison with any erroneous usage. In particular, the following research question is addressed:

> *To what extent are English learners of Mandarin Chinese different from Korean learners of Mandarin Chinese in the patterns of aspectual marking in their written output?*

In the course of the study, some specific concerns are also examined:[2]

1. To what extent do the learner patterns support the AH?
2. How do the patterns of aspectual marking in the learners' written output differ from native speakers' usage?

5 Methodology

5.1 Participants

A total of 8 pre-intermediate learners (NNS) from a 2-year certificate Mandarin course at a university in Hong Kong were recruited for the present small-scale study: 5 English-speaking students and 3 Korean-speaking students. They received 15 hours of in-class Mandarin input per week for three semesters in a year and were supposed to reach the intermediate level at the HSK proficiency test after the completion of the course. At the time of the collection of the data, they were in their second year. They completed a proficiency test which consisted of two tasks (fill in the blanks and error correction) and covered the core learning items in their first year. Out of the total marks of 50, the lowest mark attained from these learners was 29 and the highest 43. No significant difference was found between the English-speaking and Korean-speaking students.

Three groups of native Chinese speakers (NS) were also recruited as the control groups in the present study: 7 Mandarin Chinese speakers, 6 Guangzhou Cantonese Chinese speakers 10 Hongkong Cantonese Chinese speakers. A comparison of these three groups of Chinese speakers in terms of their aspectual usage in the data revealed no significant difference, so these 23 native Chinese speakers were all treated as one control group in the comparison of their data with the learners'.

2 I would like to thank one of the reviewers for his/her suggestions on these research concerns.

5.2 Materials

The essays under investigation fell into two genres: narration and exposition. They were extracted from a recently compiled Mandarin interlanguage corpus (Tsang 2010), a small-scale database which houses written and spoken output collected from the learners during their second year of the Mandarin course. In total, 35 essays, each of which had at least 300 characters, were analysed in this study. Table 2 displays the number of narrative and expository essays from the two groups of learners.

	English group (N = 5)	Korean group (N = 3)
No. of narrative essays	11	7
No. of expository essays	10	7
Total no. of essays	21	14

Table 2: Essays from the Mandarin Chinese learners

The native speaker group was asked to write two essays, the topics of which corresponded to those of one narrative essay and one expository essay that the learners wrote. Forty-six essays – 23 narrative and 23 expository – were analysed as the baseline data for comparison with the data collected from the learners.

5.3 Data analysis

The data were analysed in terms of Smith's (1997) framework of viewpoint and situation aspects. The viewpoint aspect, focusing on the temporality of a situation, is made up of three categories: perfective, imperfective, and neutral. The perfective viewpoint depicts a situation with 'its initial and final endpoints' (p. 66), for example, 'He wrote a poem.' The imperfective viewpoint describes a situation with its initial endpoint only and focuses on 'an interval that is internal to the situation' (p. 73), as in 'He is sleeping.' The neutral viewpoint of a situation allows both the perfective imperfective interpretations, as in *tā xiě shī* 'he-write-poem' in Mandarin, which can mean 'He is still writing poems' or 'He has finished writing' in the context concerned.

The situation aspect falls into five types: states, activities, accomplishments, semelfactives and achievements. A stative situation has an 'undifferentiated period with no internal structure' (p. 32) (e.g., 'own' and 'like'). An activity situation is made up of a series of 'cumulative events' (p. 23) of the same nature (e.g.,

'walk'). The endpoint of the activity is fixed by other lexical items such as temporal adverbials (e.g., 'for 10 minutes'). An accomplishment situation involves both a process and all the stages leading to its natural endpoint (e.g., 'build'), depicting a completed process. A semelfactive situation is a 'single-stage event' (p. 29) (e.g., 'cough'). An achievement situation focuses only on 'the outcome of a chain of events' (p. 30) (e.g., 'find' being the outcome of 'look for'). The following summarises the features of each situation viewpoint aspect (Smith 1997: 3):

State: static, durative (know the answer, love Mary)
Activity: dynamic, durative, atelic (laugh, stroll in the park)
Accomplishment: dynamic, durative, telic, consisting of process and outcome (build a house, walk to school, learn Greek)
Semelfactive: dynamic, atelic, instantaneous (tap, knock)
Achievement: dynamic, telic, instantaneous (win a race, reach the top)

Three of the viewpoint aspects in Mandarin Chinese were stuided in the present study: perfective *-le*, perfective *-guo*, and imperfective *-zhe*. In addition to the frequency of these aspectual markers in the learner essays, their interaction with the four situation types was also examined: state, activity, accomplishment, and achievement, as exemplified below:[3]

(10) *tā yǒu zhe yī-bǎ zhǎng zhǎng de jīn fā* (State verb with *-zhe*)
she have-zhe one-CL long long DE gold hair
'She has long blonde hair.'

(11) *haizi kan-zhe nainai dai-zhe yi-che de guoshi guilai* (Activity verb with *-zhe*)
kid see-zhe grandma carry-zhe one cart DE fruit come-back
'The kids are watching their grandma carrying a cart of fruits back.'

(12) *wudingshang puman-le jinhuangse de luoye* (Accomplishment verb with *-le*)
rooftop scatter-le golden DE fallen leaf
'Golden leaves have scattered on the rooftop.'

(13) *ta paoxia-le zuizhongyao de qinqing* (Achievement verb with *-le*)
h/she leave-le most important DE family bond
'H/She has left the most important family bond.'

(Key: DE = genitive marker)

3 Probably because of the small number of essays collected, the data from both the Chinese natives and Chinese learners did not include any semelfactive situations.

Certain types of verb or phrase and occurrences of aspectual markers were excluded in the analysis. First, copula *shi* and modals such as *hui* were not included in that they are not associated with aspectual marking in any context. Those idiomatic expressions with a verb, such as *Shuahuahao Haishi Songtangguo* 'Trick or treat,' were also excluded. Third, given the homographic nature of aspectual *-le* and sentence final *-le*, none of the instances of *-le* in the sentence final position (e.g., *ZhōngGuó rén de shēnghuó shuǐzhǔn tígāo le* 'The living standard of the Chinese people has improved.') were included. Last, aspectual markers shown in any given essay title, such as *Wangbuliao de yitian* 'An unforgettable day,' and the resulting occurrence of such patterns in the text (e.g., *wangliao* 'forget' or *wangbuliao* 'not forget'), were also excluded in that the occurrence of such markers might be just copying of the pattern in the given title rather than natural production of aspectual marking.

To discern any statistically salient patterns, a *z*-test for proportion was used.

6 Results and findings

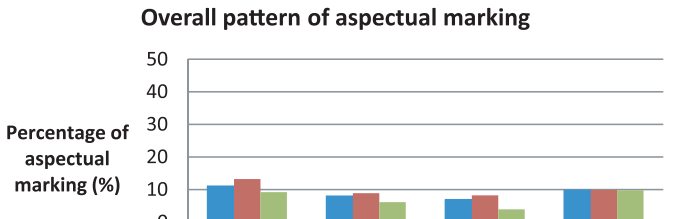
The results and findings are reported in the following sequence: overall aspectual marking across two genres, patterns of aspectual marking in each genre, and interaction of three aspectual markers concerned and four situation types. Comparison among the two NNS groups (i.e., English and Korean speakers) and the NS group is also presented.

6.1 Overall aspectual marking

Figure 1 displays the overall patterns of aspectual marking and the respective patterns in the narrative and expository texts produced by both the NS and NNS groups (See Table 3 in the appendix for the raw figures).

Overall, a low percentage of aspectual marking of verbs was noted across all groups in their production data (cf. Jin and Hendriks' [2005] remark on a similar finding in their study). A lower percentage was recorded for the NNS group (8.05%), which was significantly lower than that of the NS group (11.15%). Among the NNS, the Korean group showed a significantly higher percentage of aspectual marking than the English group (9.88% vs. 6.91%, $z = 1.823$, $p < .05$). The Korean group was not significantly different from the NS group but the English group was (11.15% vs. 6.91%, $z = 3.175$, $p < .05$).

Similar patterns were also noted in the two genres concerned. In the narrative data, the NS' percentage of aspectual marking was significantly higher than that



	NS	NNS	ENS	KNS
Overall	11.15	8.05	6.91	9.88
Narrative	13.22	8.89	8.24	9.92
Expository	9.22	6.16	3.95	9.8

Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners: ENS and KNS); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners

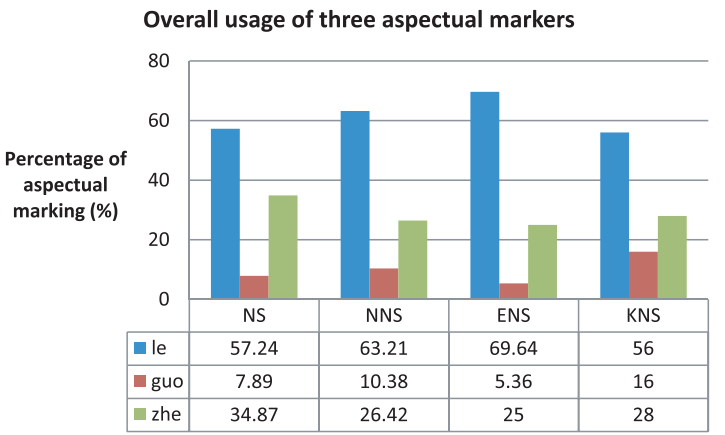
Fig. 1: Overall pattern of aspectual marking

of the NNS' (13.22% vs. 8.89%, $z = 2.654$, $p < .05$) and that of the English group (13.22% vs. 8.24%, $z = 2.68$, $p < .05$). However, the difference between the NS and the Korean groups did not bear any statistical significance (NS: 11.15%, KNS: 9.88%). As to the expository data, the NS used significantly more aspectual markers than the NNS (9.22% vs. 6.16%, $z = 1.686$, $p < .05$) and the English group (9.22% vs. 3.95%, $z = 2.541$, $p < .05$). The Korean group, meanwhile, used significantly more aspectual markers than the English group (9.8% vs. 3.95%, $z = 2.163$, $p < .05$).

One further comparison between the NS and NNS groups was also made in terms of the two genres. The NS group was found to have used more aspectual markers in narration than in exposition (13.22% vs. 9.22%, $z = 2.258$, $p < .05$) (cf. Xiao and McEnery 2010, where differences in the two genres among Native Chinese speakers were also noted). However, there was no significant difference between narration and exposition among the NNS (8.89% vs. 6.16%). Similar to the NS group, the English participants showed a higher percentage of aspectual marking in narration than in exposition (8.24% vs. 3.95%, $z = 2.083$, $p < .05$) but the Korean group did not display any significant difference.

6.2 Patterns of aspectual marking in each genre

Figure 2 presents the usage of the three aspectual markers *-le*, *-guo* and *-zhe* in all texts produced by the NS and NNS groups (See Table 4a in the appendix for the raw figures).



	NS	NNS	ENS	KNS
le	57.24	63.21	69.64	56
guo	7.89	10.38	5.36	16
zhe	34.87	26.42	25	28

Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners: ENS and KNS); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners

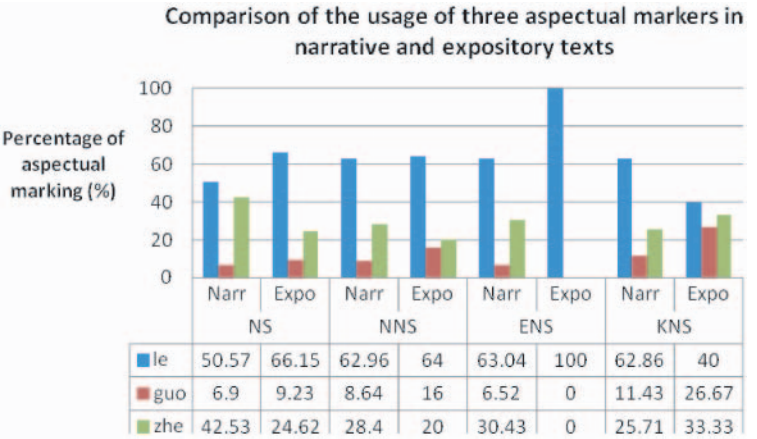
Fig. 2: Overall usage of three aspectual markers

The same pattern was observed among all groups: *-le* > *-zhe* > *-guo*. In other words, both the NS and NNS groups used the perfective marker *-le* most (NS: 57.24%, NNS: 63.21%), followed by the progressive *-zhe* (NS: 34.87%, NNS: 26.42%) and then the experiential *-guo* (NS: 7.89%, NNS: 10.38%). No significant difference was found between the NS and NNS groups on the one hand, and between the English and Korean groups on the other.

Figure 3 shows the respective use of the three aspectual markers *-le*, *-guo* and *-zhe* in both narrative and expository texts produced by the NS and NNS groups (See Table 4b in the appendix for the raw figures).

In the narrative data, while the NS group showed similar percentages for the use of *-le* (50.57%) and *-zhe* (42.53%) and a much lower percentage for that of *-guo* (6.9%), the NNS group used *-le* the most (62.96%), followed by *-zhe* at a much lower percentage (28.4%) and then *-guo* (8.64%) (cf. Yang et al. 1999). The NNS group was also found to have produced significantly less *-zhe* than the NS (28.4% vs. 42.53%, $z = 1.749$, $p < .05$). However, there was no significant difference between the two learner groups.

In the expository data, both the NS and NNS groups showed a similar pattern of aspectual marking with *-le* being used the most (NS: 66.15%, NNS: 64%), *-zhe* the second (NS: 24.62%, NNS: 20%) and *-guo* the least (NS: 9.23%, NNS: 16%). Among the learners, it was noted that the English group used *-le* only in the texts collected while the Korean group managed to use all the three aspectual markers without showing any significant difference in terms of usage.



Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners: ENS and KNS); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners; Narr = Narrative; Expo = Exposition

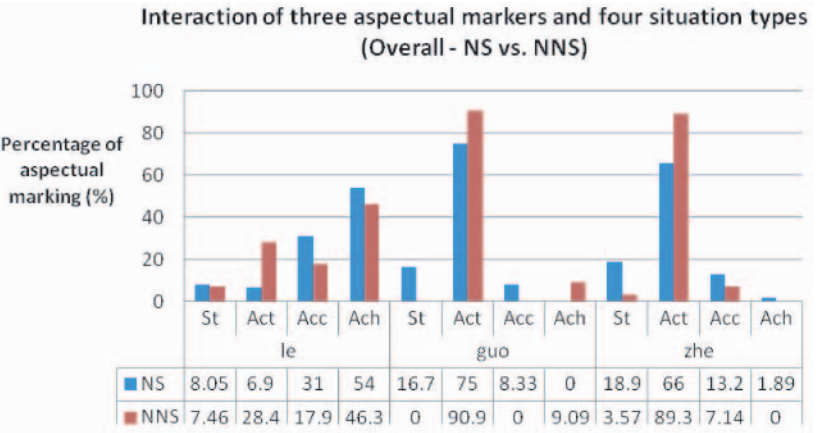
Fig. 3: Comparison of the usage of three aspectual markers in narrative and expository texts

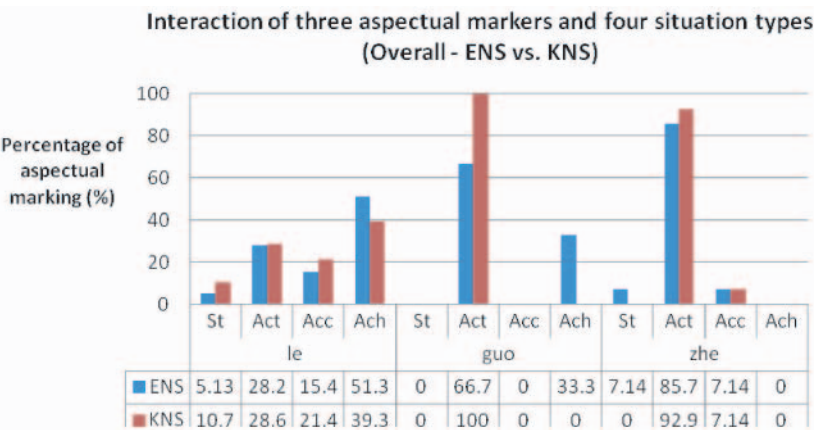
No significant difference was noted in the use of aspectual marking among the NNS participants in the two genres.[4] However, an interesting contrast was noted among the NS participants. They were found to have used significantly more *-le* in exposition than in narration (66.15% vs. 50.57%, $z = 1.755$, $p < .05$) but significantly more *-zhe* in narration than in exposition (42.53% vs. 24.62%, $z = 2.12$, $p < .05$). This again indicates the possible interaction between aspectual marking and genre type among the NS.

6.3 Interaction of three aspectual markers and four situation types (overall)

Figure 4 shows the overall pattern of interaction of the three aspectual markers and the four situation types (See Table 5a in the appendix for the raw figures).

4 The English group used significantly more *-le* in exposition than in narration (100% vs. 63.04%, $z = 1.924$, $p < .05$). However, it should be noted that only 10 instances of *-le* was collected from their texts, which possibly made the significant difference between the two genres less representative.





Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners: ENS and KNS); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners; St = stative verbs; Act = activity verbs; Acc = accomplishment verbs; Ach = achievement verbs

Fig. 4: Interaction of three aspectual markers and four situation types (Overall)

Both the NS and NNS groups used *-le* significantly the most with achievement verbs (NS: 54%, NNS: 46.3%), *-guo* with activity verbs (NS: 75%, NNS: 90.9%), and *-zhe* with activity verbs (NS: 66%, NNS: 89.3%), as illustrated below:

-le

(14) *women dao-le gongchang* (ENS3)
we arrive-le factory
'We arrived at the factory.'

(15) *women gaobie-le xiatian changchang chuxian de leizhenyu* (NS11)
we say-goodbye-le summer usual appear DE thunderstorm
'We said goodbye to the usual summer thunderstorms.'

-guo

(16) *kan-guo huangliang de dadi* (KNS2)
see-guo deserted DE land
'[I] have seen the deserted land'

(17) *ta chang-guo gezhong Zhongguo chuantong xiaochi* (NS17)
she taste-guo all kind China tradition snacks
'S/he has tasted all kinds of traditional Chinese snacks.'

-zhe

(18) *zhiyou wo deng-zhe gongche* (KNS2)
only I wait-zhe bus
'Only I am/was waiting for a bus.'

(19) *Kan-zhe hubian xixi de haizi* (NS7)
see-zhe lakeside play DE child
'[I am/was] watching the kids playing by the side of the lake'

It was also noted that *-le* was attached to the four situation types in the NS and NNS data. However, *-guo* and *-zhe* did not appear with some situation types such as achievements and accomplishments.

Some more significant differences concerning the aspectual marking of the other three less marked situation types were noted among the NS participants. First, they used significantly more tokens of *-le* + accomplishments than *-le* + statives/activities. Moreover, the NS data showed significantly more tokens of *-zhe* + statives/accomplishments than *-zhe* + achievements. However, no such difference among accomplishments, statives and activities (for *-le*) or among accomplishments, stative and achievements (for *-zhe*) was noted among the NNS.[5]

Among the NNS participants, the English group had a significantly higher percentage of *-le* with achievements than the other three situation types. The Korean group, on the other hand, did not discern any significant difference among achievements, accomplishments and activities (i.e., no significance among the three situation types in the use of *-le*). No significant difference was noted

5 Probably owing to the scarce tokens of -guo in both NS and NNS data, no significant difference was found among statives, achievements and accomplishments in terms of the use of the aspect marker.

between the English group and the Korean group either in the use of *-zhe* with situation types other than activities.

Unlike *-le* and *-guo*, which did not reveal any NS-NNS difference with statistical support, *-zhe* displayed a significant difference between the NS and NNS groups. Data from the NNS participants showed a significantly higher usage of *-zhe* with activity verbs than those from the NS group (89.3% vs. 66%, $z = 2.004$, $p < .05$). This significant pattern, together with the above distinctive ones, in turn suggests potential differences between the NS and the NNS groups and between the Korean and English groups.

6.4 Interaction of three aspectual markers and four situation types (narration)

Figure 5 displays the pattern of interaction of the three aspectual markers and the four situation types in the narrative data (See Table 5b in the appendix for the raw figures). Although no significant difference between the NS and NNS groups was discerned, some distinctive patterns were noted in the interaction between the aspectual markers and the situation types among the two groups.

In the narrative data, both the NS and NNS groups used *-le* significantly the most with achievement verbs (NS: 61.4%, NNS: 43.1%), *-guo* the most with activity verbs (NS: 83.3%, NNS: 85.7%) and *-zhe* the most with activity verbs (NS: 67.6%, NNS: 87%), for example:

-le

(20) *wo de duixiang yijing lai-le Xiang Gang gongzuo* (ENS2)
I DE partner already come-le Hong Kong work
'My partner has already come to work in HK.'

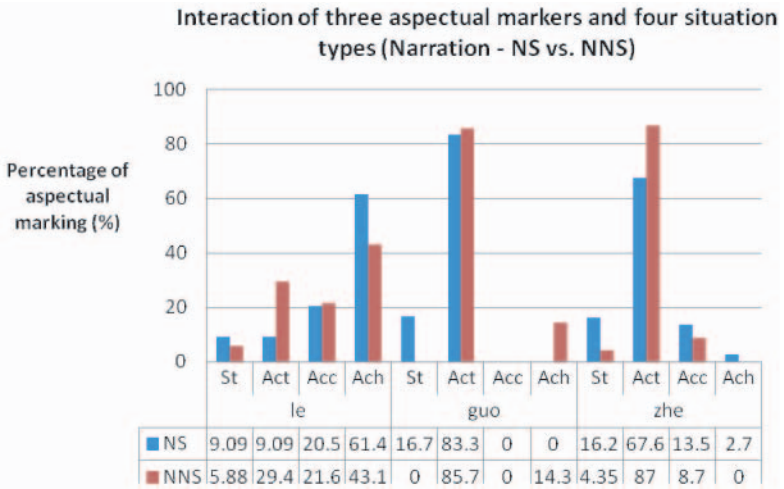
-guo

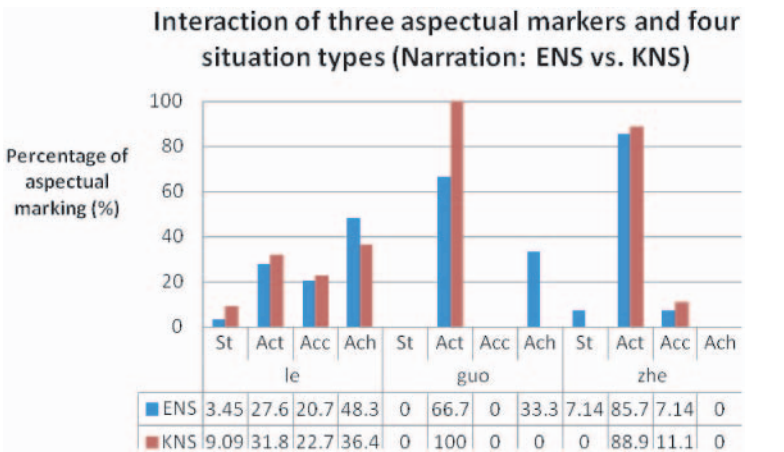
(21) *wo conglai meiyou kan-guo baba xiaodeshihou de zhaopian* (ENS5)
I never not yet see-guo father childhood DE photo
'I have never seen a photo of my father at his childhood.'

-zhe

(22) *wo zai chuangshang tang-zhe* (KNS1)
I zai bed lie-zhe
'I am lying on my bed.'

While there was no significant difference in the usage of *-le* with the other three situation types among the NS participants, the NNS group used signifi-





Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners: ENS and KNS); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners; St = stative verbs; Act = activity verbs; Acc = accomplishment verbs; Ach = achievement verbs

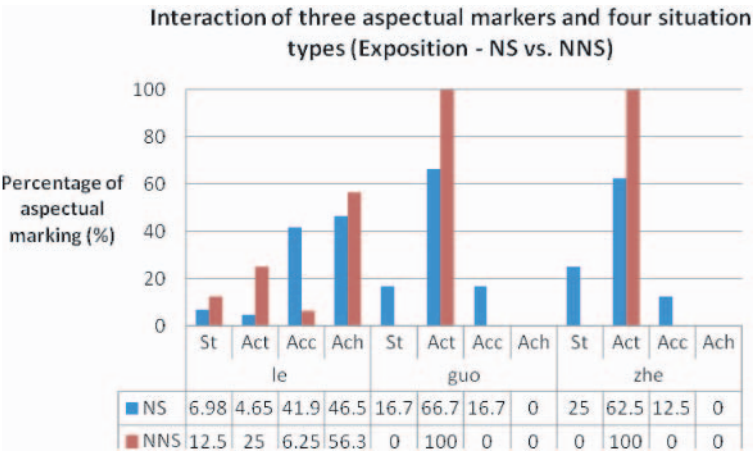
Fig. 5: Interaction of three aspectual markers and four situation types (Narration)

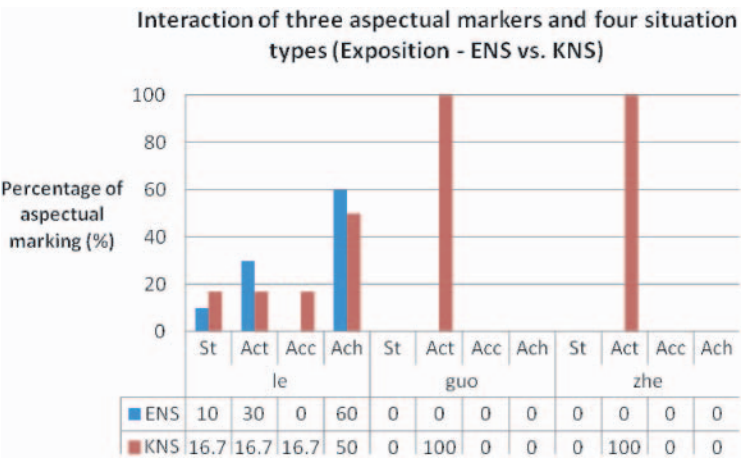
cantly more *-le* with activities and accomplishments than statives. No significant difference was noted in the use of *-guo* or *-zhe* with statives, accomplishments and achievements, largely as a result of sparse occurrences of the two markers with these situation types.

The two learner groups displayed similar patterns in the interaction of the three aspectual markers and the four situation types.

6.5 Interaction of three aspectual markers and four situation types (exposition)

Figure 6 shows the pattern of interaction of the three aspectual markers and the four situation types in the expository data (See Table 5c in the appendix for the raw figures).





Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners: ENS and KNS); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners; St = stative verbs; Act = activity verbs; Acc = accomplishment verbs; Ach = achievement verbs

Fig. 6: Interaction of three aspectual markers and four situation types (Exposition)

In the expository data, both the NS and NNS groups used *-le* significantly the most with achievement verbs (NS: 46.5%, NNS: 56.3%), *-guo* the most with activity verbs (NS: 66.67%, NNS: 100%), and *-zhe* the most with activity verbs (NS: 62.5%, NNS: 100%):

-le

(23) *zhe biancheng-le yi-ge huiquan* (NS14)
this become one-CL cycle
'This has become a cycle.'

-guo

(24) *ta zai liudazhou zhu-guo* (KNS3)
s/he zai six-continent live-guo
'S/he has lived in the six continents.'

-zhe

(25) *buneng gen-zhe bieren de bufa zou* (NS8)
cannot follow-zhe other people DE footsteps walk
'(We) can't follow other people's footsteps.'

No significant difference was noted in the use of *-guo* or *-zhe* with the other three situation types, largely as a result of the small number of tokens with the two markers.

Some different patterns about the usage of *-le* were observed between the NS and NNS groups, although both scored the highest percentages for *-le* + achievement verbs. The NNS group showed similar percentages of *-le* with achievements and activities while the NS group produced similar proportions of *-le* with achievements and accomplishments. The NNS attached significantly more *-le* with activity verbs than the NS but the NS used significantly more *-le* with accomplishment verbs. This implies that the NNS was possibly more reserved in the use of accomplishment verbs but not activity ones.

Among the NNS group, while the English participants used *-le* with achievements significantly more than activities and statives, no predominant or significant difference was noted across the four situation types among the Korean participants.

6.6 Overall summary

To recapitulate, the following key patterns were observed. First, a low percentage of aspectual marking was noted across all groups (Figure 1). Concerning the over-

all usage of aspectual markers in both genres, perfective *-le* was used the most in both genres, followed by *-zhe* and *-guo* in both the NS and NNS output (Figures 2 and 3). *Le* was mostly attached to achievement verbs, and *-zhe* and *-guo* to activity verbs in both genres (Figures 4, 5 and 6). As to genre type, there was a significantly higher percentage of aspectual marking among the NS group in narration than in exposition (Figures 4, 5 and 6); however, there was no such significant difference between narration and exposition among the NNS (Figures 4, 5 and 6). Last, in comparing the NNS and NS groups, it was found that in general the NNS data showed significantly less aspectual marking than the NS data. The NS group was significantly different from the English group; the Korean group in turn significantly differed from the English group in a number of aspectual patterns. What is more, while both NS and NNS groups displayed similar patterns of interaction between aspectual markers and situation types, the NS data showed more significant instances of interaction between aspectual markers and different situation types than the NNS data (Figures 4, 5 and 6).

7 Discussion

To examine the connection between the above findings and the research question of the present study, the findings are discussed in terms of the interaction between aspectual marking and situation types, L1 influence, genre effect, and role of classroom input.

7.1 Interaction between aspectual marking and situation types

Possible interaction between aspectual marking and verb types is postulated in the Primacy of Aspect Hypothesis (AH) and has been canvassed with different languages in the existing literature. For example, Slabakova (2002) mentions two examples of such interaction, one from Mandarin Chinese and one from Korean: durative predicates are more likely to be marked with imperfective *-zhe* in Mandarin Chinese, and aspect auxiliary *-e issta* in Korean is attached largely to telic predicates. As far as the present study is concerned, the main issue is to whether such interaction was observed and to what extent the findings confirm other postulates of the AH. One caveat is that the stages of aspectual learning as pointed out by the AH are to be discussed in terms of the frequency of use in the data. As to be mentioned later, more longitudinal data are deemed necessary to examine the developmental stages of the AH more thoroughly.

The first postulate of the AH indicates the developmental path of perfective marking – first to achievements and accomplishments and then activities and statives. While the present study did not have data from different levels of learners to illustrate such kind of development, the highest percentage of achievement verbs with the perfective marker *-le*, with a percentage similar to that of the NS group, seems to support the postulate. However, the rather high percentage of activity verbs and the much lower percentage of accomplishment verbs with *-le* indicated a possibly different path among the groups of learners under investigation: achievements → activities → accomplishments/statives. A definite reason for the high percentage of *-le* + activities cannot be offered at this stage of investigation, but one conjecture is that the learners were exposed more often to activity verbs than accomplishment verbs in the classroom context.

Corresponding to the second postulate, which states an earlier occurrence of perfective past than imperfective part, the present study also displayed more use of the perfective markers (with a total of around 73% of *-le* and *-guo*) than the imperfective *-zhe* (about 26%) (Figure 2). Meanwhile, it should be noted that one perfective marker, *-guo*, was much less 'developed' than *-le* among the learners. This is largely related to the complex nature of the marker. As described earlier, *-guo* has one specific meaning of the perfective: 'having the experience of,' and Li (2011) even claims that it is not a typical perfective marker because of its experiential, deresultative and ex-habitual functions. This complex nature of *-guo*, to a great extent, accounts for the difficulty the learners face in learning the meaning and usage of the marker.[6]

Third, interaction between aspectual marking and verb types similar to the one stated in the third postulate (i.e., progressive marking of activity verbs earlier than that of accomplishment and achievement verbs) was also noted in the present study: activities but not the other situation types appeared mostly with the progressive/imperfective *-zhe* (Figure 4).

The last postulate of the AH states that progressive markers do not appear with statives. However, the present study displayed a different pattern with 11 occurrences of the progressive *-zhe* with stative verbs: 10 from the NS group and 1 from the NNS group (cf. Jin and Hendriks 2005, where the participants also used *-zhe* with statives). A closer look at the 11 tokens showed that the NNS instance appeared in the existential structure *you-zhe* 'have' and the NS instances in the

6 The potential difficulty of *-guo* might be hinted by a slightly higher percentage of *-guo* among the learners (10.28%) than the native speakers (7.89%) (Figure 2). Although there was not any statistical significance, this slightly higher percentage might suggest some kind of overuse of -guo by the learners, which can be explored further in another study.

existential structure and with stative verbs such as *gǎnshòu-zhe* 'feel.' One surmise is that the participants were emphasising the duration of the situation and the presence of the progressive marker would help reinforce the continuous course.

7.2 L1 influence

The distinctive patterns of aspectual marking noted among the NNS groups further raise the possible role of their L1s in shaping their use of Mandarin aspectual markers.

As described earlier, the Korean language is similar to Mandarin Chinese with explicit marking of different aspectual meanings (e.g., *-ess-* vs. *-ko iss-* vs. *-a iss-*), although Korean is more inflectional than Mandarin Chinese. The similarities in Korean and Mandarin Chinese might have helped the Korean participants in learning their L2 aspectual system, possibly resulting in more use of Chinese aspectual marking than the English group and fewer significantly different patterns between the NS and the Korean groups.

On the other hand, English is labelled as a 'less aspectual language' (Xiao and McEnery 2010: 12), which exhibits less overt aspectual marking. As a result of the influence of their L1, the English participants might have used fewer Mandarin aspectual markers than the Korean counterparts. While the English language also has the overt imperfective marking be + *-ing*, which is like Mandarin *-zhe*, there is also the preverbal *zai* as another means of imperfective marking. This might have made the imperfective patterns challenging for the learners in that they need to work out the appropriate grammatical contexts to use the two imperfective markers.

7.3 Genre effect

The possible interaction between genre type and aspectual marking is advanced by Xiao and McEnery (2010). Their corpus-based analyses indicated that there was more perfective marking in exposition in Chinese than in English but more perfective marking in English narration than the Chinese counterpart. While Xiao and McEnery's study is a comparison of genres in different languages, the present study tried to examine if learners of different languages would be subject to some kind of genre effect in their production of L2 texts.

As reported earlier, the NS group was found to display a 'genre effect' on their aspectual marking: more use of aspectual markers in narration than in

exposition, more *-le* in exposition than in narration, and more *-zhe* in narration than in exposition. However, no such difference was noted among the NNS group. Should we move beyond the overall frequency and examine further the usage of the three aspectual markers, a difference in the interaction between the markers and the two genres could be found. In the narrative data, the NNS groups displayed a distinctive sequence of the usage of the three markers: *-le* the most, followed by *-zhe* and last by *-guo* (Figure 3). The most use of *-le* and more use of *-zhe* were probably driven by the learners' familiarity with the meanings of the markers, which correspond with the typical aspectual frame in a narrative text: *-le* indicating completion/past events and *-zhe* expressing ongoing situations. While the NNS still used *-le* the most in their expository texts, the significant difference between *-zhe* and *-guo* was not noted.[7] This lack of difference between the two markers in the expository data but not the narrative data implies the possible genre effect on the use of the two markers among the learners.

7.4 Classroom input

The predominant usage of *-le* among the NNS groups suggests another relevant concern: the kind of input the learners have and the effect on them. The role of input from native speakers has been put forward as an explanation for the use of *-le* with telic situations (i.e., achievement and accomplishment verbs) in Jin and Hendriks' (2005) study. While naturalistic input undoubtedly has a facilitating role, classroom input can also be considered to have some positive effect on the learners in the present study. Since Cantonese Chinese is the language used by the majority of people in Hong Kong in their daily conversation, it is rather difficult for the learners of the present study to be exposed to Mandarin Chinese in daily interaction with local people. The kind of 'naturalistic' Mandarin input for them will probably come largely from the classroom, with their teachers being native Mandarin speakers.

Meanwhile, the series of textbooks that the learners were using cover *-le* in volume 1 and *-guo* and *-zhe* in volume 2. Presumably, the learners were more exposed to the perfective marker than the experiential or progressive one by the

7 One significant difference in terms of genre type was found among the ENS participants: they used more aspectual markers in narration than in exposition. While this might correspond to Xiao and McEnery's claim, the few tokens of aspectual marking in the expository texts from the English learners will not offer any legitimate explanation for the observed pattern.

time of the present study. This kind of textbook input, together with their interaction with their native teachers, possibly give the learners more exposure to and practice of *-le* and explain why they used *-le* more frequently in their writing. By no means does this suggest any form of imbalance in the input that the learners received; the textbooks and the input from their teachers are likely to reflect the more frequent use of *-le* among native speakers, just as the native participants in the present study.

8 Conclusions

Based on the written output from two small groups of learners of Mandarin and a group of native speakers, the present study discerned some significant similarities and differences in their use of Chinese aspectual markers. Perfective *-le* was the most frequently used aspectual marker among the native speakers and the learners. The Korean learners were found to share more similar patterns of aspectual marking with the native speakers than the English learners. The English learners, on the other hand, displayed some more different patterns from the Korean counterparts and the native speakers. Last, while genre effect on the pattern of aspectual marking was noted among the native speakers, only some indicative trends about possible genre effect were observed among the learners.

The findings of present study support some postulates of the AH but at the same time have shown some distinctive patterns among the learners of Mandarin Chinese. Given the notable features and differences from the small sample of learners in the present study, more data collection is much needed to further enhance the understanding of L2 Mandarin aspectual marking in a more comprehensive manner.

9 Limitations

One major limitation of the present study is the small number of learners involved. While some significant differences were noted between the NS and NNS groups, the 35 essays from five English learners and three Korean learners by no means suffice. More data from the two types of learner would be much warranted in order to identify any developmental patterns and other linguistic patterns of aspectual marking among these two types of learners.

Apart from sample size, more longitudinal data can be collected so as to test the postulates of the AH in terms of the development of aspectual marking among

the learners at different stages of their learning. Further analysis of the data can also be considered in order to discern other features of the use of aspectual markers among the learners. Instead of examining the aspectual patterns from a descriptive manner, there can be an examination of the correct and incorrect usage in the learner data (as in Jin and Hendriks 2005, Yang et al. 1999) or the usage at the discoursal level. Individual differences in the pattern of aspectual marking can also be examined. For example, the learners can be asked to complete some controlled tasks so as to investigate whether their perfective usage corresponds to the aspectual meaning of completion rather than the temporal meaning of 'past.'

10 Pedagogical implications

Just as other research studies (e.g., Duff and Li 2002, Yang et al. 2000), the present study highlights the important role of classroom input. In light of the findings discussed above, it is worth considering certain pedagogical areas that can be covered thoroughly in the classroom context. First, the usage of the experiential *-guo* and the progressive *-zhe* was less frequent than that of the perfective *-le* among the learners. Given the complex nature of *-guo* (Li 2011), more discussion of this aspectual marker and some other markers can be conducted to foster more understanding of the Chinese aspectual system. Second, situation types other than activities appear to be more difficult for the learners than the aspectual markers (cf. Teng 1999 and Yang et al. 1999). More materials can be designed to explain the meanings and usage of these situation types, particularly in terms of their interaction with different aspectual markers. Last, possible interaction between aspectual marking and genre types can be explored through language practices so as to encourage proper and more productive use of aspectual markers in different genres.

Acknowledgements

I would like to thank the two anonymous reviewers for their comments, which have greatly improved this article. I would also like to thank the audience at the NACCL 23, where an earlier and abridged version of this paper was presented, and their suggestions/comments are incorporated in the present version. This study is supported by a grant under Small Project Funding from the University Research Committee of the University of Hong Kong (Project no.: 200907176041), for which I am very grateful.

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Appendix

Participants	Overall	Narrative	Expository
NS	11.15% (152/1363)[#]	13.22% (87/658)	9.22% (65/705)
NNS	8.05% (106/1317)	8.89% (81/911)	6.16% (25/406)
ENS	6.91% (56/811)	8.24% (46/558)	3.95% (10/253)
KNS	9.88% (50/506)	9.92% (35/353)	9.8% (15/153)

[#] The raw figures are stated in brackets. The denominator is the total number of verbs and the numerator is the total number of aspectually marked verbs.
Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners

Table 3: Overall pattern of aspectual marking

Participants	Pattern of aspectual marking		
	了 -le	過 -guo	著 -zhe
NS	57.24% (87/152)[#]	7.89% (12/152)	34.87% (53/152)
NNS	63.21% (67/106)	10.38% (11/106)	26.42% (28/106)
ENS	69.64% (39/56)	5.36% (3/56)	25% (14/56)
KNS	56% (28/50)	16% (8/50)	28% (14/50)

[#] The raw figures are stated in brackets. The denominator is the total number of aspectually marked verbs. The numerator is the total number of verbs with a particular aspect marker.

Table 4a: Overall usage of three aspectual markers

Participants	Text type	Pattern of aspectual marking		
		了 -le	過 -guo	著 -zhe
NS	Narr	50.57% (44/87)	6.9% (6/87)	42.53% (37/87)
	Expo	66.15% (43/65)	9.23% (6/65)	24.62% (16/65)
NNS	Narr	62.96% (51/81)	8.64% (7/81)	28.40% (23/81)
	Expo	64% (16/25)	16% (4/25)	20% (5/25)
ENS	Narr	63.04% (29/46)	6.52% (3/46)	30.43% (14/46)
	Expo	100% (10/10)	0% (0/10)	0% (0/10)
KNS	Narr	62.86% (22/35)	11.43% (4/35)	25.71% (9/35)
	Expo	40% (6/15)	26.67% (4/15)	33.33% (5/15)

[#] The raw figures are stated in brackets. The denominator is the total number of aspectually marked verbs. The numerator is the total number of verbs with a particular aspect marker.
Key: Narr = Narration; Expo = Exposition

Table 4b: Comparison of the usage of three aspectual markers in narrative and expository texts

Participants	了 -le				過 -guo				著 -zhe			
	St	*Act*	*Acc*	*Ach*	*St*	*Act*	*Acc*	*Ach*	*St*	*Act*	*Acc*	*Ach*
NS	8.05% (7/87)	6.9% (6/87)	31.03% (27/87)	54.02% (47/87)	16.67% (2/12)	75% (9/12)	8.33% (1/12)	0% (0/12)	18.87% (10/53)	66.04% (35/53)	13.21% (7/53)	1.89% (1/53)
NNS	7.46% (5/67)	28.36% (19/67)	17.91% (12/67)	46.27% (31/67)	0% (0/11)	90.91% (10/11)	0% (0/11)	9.09% (1/11)	3.57% (1/28)	89.29% (25/28)	7.14% (2/28)	0% (0/28)
ENS	5.13% (2/39)	28.21% (11/39)	15.38% (6/39)	51.28% (20/39)	0% (0/3)	66.67% (2/3)	0% (0/3)	33.33% (1/3)	7.14% (1/14)	85.71% (12/14)	7.14% (1/14)	0% (0/14)
KNS	10.71% (3/28)	28.57% (8/28)	21.43% (6/28)	39.29% (11/28)	0% (0/8)	100% (8/8)	0% (0/8)	0% (0/8)	0% (0/14)	92.86% (13/14)	7.14% (1/14)	0% (0/14)

Key: NS = Native Chinese speakers; NNS = Non-native speakers of Chinese (i.e., L2 Chinese learners); ENS = Native English speakers who are also L2 Chinese learners; KNS = Native Korean speakers who are also L2 Chinese learners; St = stative verbs; Act = activity verbs; Acc = accomplishment verbs; Ach = achievement verbs

Table 5a: Interaction of three aspectual markers and four situation types (Overall)

Participants	了 -le				過 -guo				著 -zhe			
	St	*Act*	*Acc*	*Ach*	*St*	*Act*	*Acc*	*Ach*	*St*	*Act*	*Acc*	*Ach*
NS	9.09% (4/44)	9.09% (4/44)	20.45% (9/44)	61.36% (27/44)	16.67% (1/6)	83.33% (5/6)	0% (0/6)	0% (0/6)	16.22% (6/37)	67.57% (25/37)	13.51% (5/37)	2.7% (1/37)
NNS	5.88% (3/51)	29.41% (15/51)	21.57% (11/51)	43.14% (22/51)	0% (0/7)	85.71% (6/7)	0% (0/7)	14.29% (1/7)	4.35% (1/23)	86.96% (20/23)	8.7% (2/23)	0% (0/23)
ENS	3.45% (1/29)	27.59% (8/29)	20.69% (6/29)	48.28% (14/29)	0% (0/3)	66.67% (2/3)	0% (0/3)	33.33% (1/3)	7.14% (1/14)	85.71% (12/14)	7.14% (1/14)	0% (0/14)
KNS	9.09% (2/22)	31.82% (7/22)	22.73% (5/22)	36.36% (8/22)	0% (0/4)	100% (4/4)	0% (0/4)	0% (0/4)	0% (0/9)	88.89% (8/9)	11.11% (1/9)	0% (0/9)

Table 5b: Interaction of three aspectual markers and four situation types (narration)

Participants	了 -le				過 -guo				著 -zhe			
	St	*Act*	*Acc*	*Ach*	*St*	*Act*	*Acc*	*Ach*	*St*	*Act*	*Acc*	*Ach*
NS	6.98% (3/43)	4.65% (2/43)	41.86% (18/43)	46.51% (20/43)	16.67% (1/6)	66.67% (4/6)	16.67% (1/6)	0% (0/6)	25% (4/16)	62.5% (10/16)	12.5% (2/16)	0% (0/16)
NNS	12.5% (2/16)	25% (4/16)	6.25% (1/16)	56.25% (9/16)	0% (0/4)	100% (4/4)	0% (0/4)	0% (0/4)	0% (0/5)	100% (5/5)	0% (0/5)	0% (0/5)
ENS	10% (1/10)	30% (3/10)	0% (0/10)	60% (6/10)	0%	0%	0%	0%	0%	0%	0%	0%
KNS	16.67% (1/6)	16.67% (1/6)	16.67% (1/6)	50% (3/6)	0% (0/4)	100% (4/4)	0% (0/4)	0% (0/4)	0% (0/5)	100% (5/5)	0% (0/5)	0% (0/5)

Table 5c: Interaction of three aspectual markers and four situation types (exposition)