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By

Hsuehmei Liu Price

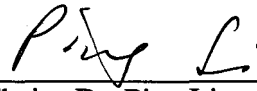
Dr. Ping Li, Thesis Director

Master of Arts in Psychology

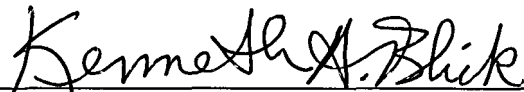
University of Richmond, May 1998

Researchers in the field of both first and second language acquisition have been studying the mechanisms underlying the marking of past tense in English, and have identified verb saliency, grammatical aspect, and proficiency level as some of the factors influencing the process. This study tests these factors by comparing 60 Chinese English learners' correct marking of English past tense under various conditions using analysis of variance. I found that Chinese learners of English are more likely to mark irregular verbs and aspectual perfectives than regular verbs and aspectual imperfectives for past tense. However, proficiency level was not found to have any main effect or interaction effect. No three way interaction was found, but results suggest that grammatical aspect may interact with verb saliency in the process of past tense marking. This study confirms both the aspect and the saliency hypotheses, but raises questions about the role that proficiency level of English as a second language plays in the acquisition of past tense in English.

I certify that I have read this thesis and find that, in scope and quality, it satisfies the requirements for the degree of Master of Arts.



Committee Chair - Dr. Ping Li



Committee Member - Dr. Kenneth Blick



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Past Tense Marking in English by Chinese Learners

By

Hsuehmei Liu Price

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Past Tense Marking in English by Chinese Learners

Language acquisition is something that most people take for granted. Nothing seems special about language because all “normal” people, adults and children alike, can learn to speak at least one language. People think that language is something that is natural to us because everybody acquires it, regardless of race, education, social class, culture, intelligence or location. “It may at first seem surprising that a process as omnipresent as language acquisition should be the focus of so much academic attention” (Stillings, Weisler, Chase, Feinstein, Garfield, and Rissland, 1995). So, why *is* language acquisition “at the confluence of the sovereign disciplines in cognitive science” (Stillings et al., 1995)?

Some people may think that children learn language from their parents. But according to Stillings et al. (1995), all languages are rule-governed. If children learn language from their parents, then the parents must be masters of grammar. But in reality, most people, parents or not, can’t articulate to children the linguistic rules of their native language. For most people, the rules are unconscious and the speaking of the language is automatic. The position that virtually all theorists have taken is that parents generally teach children language in an indirect way. Children are faced with a sea of linguistic data from the moment they are born, from which linguistic rules have to be extracted. So, how do children accomplish this task by the age of six when linguists have not yet managed to do so in several decades (Stillings et al., 1995)? This question is at the core of studies of language acquisition.

One interesting area of research concerning language acquisition is the acquisition of tense, particularly past tense. Recent work on the development of temporality in language acquisition examines the meaning and function of emerging verb morphology. The investigations have focused on the expression of past time and as a result, on the acquisition of past tense morphology in a variety of target languages.

This study focuses on the two main linguistic factors that constrain interlanguage past tense marking, saliency and aspect, and how they interact with each other and with proficiency level in the acquisition of past tense in English. I will first discuss each factor, then provide some empirical evidence from the relevant field concerning each factor, and will conclude by describing the present study.

In recent decades, considerable attention has been paid to the influence of lexical and grammatical aspect on the acquisition of tense marking systems (Antinucci & Miller, 1976; Weist, Wysocka, Witkowska-Stadnik, Buczowska, & Konieczna, 1984; Slobin, 1985). Verbs may be marked for tense and/or aspect. Tense refers to the temporal relationship between an event or state and the moment of speaking. In English, we have past tense, present tense, future tense, pass perfect tense, and so on. In the case of past tense, the action that is spoken of happened before the moment of speaking. Aspect refers to the internal temporal constitution of a situation. In many languages, the perfective-imperfective opposition prevails over finer distinctions (Comrie, 1976). According to Comrie, “perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up that situation; while the

imperfective pays essential attention to the internal structure of the situation” (1976, p.16). Examples (1) and (2) illustrate the distinction:

(1) I was driving to work today when I suddenly remembered our appointment.

(2) Susan continued crying after John left the room.

The verbs, “was, remembered, continued and left” in the examples are all in the past tense. Only remembered and left, however, are aspectual perfectives. They present my remembering the appointment and John’s leaving the room as single events and include the beginning, middle, and the end. In contrast, was driving and continued crying are imperfectives. They express the ongoing nature of the actions without reference to their inception or completion.

Languages differ as to whether and how they mark the basic conceptual distinction between perfectivity and imperfectivity. In English, for example, neither the perfective nor the imperfective constitutes a separate morphological category. Rather, English marks the distinctions between a temporally restricted state, the nonprogressive, and a temporally nonrestricted state, the progressive, and between the habitual and nonhabitual past. Chinese, in contrast to English, grammaticalizes aspectual distinctions, although not tense (Li & Thompson, 1981). Of particular relevance for the studying of Chinese learners, the perfective is the marked member of the perfective-imperfective opposition. Chinese marks the perfective by the particle -le. As Li and Bowerman (in press) point out, the Chinese aspect marker -le is perfective because “it presents a situation in its entirety, as an event bounded at the beginning and the end, and without reference to its internal structure”. So, in Chinese-English interlanguage, perfectives are more likely to be

marked for tense because they are prototypically past. Past-reference imperfectives are less likely to be marked for tense because the core meaning of imperfectivity includes the unmarked tense, the present. This tendency for perfectivity to favor past tense marking is reinforced for native speakers of Chinese by the first-language aspectual marking system, where perfectives are marked by the particle -le. Therefore the tendency for Chinese learners of English to mark perfectives can be seen as a consequence of the convergence of the speakers' first language aspectual marking system and the prototypical meaning of perfectivity and imperfectivity, which are characterized by single, completed events and the ongoing nature of an event or situation, respectively.

Researchers in first language acquisition have shown that children acquiring native languages that grammaticalize both tense and aspect tend to mark aspectual oppositions before verb tenses. Bronckart and Sinclair (1973) found that children acquiring French used the present tense to describe events of long duration with no clear conclusion and the past tense to describe shorter, perfective actions. Berman (1985) found that children acquiring Hebrew initially use the present tense for durative stative verbs and the past tense for end-state or punctual verbs. De Villiers and de Villiers (1985) also found that children acquiring English as a first language initially use the past tense to mark perfective and punctuate actions.

Research in second language acquisition has also suggested that learners of English initially mark aspectual rather than tense distinctions (Flashner, 1989; Robison, 1990; and Bayley, 1994). These suggestions, however, have often been based on small amounts of data from very few subjects. For example, Flashner (1989) concluded on the basis of a

relatively small number of narratives from three adult Russian learners of English that tense marking in the interlanguage of her informants could be accounted for by transfer from the Russian aspectual system.

The other factor, saliency, is also important in the marking of past tense according to Wolfram and Hatfield's (1984) hypothesis that the more salient the difference between the present and past tense forms, the more likely a past reference verb is to be marked. Saliency has been defined in phonic terms. For example, a past form such as *left* is considered more salient than a past form such as *came*. The past form left differs from the present leave with respect to three features or segments (internal vowel change, devoicing of /v/, and addition of a final stop), whereas came differs from the present tense come in only one segment (internal vowel change). The classification system used by Wolfram and Hatfield (1984), and by Bayley (1994) includes eight factors that form a saliency hierarchy. However, on average, regular verbs have less salient past tense forms, with -ed added, and irregular verbs have more salient past tense forms, usually involving an internal vowel change.

Both saliency and aspect have been suggested as possible universal constraints on language change as well as language acquisition (Antinucci & Miller, 1976; Bardovi-Harlig, 1992, 1994; Bloom, Lifter, & Hafitz, 1980; Bronckart & Sinclair, 1973; Robison, 1990; Trudgill, 1986). Researchers in second-language acquisition, however, have tended to emphasize either one or the other of these factors. Hatfield (1986), for example, in a study of the English spoken by Vietnamese refugees in the United States, acknowledged that the Vietnamese aspectual marking system might have had an effect on the

informant's English past tense marking. However, Hatfield chose not to explore this possibility in the greater part of the corpus, concentrating instead on lower level phonetic and phonological factors. Other researchers (e.g., Flashner, 1989) who have investigated interlanguage tense marking have focused almost exclusively on higher level factors such as aspect.

Proficiency level also influences the use of verb morphology. According to Schumann (1987), very low proficiency learners show no systematic use of verb morphology. Andersen (1991) and Robison (1990) found that as tense morphology emerges, its earliest use is to mark grammatical aspect. Intermediate learners show influence of aspectual class with respect to use of verb morphology, but they also show other innovative uses of verb morphology. Ultimately, the use of tense/aspect marking is generalized beyond its early association with grammatical aspect to resemble the target system (Andersen, 1991; Bardovi-Harlig, 1992). However, Bayley (1994) didn't find this particular pattern between aspect and proficiency. Instead, he found that proficiency interacts not with aspect, but with saliency. Although second language learners of English of all proficiency levels are more likely to mark more salient verbs for tense, this tendency is even stronger in learners with higher proficiency.

So it is easy to see that the roles that aspect, saliency and proficiency level play in the acquisition of English past tense are neither clear-cut nor without debate. Indeed there have been arguments against the aspect hypothesis, in both first language acquisition (Weist et al, 1984) and second language acquisition (Meisel, 1987). Meisel found that although learners make some aspectual distinctions, they do not use aspect systematically

with respect to the distribution of verbal morphology. He suggested that an aspectual system in interlanguage may well be a very marginal phenomenon, occurring only occasionally, “which has received too much attention by researchers who based their expectations on findings in L1 studies” and that it may be a learner-specific characteristic. He concluded: “Citing isolated examples will not suffice: quantification is indispensable in this case” (1987, p. 220).

Another issue that clouds this field is that half of the studies done in this area, both in support and in refutation of the hypotheses, present data that is not quantified (Bardovi-Harlig, 1994). Lack of quantification makes comparison between the findings from two studies quite difficult. Such a general absence of quantification may be a consequence of the predominance of case studies in the area. Nevertheless, provided that researchers use caution in applying quantitative analyses to small samples, such quantification is necessary to supplement qualitative analyses if the hypothesis is to be tested rigorously. Bayley’s 1994 study, which will be discussed in greater detail later in this paper, provided a model for future work in this area. Working with 30 hours of conversation from sociolinguistic interviews with 20 ESL learners who are native speakers of Chinese, Bayley showed that both phonetic saliency and aspectual class are relevant in the distribution of interlanguage tense marking. Most importantly, Bayley analyzed his data using the multivariate analysis that was called for by Meisel (1987).

Up to this point, the research in this area has largely focused on untutored second-language learners. As Bardovi-Harlig (1994) pointed out, from the examination of the published data, contact learners and classroom instructed learners appear to differ in

eventual attainment with respect to both accuracy and appropriate use of verbal morphology. She pointed out that the investigation of instructed second language learners may offer the best opportunity to study the later stages of tense/aspect development. Subjects should be randomly selected and data from all subjects should be analyzed. This is a well-known principle, but it bears repeating in an area of inquiry that is so dependent on long connected texts for data, and has been investigated largely by means of case studies. We cannot afford to select only those subjects who are particularly good storytellers or accomplished conversationalists. These learners may conceivably employ different linguistic devices or employ them more skillfully than less accomplished storytellers. Sampling the oral and written styles of different types of learners may be necessary for an unbiased view of learner narrative and conversation construction.

Partly to address the above issues, Bayley (1994) conducted a study using 20 adult native speakers of Chinese living in California. The subjects varied greatly both in English proficiency and in the degree to which they participated in English-speaking social networks. The subjects were interviewed twice and each interview lasted for approximately 1 hour. The subjects were interviewed individually first and then paired with another subject. The conversations were recorded and past-reference verbs were transcribed in standard orthography. Bayley then used the multivariate technique of variable rule analysis (VARBRUL) to determine whether any number of factors significantly influenced observed pattern of variation. Among the factors he tested were verb type, preceding segment, following segment, grammatical aspect, English proficiency, subjects' social network, and interview type. He reported that every factor

tested was significant, but limited his discussion of the results to only verb type, proficiency and aspect. The results of his study show that saliency of verb type favors the marking of past tense, especially in subjects with higher proficiency. The results also show that the binary perfective-imperfective aspectual opposition strongly affects the likelihood that verb forms of all morphological classes will be marked for tense in that perfective aspect favors and imperfective aspect disfavors past tense marking. Moreover, the effect of the perfective-imperfective opposition remains constant across proficiency levels and even across individual speakers.

In the present study, I examine the roles that aspect, saliency and proficiency level play in the process of Chinese learners acquiring English past tense. Bayley's subjects ranged from age 18 to age 40, from graduate student to restaurant worker, and from contact learners to classroom learners. As opposed to the Bayley study which used Chinese subjects living in California with diverse socioeconomic and educational backgrounds, I used Chinese students from China to eliminate the influence of such environmental factors. Bayley divided his subjects into high and low proficiency groups by using their Test of English as a Foreign Language (TOEFL) scores. Subjects who scored higher than 550 on TOEFL were in the high proficiency group and subjects who either scored lower than 550 on TOEFL or had never taken TOEFL were classified in the low proficiency group. This would have been a good idea if he had given the test to subjects himself or if all subjects had taken the test at the same time. But since subjects took TOEFL at various points in their life under various conditions, the scores may not be comparable across subjects, and it is inaccurate to assume that those who have never

taken the test are less proficient in English than those who have. For example, I have never taken the TOEFL myself, not because I am not qualified to do so, but because there has never been a need for me to take the test. By using Chinese 8th graders and Chinese college freshmen in my study, I limit the subjects to only classroom instructed learners, as opposed to a combination of both contact and classroom instructed learners. The difference in proficiency is determined by years of English education, with 8th graders having only 2 years of classroom learning in English whereas college freshmen have had at least 6 years of classroom learning. It should be noted that since the sample within each group is chosen randomly, there is considerable variation in conversation ability within each group.

In his study, Bayley divided verb type into 8 saliency hierarchies. Although verb type as a factor was significant, there were no consistent differences among hierarchies. So Bayley suggested that combining similar factors would probably result in a more efficient analysis. Therefore, to simplify the saliency hypothesis and to make the statistical test more efficient, I only classified verbs into two categories, regular and irregular, with the irregular being more salient and the regular being less salient.

Lastly, by reducing the independent variables from 7 in Bayley's study to 3 in this study, I hope to find a purer relationship between the independent variables and the dependent variable, and a clearer interaction or lack of interaction among the three variables.

Methods

Participants

I used 60 Chinese learners of English as subjects in the study. Specifically, I used 30 8th grade students and 30 college freshmen from High School No. 161 in Beijing and Huaxi Medical School in Sichuan, respectively. All subjects were compensated for their participation in the study. The 8th graders were in the low proficiency group and the college freshmen were in the high proficiency group.

By using students from China, I hope to control for the environment in which the second language is learned. These students have had a similar developmental and educational background and have had a reasonably similar experience in their learning of a second language, so the difference between their English performance comes only from their different years of education in English.

Materials

All subjects read an English story, Red Riding Hood (See Appendix A), from Grimms' Fairy Tales, and then retold the story in their own words to me. The reason for choosing Red Riding Hood is that most Chinese students are familiar with this story and the story is written in simple English and in past tense. Their speech was tape recorded, transcribed into written format, coded for mistakes in past tense marking, and analyzed by the SPSS program.

Design and Procedure

I explained the study to all participants and gave each of them an informed consent form to sign. I then gave them the story to read for 15 minutes, and recorded

their performance in retelling the story of Red Riding Hood in their own words. I chose the retell task because in such a task, the content of the story can be manipulated, the sequence of events is known to the researcher independent of the narrative itself, and narratives can be compared across learners. Because of these advantages, the retell task is frequently used in the study of language acquisition (Bardovi-Harlig, 1994).

I then transcribed the stories into written format. An example of a transcript is presented in Appendix B. Upon completion of the transcribing process, I separated out all sentences that are supposed to be in past tense in each group. All past-reference verbs were coded as either perfective or imperfective, and either salient (irregular) or non-salient (regular), to test the hypotheses that second language learners of English favor marking of perfective verbs and salient verbs, which results in a greater likelihood of past tense marking for perfectives and irregular verbs than for imperfectives and regular verbs. All verbs in each proficiency group were placed into one of four categories: Perfective/Salient, Imperfective/Salient, Perfective/Non-salient, and Imperfective/Non-salient. Irregular verbs whose past tense forms are identical to the present tense forms were excluded from the study since it is impossible to tell if subjects intended to use past tense or not. Irregular verbs that were marked incorrectly for past tense, such as “sleped” for slept, were counted as mistakes. I then calculated the percentage of verbs correctly marked for past tense in each category for each proficiency level.

I expected to find a significant main effect for each independent variable, and an interaction effect between proficiency and saliency. I did not expect to find significant interactions between proficiency and aspect, aspect and saliency, or a three-way

interaction. In particular, I expected to find that Chinese learners of English would be more likely to mark more salient forms and aspectual perfectives and less likely to mark less salient forms and aspectual imperfectives. I also expected to find that students with higher proficiency in English would be more likely to mark tense correctly under all conditions than students with lower proficiency, and that the higher the proficiency in English, the more prominent would be the likelihood to mark more salient forms. All these expectations were based on past research outcomes, particularly results from Bayley's 1994 study.

This study used a 2 x 2 x 2 analysis of variance with mixed designs. There are 3 independent variables, each with 2 levels. The first independent variable, saliency, is a within-subject variable and it has two levels: salient and non-salient. The salient group consisted of irregular verbs and the non-salient group consisted of regular verbs. The second within-subject independent variable is aspect and it also has two levels, perfective and imperfective. The third independent variable, proficiency level, is a between-subject variable with 2 levels, while the low proficiency level consisted of 8th graders and high proficiency level consisted of college students. The dependent variable is the percentage of verbs correctly marked for past tense.

Results

Data from this study was analyzed using repeated measures ANOVA in the SPSS program and the results of the analysis showed a significant main effect of aspect, $F(1, 44) = 15.52, P < .001$, a significant main effect of saliency, $F(1, 44) = 4.96, P < .03$, and

no main effect of proficiency, $F(1, 44) = 1.58, P = .215$. Table 1 presents the main findings of this study.

Insert Table 1 here

Specifically, the results show that Chinese English learners marked irregular verbs correctly ($M = 78.5$) more often than regular verbs ($M = 70.0$), as shown in Figure 1, perfectives ($M = 80.49$) more often than imperfectives ($M = 68.04$), as shown in Figure 2, and that Chinese college students' performance ($M = 76.79$) did not differ significantly from that of their high school counterparts ($M = 71.25$). Table 2 shows the mean percentage correct in past tense marking under various conditions.

Insert Table 2 here

It is important to point out that even though no significant interaction effect of any kind was found when cells with missing values were excluded from the study, a significant interaction effect was found between saliency and aspect when the missing values were replaced by group means, $F(1, 58) = 7.04, P = .01$. Table 3 shows the statistical results when missing values were replaced by group means.

Insert Table 3 here

Tukey's Honestly Significant Difference test shows that when a verb is both regular and imperfective, it is significantly less likely ($P < .05$) to be marked correctly ($M = 59.96$) for past tense than verbs from the other three conditions: irregular/perfective ($M = 82.72$), irregular/imperfective ($M = 76.9$), and regular/perfective ($M = 79.32$), and that verbs from these three conditions don't differ significantly from each other. A graph of the interaction is shown in Figure 3.

Discussion

The findings of this study confirm the roles that grammatical aspect and verb saliency play in past tense marking in English, as suggested by other researchers in the field, such as Bronckart and Sinclair (1973), Berman (1985), and Bayley (1994), in that verb saliency and aspectual perfectives favor past tense marking in English, and regular verbs and aspectual imperfectives discourage past tense marking.

The effect of aspect in past tense marking stems from the fact that aspectual perfectives emphasize the completion of an action, and therefore fit nicely with the concept of past tense, while aspectual imperfectives emphasize the ongoing nature of an action, which is in conflict with the concept of past tense. Thus children who are learning English as a native language and second language learners of English tend to mark aspectual perfectives for past tense more often than aspectual imperfectives.

The reason for the existence of a saliency effect in English past tense marking is open for debate, but I would like to hypothesize that it is because most commonly used verbs, such as come and go, are irregular verbs. Since these verbs along with their past tense forms are seen and heard more often than regular verbs by beginning English learners, both first and second language learners, these verbs and their past tense forms are acquired first.

In the case of American children acquiring English past tense, most children go through three stages. In stage one, young children use a very small number of past tenses correctly, most of them being irregular verbs, such as came and went. Then, in stage two, their vocabulary expands and they use a large number of verbs in the past tense with the “-ed” regulation. In this stage, they overgeneralize the rule to some irregular verbs, even the ones they had used correctly in the first stage. Interestingly, they sometimes add “-ed” to the base of the verb, and sometimes to the past tense of the verb. For example, a child may use goed and wented for the past tense of go. Even more interestingly, a child may use the correct past tense, went, the base+ed form, goed, and the past+ed form, wented, in the same conversation (Kuczaj, 1977). In the last stage, children recover from the errors and use both regular and irregular verbs correctly.

The fact that second language learners of English tend to mark irregular verbs correctly for past tense more often than regular verbs shows a pattern of acquisition by these L2 learners that is similar to that of American children. It is interesting that some of the subjects in this study also added “-ed” to irregular verbs, such as “sleeped”, to form past tense, like American children do in the second stage of their acquisition of past tense. Therefore it is suggestive that, as in the case of American children acquiring English past

tense, rote learning may play an important role in the early phase of acquisition of English past tense by second language learners.

This study refines and narrows Bayley's 1994 study to test only Chinese classroom instructed learners of English who have studied English for either 2 years or 7 years. It has a larger and more homogeneous sample than Bayley's study, and avoids many confounding factors, such as social network, length of stay in the United States, and educational background, that could also influence second language acquisition. Consequently the power of the statistical tests was increased and the researcher was able to obtain a closer look at the roles aspect and saliency play in English past tense marking by Chinese second language learners.

As previously pointed out in the results section, an interesting finding that was not anticipated is the presence of a significant interaction effect between aspect and saliency when the researcher replaced all the missing values with group means. When all cells with missing values were excluded from the analysis, the interaction between aspect and saliency has an $F(44, 1)$ value of 3.68, $P = .06$. With the missing values replaced by group means, thereby increasing the degrees of freedom, the power of the test increased from .466 to .739, and it resulted in an $F(44, 1)$ of 7.04, and a P of .01.

This finding suggests that there could be a true interaction effect between aspect and saliency, and it can only be found if the study has enough subjects and enough power. The interaction appears to be that the effect of aspect is augmented with non-salient or regular verbs, and the effect of saliency is increased with aspectual imperfectives. As can be seen from Figure 3, and is confirmed by the post hoc test, grammatical aspect only

influences the marking of regular, non-salient verbs, not salient or irregular verbs . This could be due to the fact that these Chinese English learners, like American children, acquire the past tense forms of irregular verbs sooner than the past tense forms of regular verbs because of rote learning. As stated before, many commonly used verbs are irregular verbs, and second language learners of English see and hear these verbs' past tense forms regularly. So even though they may not be consciously using past tense in their speech, they may use past tense of irregular verbs just because that's what they are used to hearing. Thus, it is rote learning, not grammatical aspect, that affects the use of past tense in irregular verbs, and grammatical aspect plays a role only in past tense marking in regular verbs. Of course, this is only a hypothesis and it warrants more investigation by researchers in the field of language acquisition.

It is rather surprising that this study failed to find a significant effect of proficiency level in English past tense marking by Chinese learners, or an interaction effect between proficiency level and saliency, as previously reported by Bayley (1994). There are a few possible explanations of why this is the case.

The first and most likely explanation is that the college students used in this study did not really have high proficiency in English, just higher proficiency than their high school counterparts. Thus, this study raises the possibility that to detect the effect of proficiency level in English past tense marking, a certain minimum difference between the proficiency groups is required. This being the case, maybe the college students should have been placed in the middle proficiency group and graduate students or Chinese immigrants with college education in the United States should be used in the high

proficiency group. In many ways, this outcome of non-significance of proficiency level is reflective of the fact that there is a lack of consensus in the field as to what proficiency levels are considered low, medium, and high, and there are no agreed upon objective tests to measure proficiency.

Another possible explanation is that the difficulty in marking past tense correctly in English continues for many years after the beginning of second language acquisition. Since the Chinese language does not mark tense, the tendency to not think about verb morphology and tense while speaking may be so strong in these second language learners that even with 7 years of education in English, Chinese college students do not perform markedly better than their younger counterparts. This is also a very likely explanation for the result, but this explanation is only applicable to second learners of English whose native language does not mark tense.

A third possible explanation can be derived from examination of the raw data. On average, college students talked longer than the 8th graders, used a larger vocabulary, and constructed more complicated sentences, thereby creating more chances for mistakes to be made. Conversely, the 8th graders avoided making many mistakes by using very simple sentences. Since there was no time or length limitation placed on the retell task, the 8th graders provided a simpler but equally accurate account of the story.

Future studies are needed to determine which of the above mentioned possible explanations for the lack of significance of proficiency level in this study are true and what implications they might have in second language acquisition.

One practical implication of this study is that given the fact that Chinese English learners are more likely to mark aspectual perfectives and irregular verbs for past tense correctly, special attention needs to be paid in second language teaching and/or training to past tense marking in aspectual imperfectives and with regular verbs. In other words, both second language teachers and students should be made aware of the effects of saliency and aspect in English past tense marking, so that extra effort can be made to correct the tendency of not marking aspectual imperfectives and regular verbs for tense by these second language learners.

Overall this study provides more empirical support for the saliency hypothesis, which was first developed by Wolfram and Hatfield (1984), and later refuted by Meisel (1987), and the aspect hypothesis, previously reported by Bronckart and Sinclair (1973), and later refuted by Weist et al. (1984). The study also shows that saliency and aspect may interact with each other in the process of acquiring English past tense, which was not previously addressed by other researchers, and provides a suggestive finding which calls for more investigation. This study also raises some important questions about the role proficiency level truly plays in second language acquisition, especially the acquisition of past tense marking in English, by second language learners. These questions will surely be the subject of debate among researchers in future studies.

One problem with the study is that there is a significant number of missing values. In fact, 14 out of 60 subjects were rejected because of missing values, and this caused a diminished power in statistical testing. The underlying reason is that 14 students did not use aspectual imperfectives in their sentences. Since the retell task was spontaneous,

there was no control for the use of grammatical aspect. So the students used whatever came to them naturally at the time, resulting in significantly more aspectual perfectives than imperfectives. One way to control this phenomenon in future studies could be to give these students a Chinese version of the story and ask them to translate the story into English sentence by sentence. By doing so, the researcher would be able to control exactly what kind of verbs (regular or irregular) and which grammatical aspect need to be used.

One area of interest that was not addressed in this study is whether these effects of saliency, aspect and proficiency level vary with the learner's first language. It would be interesting to do a comparison study in which Chinese subjects are matched with subjects from a totally different linguistic background, for example, Spanish. A study of this magnitude would be very costly and time-consuming, but it would prove to be very valuable and should be investigated by future research.

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Table 1

Statistical Results of the Studywith Missing Values Excluded

Source of Variation	SS	DF	MS	F	Significance of F
Between-Subjects Effects					
Proficiency	1404.37	1	1404.37	1.58	.215
Within-Subject Effects					
Saliency	3438.26	1	3438.26	4.96	.031*
Proficiency x Saliency	199.91	1	199.91	.29	.594
Aspect	6793.52	1	6793.52	15.52	.000*
Proficiency x Aspect	381.35	1	381.35	.87	.356
Saliency x Aspect	1819.44	1	1819.44	3.68	.061
Prof x Asp x Sal	1329.43	1	1329.43	2.69	.108

* P < .05.

Table 2

Mean Percentage Correct in Past Tense Marking
under Different Conditions for Both Groups

	8th Graders		College Freshmen	
	Perfective	Imperfective	Perfective	Imperfective
Irregular	80.827	72.435	81.775	78.395
Regular	70.973	60.748	86.898	60.100

Table 3

Statistical Results with MissingValues Replaced by Group Means

Source of Variation	SS	DF	MS	F	Significance of F
Between-Subjects Effects					
Proficiency	1883.89	1	1883.89	2.61	.110
Within-Subject Effects					
Saliency	6201.01	1	6201.01	10.75	.002*
Proficiency x Saliency	169.34	1	169.34	.29	.590
Aspect	9519.36	1	9519.36	24.41	.000*
Proficiency x Aspect	268.20	1	268.20	.69	.410
Saliency x Aspect	2747.10	1	2747.10	7.04	.010*
Prof x Asp x Sal	1464.21	1	1464.21	3.75	.058

* P < .05.

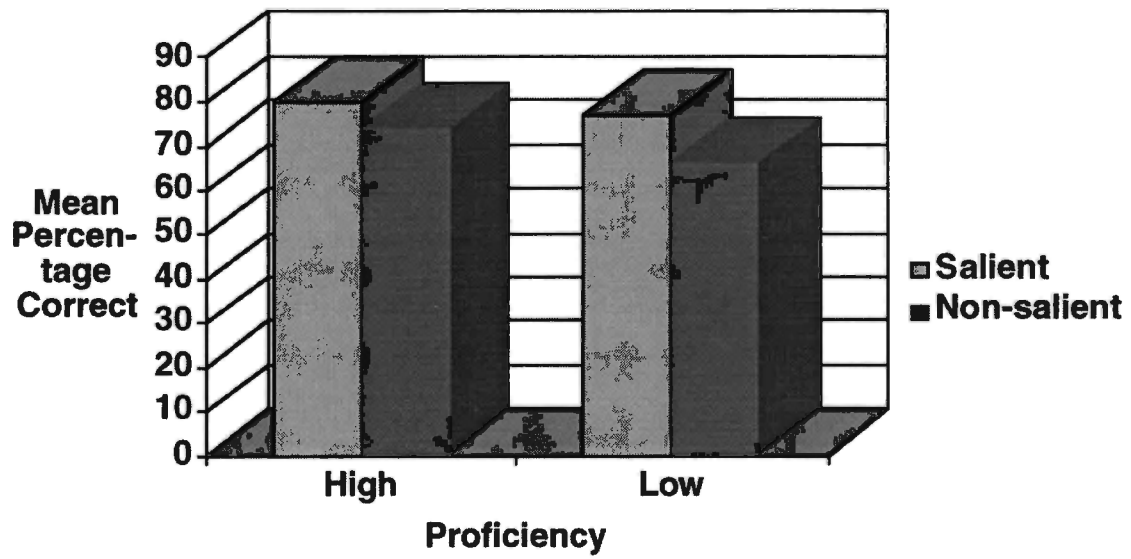
Figure Captions

Figure 1. The main effect of saliency for both proficiency groups.

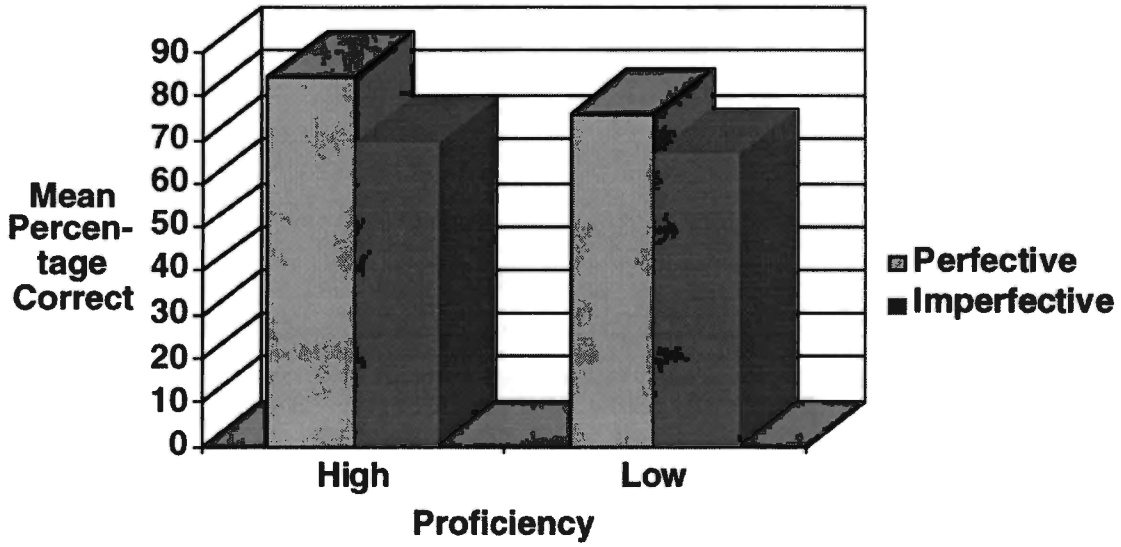
Figure 2. The main effect of aspect for both proficiency groups.

Figure 3. Interaction between Aspect and Saliency. The graph shows that the effect of aspect is stronger with non-salient (regular) verbs, and the effect of saliency is stronger with aspectual imperfectives.

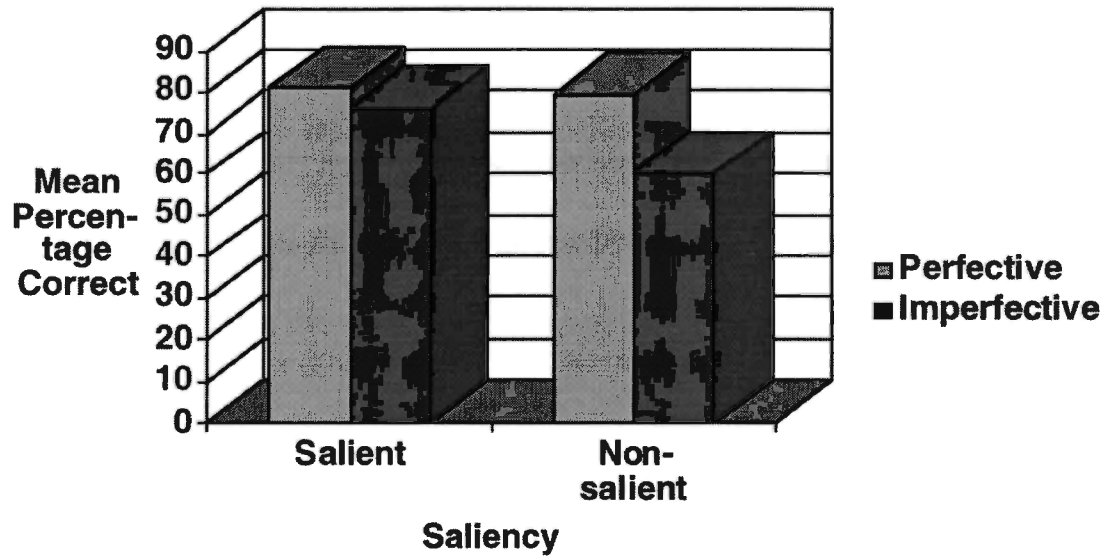
Main effect of Saliency



Main Effect of Aspect



Interaction Between Aspect and Saliency



Appendixes

Appendix A: The story of Red Riding Hood

Once upon a time there was a sweet little maiden who was loved by all who knew her, but she was especially dear to her grandmother, who did not know how to make enough of the child. Once she gave her a little red velvet cloak. It was so becoming and she liked it so much that she would never wear anything else, and so she got the name of Red Riding Hood.

One day her mother said to her, "Come here, Red Riding Hood! Take this cake and bottle of wine to grandmother. She is weak and ill, and they will do her good. Go quickly, before it gets hot. And don't loiter by the way, or run, or you will fall and break the bottle, and there will be no wine for grandmother. When you get there, don't forget to say 'Good morning' prettily, without staring about you."

"I will do just as you tell me," Red Riding Hood promised her mother.

Her grandmother lived away in the wood, a good half hour from the village. When she got to the wood she met a wolf, but Red Riding Hood did not know what a wicked animal he was, so she was not a bit afraid of him.

"Good morning, Red Riding Hood," he said.

"Good morning, wolf," she answered.

"Wither away so early, Red Riding Hood?"

"To grandmother's."

"What have you got in your basket?"

“Cake and wine. We baked yesterday, so I am taking a cake to grandmother. She wants something to make her well.”

“Where does your grandmother live, Red Riding Hood?”

“A good quarter of an hour further into the wood. Her house stands under three big oak trees, near a hedge of nut trees which you must know,” said Red Riding Hood.

The wolf thought, “This tender little creature will be a plump morsel! She will be nicer than the old woman. I must be cunning and snap both of them up.”

He walked along with Red Riding Hood for a while. Then he said, “Look at the pretty flowers, Red Riding Hood. Why don’t you look about you? I don’t believe you even hear the birds sing. You are just as solemn as if you were going to school. Everything else is so gay out here in the woods.”

Red Riding Hood raised her eyes, and when she saw the sunlight dancing through the trees, and all the bright flowers, she thought, “I’m sure grandmother would be pleased if I took her a bunch of fresh flowers. It is still quite. I shall have plenty of time to pick them.”

So she left the path and wandered off among the trees to pick the flowers. Each time she picked one, she always saw another prettier one farther on. So she went deeper and deeper into the forest.

In the meantime the wolf went straight off to the grandmother’s cottage and knocked at the door.

“Who is there?”

“Red Riding Hood, bringing you a cake and some wine. Open the door!”

“Lift the latch,” called out the old woman. “I am too weak to get up.”

The wolf lifted the latch and the door sprang open. He went straight in and up to the bed without saying a word, and ate up the poor old woman. Then he put on her nightdress and nightcap, got into bed and drew the curtains.

Red Riding Hood ran about picking flowers till she could carry no more, and then she remembered her grandmother again. She was astonished when she got to the house to find the door open, and when she entered the room everything seemed so strange.

She felt quite frightened but she did not know why. “Generally I like coming to see grandmother so much,” she thought. “Good morning, grandmother,” she cried. But she received no answer.

Then she went up to the bed and drew the curtain back. There lay her grandmother, but she had drawn her cap down over her face and she looked very odd.

“Oh, grandmother, what big ears you have,” she said.

“The better to hear you with, my dear.”

“Grandmother, what big eyes you have.”

“The better to see you with, my dear.”

“What big hands you have, grandmother.”

“The better to catch hold of you with, my dear.”

“But grandmother, what big teeth you have.”

“The better to eat you up with, my dear.”

Hardly had the wolf said this than he made a spring out of the bed and swallowed poor little Red Riding Hood. When the wolf had satisfied himself he went back to bed, and he was soon snoring loudly.

A huntsman went past the house and thought, "How loudly the old lady is snoring. I must see if there is anything the matter with her."

So he went into the house and up to the bed, where he found the wolf fast asleep. "Do I find you here, you old sinner!" he said. "Long enough have I sought you."

He raised his gun to shoot, when it just occurred to him that perhaps the wolf had eaten up the old lady, and that she might still be saved. So he took a knife and began cutting open the sleeping wolf. At the first cut he saw the little red coat, and after a few more slashes, the little girl sprang out and cried, "Oh, how frightened I was. It was so dark inside the wolf." Next the old lady came out, alive but hardly able to breathe.

Red Riding Hood brought some big stones with which they filled the wolf, so that so he woke up and tried to spring away, the stones dragged him back and he fell down dead.

They were all quite happy now. The huntsman skinned the wolf and took the skin home. The grandmother ate the cake and drank the wine which Red Riding Hood had brought, and she soon felt quite strong. Red Riding Hood thought to herself, "I will never again wander off into the forest as long as I live, when my mother forbids it."

Appendix B: A Sample Response

There was a little girl who was loved by everybody around her. Because she always wore a red coat her grandmother gave her, so he got the name Red Riding Hood. One day, her mother gave her a piece of cake and a bottle of wine and asked her to bring to her grandmother. Because she was ill, so it will be do well to her.

Red Riding Hood said she would do what she was told.

On the way to her grandmother's house, she meet a wolf near the woods. She didn't know the wolf was a bad animal, so she didn't afraid of him and spoke to him.

The wolf want to eat Red Riding Hood and her grandmother both, so he asked Red Riding Hood that she should pick some flowers and took it to her grandmother.

Red Riding Hood thought it was early and her grandmother would be happier to see the fresh flowers. So she went into the woods and pick the flowers.

Then the wolf go to the Red Riding girl's grandmother's house and eat her.

When Red Riding girl pick up some flowers and went to her grandmother's house, he found the door was open.

He thought it was strange but didn't know why.

When he come in, he found her grandmother's eyes was big, and her ears was long, were long. Her hands were big. Before he know what had happened, the wolf had gotten and eat him. Then the wolf "sleped" on the bed.

Some time later, a huntsman pass by the room. He heard the snoring of the wolf and went in to see what had happened to grandmother. He saw the wolf, so he killed him and saved the grandmother and Red Riding girl. They were all happy now.