ACQUISITION OF TENSE-ASPECT MORPHOLOGY BY ENGLISH LEARNERS OF FRENCH AND CHINESE

By

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To My Parents
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The present dissertation investigates the acquisition processes involved in the learning of French and Chinese tense-aspect morphology by English speakers. The objective is to test the Prototype Hypothesis, which states that, in general, learners first acquire the prototypical members of a grammatical category and gradually extend their knowledge to the non-prototypical members. The Prototype Hypothesis treats tense-aspect morphology as a prototype category, and it states that the prototypical features of the perfective aspect (or simple past tense) are [+ result], [+ punctual] and [+ telic] whereas the prototypical features of the imperfective aspect are [- result], [- punctual] and [- telic]. The Prototype Hypothesis is developed from the Aspect Hypothesis and explains the relationship between tense-aspect morphology and the inherent lexical aspect of the predicates.

The dissertation starts with an explicit explanation on how the tense-aspect systems work in both Chinese and French. Following the theoretical explanation is a review of the
previous studies done on the acquisition of tense-aspect morphology, with a special focus on the acquisition process in learning French and Chinese. The present dissertation is based on an empirical study where learners performed a series of comprehension and production activities including one comprehension task, three compositions, one cloze test in French and one written editing task in Chinese. The results from the French data as well as from the Chinese data showed support for the Prototype Hypothesis. Both the distribution and the accuracy in the use of tense-aspect morphology in both languages were influenced by the inherent lexical aspect of the predicates. The effect was more evident in French than in Chinese. More traces of the influence of lexical aspect were found in the compositions than in the cloze test among the learners of French whereas more evidence was found in the written editing task than in the compositions among the learners of Chinese.

The differences in the results between Chinese and French can be explained by the differences in the tense-aspect systems of the two languages. Lexical aspect plays a more important role in the tense-aspect system in French than in Chinese.

The present dissertation contributes to the research on the acquisition of tense-aspect morphology in two ways: first, it provides much-needed empirical evidence on the influence of lexical aspect in the acquisition of Chinese; and second, it gives a contrastive analysis of the acquisition processes of an Indo-European language and a non-Indo-European language.
CHAPTER 1
INTRODUCTION

Tense and aspect has long been the focus of language pedagogy, but the investigation on the acquisition of tense-aspect morphology in second language acquisition began to draw specific attention in the mid-1980s.

In the study of the acquisition of temporal systems, three concepts are crucial: tense, grammatical aspect and lexical aspect. Tense locates a situation on a time line (Comrie, 1985). Grammatical aspect concerns the internal temporal constituency of a situation (Comrie, 1976). Lexical aspect refers to the characteristics inherent in the lexical items that describe the situation. Predicates can be classified into four lexical aspectual classes according to their inherent meaning: states, activities, accomplishments and achievements. The Aspect Hypothesis, proposed by Andersen (1991, 1994) is an influential hypothesis on the acquisition of tense-aspect morphology in first and second language acquisition. It points out the relationship among these three concepts in the acquisition process and states that “first and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with or affixed to these verbs” (Andersen & Shirai, 1994, p. 133). More precisely, it predicts that the acquisition of imperfective aspect will start with states and gradually spread to activities and accomplishments before finally reaching achievements. The spread of perfective aspect is predicted to move in the opposite direction: from achievements to accomplishments then to activities and finally to states.
The Aspect Hypothesis has received ample support from many Indo-European languages, including English, French, Italian, Portuguese, Russian, and Spanish, as well as from non-European languages such as Japanese and Chinese. While there are many studies done on Indo-European languages in the acquisition of tense-aspect, the research on non-Indo-European languages is sparse. Especially in second language acquisition, the number of studies is very limited.

The Aspect Hypothesis is based on observations from empirical studies on the learning processes of tense-aspect morphology. To explain these observations, Shirai and Andersen (1995) turns to the Prototype Hypothesis, which states that there are prototypical and non-prototypical members of a grammatical category and that the learners first acquire the prototypical members of a grammatical category before gradually extending their knowledge to the non-prototypical members. In the acquisition of tense-aspect morphology, for instance, the acquisition of imperfective aspect, states share the most prototypical features among the four aspecual classes with imperfective aspect. This explains why the Aspect Hypothesis predicts that the imperfective marking starts with states before moving to other verb classes.

The objective of the present dissertation is to see how tense-aspect morphology is learned by English-speaking learners of French and Chinese. It is designed to test the Prototype Hypothesis with data from French and Chinese. In other words, the study aims to answer the following questions:

1. Is the use of *imparfait* and *passé composé* by intermediate-level learners of French as an L2 influenced by the inherent semantic aspects of verbal predicates?

2. Is the use of the grammatical aspect markers (*-le*, *-guo* and *zai*) by intermediate-level learners of Chinese as an L2 influenced by the inherent semantic aspects of verbal predicates?
3. How does the acquisition of grammatical aspect in the two languages differ in terms of the influence of the aspectual classes?

Both French and Chinese have a perfective versus imperfective distinction in their grammatical aspectual system. The present study will focus on two past tenses in French: *imparfait* (imperfective) and *passé composé* (perfective) and four aspect markers in Chinese: perfective marker -*le*, experiential marker –*guo*, durative marker –*zhe* and progressive marker *zai*. There are overlaps of functions among the aspect markers of the same grammatical category (imperfective or perfective) between the two languages, but difference is dominant when we compare the two. For instance, in French, tense and aspect are fused together in one morphological marker, while in Chinese, the aspect markers are independent of tense. In view of the entirely different tense-aspect systems in the two languages, it is interesting to see if one factor of the system, lexical aspect, works the same way in the acquisition of these forms.

There have been several studies done on French that tested the Aspect Hypothesis using quantitative analysis and verb classification to see the influence of lexical aspect. Generally speaking, in all the levels tested, from beginners to advanced learners, the influence of lexical aspect has been found. A few studies that touched on the issue of aspectual classes in Chinese had mixed results. These studies on Chinese were not designed to test the predictions of the Aspect Hypothesis, but the results in them can be used as evidence to either support or reject the Aspect Hypothesis. The present study will provide additional evidence to the interaction between aspectual classes and tense-aspect morphology in Chinese.

The present study differs from all others in that it investigates the acquisition process of two distinct languages: French, of the Romance Language family, and
Chinese, of the Sino-Tibetan Language family. It is the first study that compares an Indo-European language with a non-Indo-European language. The comparison of the two languages within the same research design will offer insights on the following issues: 1. Are the claims in the Aspect Hypothesis universal? 2. How does the acquisition process of tense-aspect differ from one Indo-European language to one non-Indo-European language?

The present study is organized as follows: Chapter 2 introduces various theoretical issues: what are tense and aspect? How are tense and aspect represented in French and Chinese respectively? Chapter 3 reviews previous studies on the acquisition of tense-aspect morphology in first and second language acquisition with a special focus on the studies conducted on the acquisition of French and Chinese. Chapter 4 presents the methodology of the present study in detail. It introduces the participants, the data elicitation methods, and the data analysis used. Chapter 5 summarizes the results studies. The explanation and discussion of the results, along with pedagogical and research implications and limitations of the present study, are also presented in Chapter 6 and Chapter 7 draws the conclusion.
CHAPTER 2
THEORETICAL ISSUES

Tense and Aspect

All natural languages have ways of expressing the concept of time; what differentiates them is whether they assign more weight to grammaticalization or to lexicalization. Lexicalization refers to lexical means of expression, for example adverbials such as a week later, last year, tomorrow, etc. Grammaticalization refers to ways of establishing time that require obligatory expression and morphological boundness (Comrie, 1985). English past/non-past opposition is a clear case of a grammaticalized way to locate time, because it is obligatory even when the context (especially the adverbials) makes the time reference clear; the bound morpheme is the past tense marker (-ed for regular verbs) on the verbs. The set of adverbials is infinite, as people keep creating new phrases, while the set of grammaticalized forms is very limited.

It should be specified that grammaticalization is manifested on the verbs, meaning that in most languages that have tense, the tense is indicated on the verb, either by the verb morphology or by grammatical words adjacent to the verb, as with auxiliaries.

The present study is concerned with the grammaticalized forms used to express the concept of time in French and Chinese. By contrasting the two systems, we hope to answer some questions concerning second language acquisition, specifically, the acquisition of time reference in Chinese and French by English speakers.
The grammaticalized means of expressing time in languages include tense and aspect. The former refers to the way one locates a situation\(^1\) on a time line (present, past or future) and the latter concerns the internal temporal constituency of a situation. Tense is deictic since it relates a situation to a reference point, and aspect is non-deictic.

**Tense**

Tense can be divided into three categories: absolute tenses, relative tenses and combined absolute-relative tenses. Absolute tenses take the present moment as their deictic center while relative tenses take a reference point (which could be in the present, past or future) as their deictic center, i.e. the time of the relative tenses depends on the reference point.

Present, past and future tenses belong to absolute tense. If we use S to represent the moment of speech and E for event time, these tenses can be represented using the following formulae (Comrie, 1985):

- Present tense: \( E \) simultaneous to S
- Past tense: \( E \) before S
- Future tense: \( E \) after S

It should be noted that there is a core meaning associated with individual tenses while each of them has other meanings in specific languages. For instance, the core meaning of the English past tense is to represent past time reference, but it has several other secondary, yet very important, meanings, e.g. counterfactual present, as in if I were you, and polite requests, as in I just wanted to ask if you could help me with….

---

\(^1\) Following Comrie (1985), situation here is used as a general cover-term, i.e., a situation may be a state, an event or a process.
determines if a grammaticalization can be called a certain tense or not is if it fits the core meaning of the definition. The ‘core’ meaning is the prototypical meaning.

All the non-finite verbs in English and French can be said to have relative tense because their tense is dependent upon the tense of the finite verbs occurring in the same context. In the following examples:

1). *Walking around the neighborhood, I always see Peter.*

2). *Walking around the neighborhood, I always saw Peter.*

The phrase “walking around the neighborhood” has two different interpretations as far as tense is concerned, with the former being in the present and the latter in the past. Using R as the reference point, the formulae for relative tenses are (Comrie, 1985):

Relative present: E simultaneous to R
Relative past: E before R
Relative future: E after R

English and French pluperfect would be examples of a combined absolute-relative tense.

3). English: *He had left when she arrived.*


Here, the situation ‘his leaving’ is located before the reference point ‘her arrival’ which is in turn located before the moment of speech. So ‘her arrival’ is in absolute tense while ‘his leaving’ is in relative tense.

The formula for pluperfect is: E before R (before S).

**Aspect**

As mentioned above, aspect indicates the internal temporal constituency of a situation (Comrie, 1976). “Aspect” here refers only to grammatical aspect, and does not
include lexical aspect, which will be explained later. In other words, it refers to those aspectual distinctions that are grammaticalized in languages. The difference between the following two sentences is one of aspect:

5). *He read a book.*

6). *He was reading a book.*

The tense of both sentences is past, yet the first situation is viewed as a single whole (perfective) and the second as having a process with no specific beginning or ending (imperfective). We can conclude from the example that aspect is ‘viewpoint’, i.e., it is how people view the situation, so aspect is said to be subjective because the same situation can be described with different aspects without any contradictions.

The basic aspectual opposition is between perfective and imperfective, as shown in the example above. Perfective aspect looks at the situation from outside without an attempt to divide the situation up into various individual phases. Imperfective aspect views the situation from within and is concerned with the internal temporal structure of a situation (Comrie, 1976).

Imperfective aspect is further divided into several subcategories in some languages, as shown in table 2.1. Imperfective aspect includes habitual aspect and continuous aspect which is composed of progressive aspect and its counterpart, non-progressive aspect. The identifying feature of habitual aspect is that it describes a situation, which is characteristic of an extended period of time, so that the situation is viewed as a characteristic feature of the whole period. The structure *used to* in English is a form of habitual aspect. The general definition of progressiveness is the combination of progressive meaning and
nonstative meaning. English Progressive *copula plus verb –ing* manifests the progressive feature.

Table 2.1 Classification of aspectual oppositions (Comrie, 1985, p25)

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<td>Habitual</td>
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<td></td>
<td>Non-progressive</td>
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“Perfect” is also traditionally treated as an aspectual category, although it does not look at the internal temporal constituency of a situation, but, rather, relates a state to a preceding situation. For example, the present perfect indicates the continuing present relevance of a past situation. The past perfect\(^2\) expresses a relation between a past state and an even earlier situation; and the future perfect expresses a relation between a future state and a situation prior to it. The preceding situation can happen in the past, present, or future.

Aspectual categories, like tense and all other grammatical categories, have a core (prototypical) meaning and other secondary meanings. English Progressive serves as a good example to illustrate this point. The core meaning of the Progressive is to describe an ongoing nonstative situation. For example, *John is doing his homework*. But the English Progressive goes far beyond this core meaning and also has the following functions (Comrie, 1976):

1. To express a more temporary state as opposed to a more permanent state expressed by its non-progressive counterpart. Compare the following sentences:

7). *I’m living at 321 SW 76\(^{th}\) street.*

---

\(^2\) Pluperfect is treated in grammatical tradition as a tense, but it is actually, according to linguistic classification, a combination of tense (past) and aspect (perfect). Many so-called tenses in grammatical tradition are a combination of both tense and aspect.
8). I live at 321 SW 76th street.

2. To add an emotive effect that is lacking in the non-progressive, as illustrated in the sentence:

9). I’ve had two whiskies and already I’m seeing pink elephants. (Comrie, 1976, p. 37) The progressive here gives the hint that I’m only imagining things.

Different aspects can be combined to describe a situation. For example, the English Habitual Past and the Progressive can be used together to form sentences like he used to be singing…. The Perfect can also be combined with progressive in English to render the structure like I’ve been wondering…. 

**Interaction between tense and aspect**

In many languages, we find that grammaticalized aspectual distinctions are made in the past tense but not in other tenses, suggesting that it may be a general characteristic of human languages to resort to greater aspectual differentiation in the past than in other tenses. English Habitual aspect only exists in the past and the French perfective/imperfective distinction also only exists in the past. In the Narrative Present (historical present) in French, where the present tense is used to refer to a past situation, the perfective/imperfective distinction is lost. Since the present tense is essentially used to describe, rather than to narrate, it is essentially imperfective, not perfective. While there is present perfective in some languages, it exists primarily to express a perfective non-past which has a future meaning. For example, in Russian, the Perfective non-Past is primarily a future tense. Though perfective non-past does not exist in English as a grammatical category, the point can still be illustrated with examples in English. The sentence: he comes here on its own, normally has a habitual meaning, since if the reference were to an action going at the present moment, it would have to be he is coming
here, i.e., Progressive. However, in the context where he comes here does not have present time reference, then perfective meaning is a possible interpretation, as in a subordinate clause of time, e.g., when he comes here, I’ll tell him. Here the verb comes refers to a future action (Comrie, 1976).

In Arabic, the opposition Imperfective/Perfective incorporates both aspect and (relative) tense (Comrie, 1976). The Perfective indicates both perfective meaning and relative past time reference, while the Imperfective indicates everything else (either imperfective meaning or relative non-past tense). The same thing occurs in Chinese, where the Perfective marker -le indicates at the same time aspect and relative tense (see the section entitled Perfective marker -le).

**Tense and Aspect in French and Chinese**

Because aspectual distinctions exist in particular in the past tense in the languages in question, past time reference will be the focus of the following section, in which an overview of the tense and aspect system is outlined in French and Chinese, with comparisons made to English.

**French**

In French, both tense and aspect are grammaticalized. Every finite verb in the language is conjugated for tense and aspect. The opposition perfective/imperfective exists only in the past tense. Two main tenses are used to express past in spoken French: passé composé (compound past; expressed hereforth as PC) and imparfait (imperfect; expressed hereforth as Imp). PC has perfective meaning while Imp has imperfective meaning. Both tense and aspect are represented on the verb form and it is impossible to distinguish which part of the verb indicates tense and which indicates aspect. The fusion of the morphological markers of aspect and other categories in French (and other Romance
languages) explains why forms which are differentiated aspectually, such as PC and Imp, are traditionally referred to as different tenses, rather than aspectual forms of the same tense (past).

Here is one example of the PC form for the verb *parler* (to speak):

- *j’ai parlé* (I spoke; I have spoken; I did speak)
- *tu as parlé* (you-sing. spoke; you have spoken; you did speak)
- *il/elle a parlé* (s/he spoke, s/he has spoken; s/he did speak)
- *nous avons parlé* (we spoke; we have spoken; we did speak)
- *vous avez parlé* (you-sing. or pl. spoke, you have spoken; you did speak)
- *ils ont parlé* (they spoke; they have spoken; they did speak)

We can see from the example that the PC is composed of two parts: an auxiliary *avoir* meaning “to have” (or *être* meaning “to be”) and the past participle. The only part that is conjugated is the auxiliary in the present tense.

PC was called perfect in some traditional grammars, but it covers both perfect and nonperfect meanings. See the following example:

10). *Il a fini ses devoirs.* (He has finished his homework or He finished his homework.)

In the development of French, there has been a gradual reduction of the presentness of the perfect (PC), which finally became purely past (Comrie, 1985). The PC can be used as the English Present Perfect to relate a past state to a present situation to indicate the continuing present relevance of a past situation (as in *I have spoken*). It can also be used as English Simple Past with perfective meaning (as in *I spoke*).

From the core meaning of past tense and perfective aspect respectively, we can conclude that the basic meaning for PC is to locate a situation before the moment of
speech and to view the situation as a whole. This basic meaning gives rise to some basic temporal functions of PC:

1. To express a situation that ended in the past.

   11). J’ai écrit une lettre. (I wrote a letter.)

2. To express a situation that has present relevance from a situation that ended in the past.

   12). Je vous ai, dès la publication, réservé un exemplaire. (I have, from the time of the publication, reserved a copy for you.)

3. To express a situation completed within a time scope that has not ended.

   13). Aujourd’hui, j’ai acheté un livre. (I bought a book today.)

4. To indicate a situation which no longer exists in the present but was habitual during a well-defined period of time.

   14). Pendant trois semaines, il n’a mangé que du pain sec. (For three weeks, all he ate was dry bread.)

5. After si (if), to replace the futur antérieur (anterior future).

   15). Si vous avez fini dans une heure, je vous donnerai cinq francs. (If you have finished in an hour, I’ll give you five francs.)

Here is an example of the Imp of the same verb that was used to present PC: parler (to speak):

   je parlais (I used to speak; I was speaking; I spoke)

   tu parlais (you sing. used to speak; you were speaking; you spoke)

   il/elle parlais (s/he used to speak; s/he was speaking; s/he spoke)

   nous parlions (we used to speak; we were speaking; we spoke)

   vous parliez (you-pl. or sing. used to speak; you were speaking; you spoke)

   ils parlaient (they used to speak; they were speaking; they spoke)
The Imp can be translated into English habitual past, past progressive and simple past with imperfective meaning. The main temporal functions of Imp include:

1. To describe people, things or facts as they were in the past;
   16). Savez-vous qui était son mari? (Do you know who her husband was?)

2. To express an habitual action in the past;
   17). Ils me donnaient un cadeau tous les ans pour mon anniversaire. (They used to give me a gift every year for my birthday.)

3. To express circumstances that accompany a principle action in the past; in other words, to describe the background of a situation;
   18). Il neigeait quand je suis arrivé à Paris. (It was snowing when I arrived in Paris.)

4. To describe situations already started and continued in the past;
   19). Mon frère étudiait l’anglais depuis deux ans. (My brother had been studying English for two years.)

The difference between PC and Imp is not one of tense, as both express past tense reference, but one of aspect with the first perfective and the second imperfective. Imp is often used to describe the background for events in PC to take place.

Chinese

Tense in Chinese

Most Chinese linguists argue that Chinese is a tenseless language but that it is rich in aspect (Smith, 1991; Erbaugh, 1992; Li & Shirai, 2000). Chinese has a perfective/imperfective aspectual distinction which exists in present, past and in future contexts; in addition, Chinese has a perfect aspect. The perfective marker is –le while the imperfective markers include zai and –zhe; -guo and le are perfect markers. Among these
markers, the interpretation of LE\textsuperscript{3} is the most controversial, and maybe the most difficult part of Chinese grammar for second language learners. There has been discussion concerning LE to determine whether there is one LE or two LEs. The present study adopts the two-LE-position (Smith, 1991; Erbaugh, 1992; Chu, 1998) and states that there is a verb-final perfective –le and a sentence-final le that indicates change-of-state with a focus on the perfective –le.

According to Comrie (1985), tense is a grammaticalized way of locating a situation in time. There are not only absolute tenses which take the moment of speech as a reference point, but also relative tenses that take another situation as reference point. If we think about tenses only from the angle of absolute tenses, Chinese could be considered a language without tense, since there is no specific morpheme for present, past or future tenses. Consider the following examples:

20). *Wo meitian qu chaochi.*
   I everyday go supermarket

   ‘I go to the supermarket everyday.’

21). *Wo zuotian qu chaochi.*
   I yesterday go supermarket

   ‘I went to the supermarket yesterday.’

22). *Wo mingtian qu chaochi.*
   I tomorrow go supermarket

   ‘I will go to the supermarket tomorrow.’

As we can see in these examples, the time reference changes from the present, to the past and then to the future from sentences 20 to 22, but the verb *qu* ‘to go’ remains

\textsuperscript{3} The present paper follows the convention and marks the verb-final perfective marker as –le and the sentence-final perfect marker as le while LE is used to represent both collectively.
unchanged. However, there are two problems with the examples given above. First, sentence number 21 sounds unnatural to a native ear, as if it were not finished; a native speaker would expect more information to come. Second, it is impossible to treat time reference with isolated sentences in Chinese, just as it is impossible to treat relative tenses with only subordinate clauses in English.

The verb-final particle –le is traditionally considered an aspect particle with perfective meaning, which can be used in present, past or future contexts (Li and Thompson, 1981; Smith, 1991; Chu, 1998; Xiao, 2001). In the previous examples, sentence number 21 is in a past context, which is the most common context where the perfective –le is found, but this particle is frequently associated with present and future contexts as well:

23). Women xia-le ke jiu qu kan dianying. (future context)
    We down-le class then go see movie.

   ‘We’ll go see a movie when we get out of the class.’

24). Ta meitian chi-le wanfan hou sanbu yi xiaoshi. (present context)
    S/he everyday eat-le dinner after walk one hour.

   ‘S/he takes a walk for an hour everyday after dinner.’

Since the perfective –le can be used in present, past and future contexts, it cannot be treated as an absolute past tense marker (besides its function as a perfective marker), but it is reasonable to treat it as a relative past tense marker. By definition, relative past tense locates a situation (E) before a reference point (R) while the absolute tense of the reference point is determined by context (Comrie, 1985). This definition does not exclude the present moment or the moment of speech as reference time, actually, the absolute tense of the reference point can be any of the three: past, present or future.
Chang (1986) proposes that the verb-final perfective –le has an anteriority-marking function. When there is a series of situations that happen, the particle –le is used at the end of the first verb to indicate that the second situation doesn’t happen until after the first one. This anteriority-marking function can be reasonably interpreted as a relative past tense marking, because it fits the definition exactly: to indicate one situation that happens prior to another situation, which is used also as the reference point.

Ross (1995) claims specifically that the perfective –le should be treated both as a past tense marker and as a perfective aspect marker. Based on the framework of Bull (1971 cited in Ross, 1995), the characterization of tense is the anchoring of a situation to an axis of orientation. The perfective -le indicates that the situation to which it is suffixed is bound by and anterior to the situation presented in the following VP. The axis of orientation (or the reference point) is the following VP. In short, the perfective –le signals anteriority with respect to an axis of orientation. Basically, the past tense that Ross talks about is relative past tense in Comrie’s terminology, since it is with respect to the following VP.

The present study will adopt Ross’ analysis and will call the verbal –le both a perfective marker and a relative past tense marker. As with the French PC, the perfective marker –le covers both perfect and perfective meaning in English. As Ross points out, a characterization of verbal –le purely in terms of aspect obscures its function of relative anteriority. What’s more, the anteriority-marking function explains the non-use of –le. Before examining this non-use of -le, however, let us first give a complete literature review of how perfective –le is treated in Chinese linguistics.
Aspect in Chinese

Perfective –le. As mentioned above, most Chinese linguists agree that -le should be considered a perfective aspect marker. What differentiates different scholars is the exact definition of ‘perfectivity’ they give to –le. It is generally agreed that –le is obligatory, but an agreement has not been reached as the circumstances under which it is obligator. In other words, -le’s grammatical functions are still under discussion. It is no easy task to summarize where to use –le because, with different contexts, it could be both ungrammatical and obligatory within the same sentence. In other words, the grammaticality of –le goes beyond the sentence-level.

Li and Thompson (1981, p185) characterize the function of –le as ‘bounded’ and give four criteria to determine the boundedness of a situation:

1. By being a quantified event
2. By being a definite or specific event
3. By being inherently bounded because of the meaning of the verb
4. By being the first event in a sequence

The boundedness characterization explains –le’s function better than previous claims where –le is said to signal completion (Chao, 1968, cited in Chu & Chang, 1987). Comrie (1985) states that the perfective aspect does not have completion in its meaning. Yet the problem remains that boundedness cannot account for the many exceptions where the situation is bounded but -le is not used. For example:


‘I went to the bookstore yesterday and bought a book.’
The situation “I went to the bookstore” is a bounded event since it satisfies two of the conditions above: it is a definite event and the first in a sequence. However, -le is not needed with the verb ‘go’, although it is used with the verb ‘mai’.

In an attempt to explain the non-use of the perfective marker –le, Chu (1998) proposes to examine the question from a discourse perspective. This discourse perspective does not mean grounding; actually, Chu points out that grounding does not work here. Andreason (1981, cited in Chu 1998) has claimed that –le has the function of marking foreground in narrative discourse, but many foregrounded clauses occur without –le. This point can be illustrated with the same example just mentioned. In example 25, the situation “I went to the bookstore” is in the foreground, but no –le is needed. The solutions advanced by Chu are peak-marking function and anteriority-marking function.

We have discussed anteriority-marking above and called it the function of a relative past tense marker. This tense-marking function overlaps with one of the functions of –le as a perfective aspect marker, which comes as no surprise given that there is a natural association between perfective aspect and past tense. The anteriority-marking function derives from the notion of perfectivity but it should be understood in a discourse context where it signals that the second situation does not happen until after the first situation (where –le is suffixed) ends. This explains why the marker –le is not needed for the second situation, but required for the first.

The peak-marking function is also a discourse function which, similar to the anteriority-marking function, derives from the notion of perfectivity. It views a whole series of situations as a single one and suffixes –le to the peak situation. This explains why in a series of clauses, only one of them is suffixed with –le, while the others are not.
Special attention should also be paid to occasions when –le should not occur. Besides the discourse functions of –le that explain its non-use in discourse, some specific verbs often reject –le. They are the ‘say’ verbs (shuo ‘say’, gaosu ‘tell’, tongzhi ‘inform’, etc.) and verbs with a classic flavor (i.e., verbs from old Chinese). –Le is not combined with the ‘say’ verbs either in direct or indirect speech. Perfective –le is not used here because the focus is the content of what is said. However, when the focus shifts from the content of speech to whether or not the person did the telling, -le could be used with the ‘say’ words. This characteristic proves that the perfective –le marks the most salient message in a discourse. The reason why verbs with classical flavor do not take –le is explained by the late emergence of the affix (Mei Tsulin, 1981 cited in Chu 1998).

Perfect le. It should be noted that there is another le in Chinese that is homographic and homophonic to the perfective –le. This other le occurs in sentence-final position while the perfective –le occurs in verb-final position. The function of le is to signal a change-of-state. For example,

26). Ta  gao le.
   S/he  tall  le.
   ‘S/he is tall now.’ (meaning s/he was not tall before)

This change-of-state could be simply a realization on the part of the speaker, though, and not necessarily a change in the objective situation. Consider the following example:

27). Xia  yu  le.
   Down  rain  le.
   ‘It is raining.’ (It has started raining.)
This sentence can be used not only when it has just begun to rain, but also when the speaker has just discovered that it is raining.

Li, Thompson and Thompson (1979) propose that we consider *le* a perfect aspect marker even though *le* is sentence-final and not verb-final. They claim that the basic communicative function of *le* is to signal a Current Relevant State (CRS), that is, *le* denotes that a state of affairs has special current relevance to some particular reference time. Furthermore, they adopt a ‘cluster’ view of the universality of functional categories, namely, that functional categories such as aspect should be treated as having a core meaning and other secondary meanings specific to individual languages. As the core meaning of the perfect aspect, which is the CRS, is the same as that of Chinese *le*, they argue that *le* should be treated as a perfect aspect marker. Using or not using sentence-final *le* changes the meaning, but the sentences by themselves are always grammatically correct with and without *le*. Sentence-final *le* and verb-final –*le* can occur in the same sentence.

Experiential perfect marker –*guo*. Following Comrie (1985), the present study calls –*guo* the experiential perfect marker because it indicates that a situation has been experienced at least once in the past. Compare the following sentences to contrast –*le* and –*guo*:

28). *Ni chi-le yuchi ma?*  
You eat-*le* shark’s fin?  
‘Have you eaten shark’s fin?’ (Did you eat shark’s fin?)

29). *Ni chi-guo yuchi ma?*  
You eat-*guo* shark’s fin?  
‘Have you ever eaten shark’s fin?’
**Imperfective markers.** Both (zheng) *zai* and –*zhe* indicate ongoing situations, so they can be categorized as “continuous”, under the imperfective aspect. The differences between the two lie in three areas:

1. *Zai* is used before the verb while –*zhe* is a suffix.

2. *Zai* indicates progressive situations while –*zhe* can occur with progressive and non-progressive situations (i.e. non-states and states). “Progressive” means the combination of continuous meaning and nonstative meaning. In different phases of a progressive situation, the situation changes (or progresses), while in a continuous situation with non-progressive feature, the different phases represent exactly the same state. Compare the following sentences:

   30). *Ta xihuan ting-zhe yinyue xie zuoye.*
   
   S/he like listen-zhe music write homework
   
   ‘S/he likes to do his homework while listening to music.’

   31). *Ta zhengzai ting yinyue, turan you ren qiao men.*
   
   S/he zhengzai listen music suddenly have people knock door
   
   ‘Someone knocked at the door when s/he was listening the music.’

3. *Zai* indicates that the clause with the prefix is temporal in nature while –*zhe* indicates that the clause with the suffix is treated as a manner adverbial. *Zai* is used more often to answer a ‘when’ question, and –*zhe* a ‘how’ question. Sentences 30 and 31 can be used again to illustrate this third point.

**Summary of Grammatical Tense and Aspect**

To summarize, as table 2.2 shows, in the past tense, French and English both have absolute and relative past tenses, but the relative tense is not grammaticalized. Chinese, however, only has relative past tense. Aspect plays an important role in further dividing the past tense category. In French and English, tense and aspect are fused into one form and every form has both the functions of tense and aspect. In Chinese, the perfective
aspect marker -le also has a relative past function and all the other markers have only aspectual function\(^4\).

Table 2.2 Aspectual oppositions in English, French and Chinese

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>French</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>*</td>
<td>passé composé</td>
<td>-le</td>
</tr>
<tr>
<td>Imperfective</td>
<td>*</td>
<td>imparfait</td>
<td>*</td>
</tr>
<tr>
<td>Continuous</td>
<td>*</td>
<td>*</td>
<td>-zhe</td>
</tr>
<tr>
<td>Progressive</td>
<td>be + V-ing</td>
<td>*</td>
<td>zai</td>
</tr>
<tr>
<td>Perfect</td>
<td>have + present participle of Verb</td>
<td>*</td>
<td>le, -guo</td>
</tr>
</tbody>
</table>

French has a perfective/imperfective distinction; this opposition is denoted by PC and Imp respectively. In the imperfective, être en train de is the progressive form (lexicalized not grammaticalized way to express progressive) in French, but it is not often used; instead, the Imp is often used to translate the English progressive form. For example, *David was writing* will be rendered in French *David écrivait*.

Chinese has a perfective/imperfective distinction as well as a perfect aspect form. The perfective marker is –le, the imperfective markers are zai and –zhe, and the perfect markers are –guo and le.

In English, there are only progressive and perfect aspects, otherwise, there is just the Simple Past form, with no further distinction of aspect. Habitual aspect used to exists in the past, but it is optional because the simple past can replace it.

Both the French and Chinese perfective aspect incorporates the perfective as well as the perfect meaning in English. The French Imp covers the progressive meaning but goes beyond it because Imp can also be used for stative situations. Both English and Chinese have progressive and perfect aspects while French does not.

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\(^4\) All the aspect markers in Chinese have other functions besides tense or aspect functions; the present paper is only concerned with their functions within the tense-aspect system.
Lexical Aspect

When talking about aspect, it is important not to limit the discussion to grammatical aspect only. Lexical aspect is equally important in the aspectual system. Lexical aspect, also called situation aspect or Aktionsart, refers to the characteristics inherent in the lexical items that describe the situation. As Andersen and Shirai (1996) noted, the inherent lexical aspect referred to here includes only the morphosyntactic aspectual information in a sentence, such as verbs and their arguments, not temporal adverbials.

Vandler (1967) classified verbs in English into four categories: states, activities, accomplishments and achievements. This classification is based on three semantic features: telicity (with or without an endpoint), dynamicity, and durativity (Shirai & Andersen, 1995, p744).

Table 2.3 Semantic features of the four verb classes:

<table>
<thead>
<tr>
<th></th>
<th>Punctual</th>
<th>Telic</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Activity</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Achievement</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

With the help of Table 2.3, the four verb classes (Shirai & Andersen, 1995) are defined as follows:

- States are verbs that have no dynamics, and continue without additional effort or energy being applied. Examples of states are *to be, to believe, to think*, etc.
- Activities are verbs that are dynamic in nature, with no clear endpoint, and the phases in the internal structure of an activity are homogeneous. Examples of activities are *to run, to sing, to dance*, etc.
- Accomplishments differ from activities in that they do have a clear endpoint. Examples of accomplishments are *to build a house, to run a mile, to sing a song*, etc.
Achievements are punctual, telic and dynamic, they differ from accomplishments in that they happen instantaneously. Examples of achievements are to realize, to enter, to break, etc.

It can be seen from the examples above that even though the classification is based on verbs, their arguments are not to be ignored. The same verb can belong to different aspects depending on the complements it takes, thus “to sing” is an activity, but “to sing a song” is an accomplishment and “to sing songs” is an activity again. The present paper follows Andersen and Shirai in calling the verb classification inherent lexical aspect. Different from what Smith (1991) calls “situation type,” inherent lexical aspect does not change with adverbials or with tense-aspect morphology; it is concerned only with the verb and its arguments within the situation defined by the whole sentence.

Vandler’s four-way classification is widely accepted and used as a theoretical basis for many linguistic studies. The classification is “a linguistic universal” and “a cognitive universal” (Andersen & Shirai, 1996, p. 532). It has been applied to Indo-European as well as non-Indo-European languages (Jacobsen, 1982; Foley & Van Valin, 1984; Weist et al., 1984; Holisky, 1981 cited in Andersen & Shirai, 1996; Li & Bowerman, 1998; and Smith, 1991; among others). Following previous studies, the present paper adopts the four-way classification to categorize verbs in French and Chinese.

Grammatical aspect is an overt grammatical category, while lexical aspect is a covert grammatical category (Erbaugh, 1992). In other words, one can determine from the form of the verb which grammatical category it belongs to, but the lexical aspect of a verb can only be learned individually and there are no affixes to indicate it. We have mentioned, in our discussion of tense and aspect in general, that the grammatical aspect in different languages has the same basic meaning (core meaning), but is not necessarily identical because every grammatical category in a language has its own specific, even
idiosyncratic, features. Inherent lexical aspect works the same way. Attention should be paid to the following two points: 1. One category, for example, achievements, does not necessarily have the same set of verbs in different languages. The translation of a verb into another language does not mean a match in lexical aspect between the two verbs. 2. The rules concerning verb complements are not the same in different languages either. Thus, although two verbs in different languages might have the same semantic meaning, one could belong to different inherent lexical aspectual classes while the other can only belong to one.

The relationship between grammatical aspect and lexical aspect has been extensively investigated in linguistic theory, in studies of first language (L1) acquisition as well as second language (L2) acquisition, both in terms of language universals and contrastive analysis. It is evident that grammatical aspect and lexical aspect interact and that there is a close relationship between the two in terms of combinations between them (Comrie, 1976; Shirai & Li, 2000). Natural associations have been observed, for example, between perfective aspect on the one hand and achievements and accomplishments on the other; between imperfective aspect and states; and between progressive aspect and activities. This comes as no surprise, since there exist considerable overlaps between grammatical aspects and lexical aspects. For example, the characteristics for perfective aspect overlap with those for achievements, namely punctuality and termination (endpoint). It should be pointed out here that all grammatical aspects can combine with verbs in all four lexical aspects, it is just that the natural associations mentioned above are more frequent (or more prototypical).
Between Lexical Aspect and Grammatical Aspect

The verbs in both French and Chinese can be classified according to Vendler’s four-way classification; however, before going into the relationship between lexical aspect and grammatical aspect in the two languages, it is important to note some special features of the Chinese verb system. The category ‘verb’ in Chinese is quite different from that in English or French. First of all, the verbs do not conjugate for tense, person, voice or mood; second, the distinction between verbs and adjectives is not so clear. There exists a category in Chinese called “adjective predicate” (Hsu, 1998), which resembles more the category of adjectives in English. For example:

32) Ta hen gaoxing.
    S/he very happy.
    S/he is (was) very happy.

In this example, there is no ‘verb’ and the adverb hen (very) directly modifies the ‘adjective’ gaoxing (happy). In the category ‘adjective predicate’, the adjective takes the role of the verb “to be.” Chu (1983) claims that adjective predicate should be called state verbs whereas other verbs be called action verbs. The present study follows Chu and classifies these adjective predicates as states.

Another special category within the Chinese verb system is the Resultative Compound. They are composed of a verb and a Resultative Complement to represent the meaning ‘finish doing something’. Example are given below:

33). zuo wan
    do finish
    V + Resultative Complement
33). zhuang fan
    knock over
    V + Resultative Complement
As stated in Chu (1976 cited in Xiao, 2001), Chinese action verbs alone only indicate active attempts rather than attainment of goals, it is with the help of perfective marker –le and resultative complements that action verbs reach a goal. Resultative compounds form a logical whole, and it is not practical to separate the verb from its resultative complement. Chinese often uses resultative compounds to describe events that English specifies with accomplishments and achievements. Unlike English accomplishments, however, Chinese resultative compounds cannot be marked with the progressive marker. Following Li and Bowerman (1998), the present study treats resultative compounds as a subclass of achievements.

As mentioned in previous sections, there is a perfective/imperfective aspectual opposition in the French past tense. The perfective past tense is passé composé (compound past, PC) and the imperfective past tense is imparfait (imperfect, Imp). Both PC and Imp can be combined with all four types of verbs. However, the associations become weaker when we go from the combination between PC and achievements and accomplishments to the combination between PC and activity and even weaker in the combination between PC and states. Imp works in the opposite direction: the associations between Imp and states are the strongest and become weaker with activities, accomplishments and then with achievements. Actually, the associations between PC and states, as well as those between Imp and achievements are so weak, that they both require a shifted interpretation (Smith, 1991, p. 255). The former requires an inchoative reading and the latter requires a repetitive reading. Comrie (1975) also talks about these unusual combinations and his idea is in line with that of Smith. Comrie claims that these combinations limit the range of interpretation of a given verb.
Chinese also has a perfective/imperfective distinction. The perfective marker is 
–le while the imperfective markers include zai and –zhe; in addition, there are two perfect 
aspect markers: le and –guo. All the aspect markers can be combined with all the four 
verb classes. As in French, however, unusual combinations, such as a perfective marker 
with states or an imperfective marker with achievements, require shifted readings.

It should be noted that the definition of “situation type” in Smith (1991) is different 
from the one adopted by the present paper. He claims that the situation type changes from 
states to inchoatives (which are of the accomplishment or achievement situation types in 
Smith, 1991) when states are combined with a perfective aspect marker. In our view, 
however, the inherent lexical aspect does not change; what changes is the situation type 
of the whole sentence. That is why we clearly indicate that all aspect markers can occur 
with all four verb types. But we should be aware that not all aspect markers can occur 
with all the verbs in every verb class. For example, in English, states do not usually 
combine with progressive aspect. When we say that progressive aspect can be combined 
with all the four verb classes, it means that it is possible for some of the states to be 
marked by progressive aspect, not that every state predicate can be used in progressive. It 
is grammatically correct to say he is being silly, but incorrect to say *he is knowing the 
fact (Comrie, 1976).

\[5\] It is essential to note that there are two LEs, but only verb-final -le is the focus of the present study.
CHAPTER 3
ACQUISITIONAL STUDIES

Aspect Hypothesis and Related Studies

In the L1 and L2 acquisitional studies on tense-aspect morphology, one observation is constantly reported: learners seem to restrict their tense-aspect marking to certain verb classes. For example, learners use simple past in English only with punctual situations (i.e. achievements) and use progressive aspect only with activities. Several hypotheses have been proposed to describe what is going on, including Bickerton’s (1984) Punctual-Non-Punctual Distinction (PNPD) and State-Process distinction, which essentially claim that children mark those distinctions instead of tense. Bloom et al. (1980 cited in Andersen & Shirai, 1996) also claim that aspect is learned before tense in the sense that children mark lexical aspect first, not tense. Weist et al. (1984) do not agree with Bloom et al. and call Bloom’s claim the Defective Tense Hypothesis. Using studies on the acquisition of Polish as evidence, Weist et al. claim that children mark both tense and aspect. Overall, however, the most influential hypothesis is the Aspect Hypothesis (Andersen, 1991, 1993; Andersen & Shirai 1994, 1996). The Aspect Hypothesis (Andersen & Shirai, 1994, p. 133) states that “first and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with or affixed to these verbs.”

More specifically, the Aspect Hypothesis claims that perfective past inflections are predominantly attached to achievements and accomplishments in the early stages, and that imperfective past marking, which emerges later, is used predominantly with state-
activities initially. As Andersen and Shirai (1996) caution us, the Aspect Hypothesis makes an observational description of inherent lexical aspect and grammatical tense-aspect marking pairings during acquisition without attempting to offer a cognitive explanation behind the learning process.

Andersen and Shirai (1996, p. 533) summarize the descriptive claims of the Aspect Hypothesis as follows:

1. Children first use past marking (e.g. English) or perfective marking (e.g. Chinese, Spanish, etc.) on achievements and accomplishments, eventually extending its use to activities and states.
2. In languages that encode the perfective-imperfective distinction, imperfective past appears later than perfective past, and imperfective past marking begins with states and activities, then extending to accomplishments and achievements.
3. In languages that have progressive aspect, progressive marking begins with activities, and later extends to accomplishments or achievements.
4. Progressive marking is not incorrectly overextended to states.

As can be seen above, the Aspect Hypothesis is not concerned with the question of whether tense or aspect is acquired earlier. It simply states the relationship observed in language acquisition between inherent lexical aspect and tense-aspect morphology. In other words, it does not explain what drives the learners to create a certain interlanguage, it just describes the patterns found in the interlanguage. Tense-aspect morphology is viewed as the final product of the learners, not the starting point.

The Aspect Hypothesis also predicts that there are eight developmental stages associated with the distribution of tense-aspect morphology across verb classes (Andersen, 1991, p. 315): at Stage 1, learners mark neither past tense nor aspect; at Stage 2, the use of the perfective aspect (or simple past tense) is encoded in punctual verbs only; at Stage 3, prototypical state predicates appear in imperfective forms; at Stage 4, the
perfective spreads to accomplishments, while the imperfective spreads to activities: all verbs are now marked by inherent aspect in past tense; at Stage 5, the use of verbal morphology begins to overlap within each verb type: telic verbs can now be marked by imperfective or perfective aspect; at Stage 6, activities can be used with perfective or imperfective aspect; at Stage 7, punctual events can be marked by either imperfective or perfective aspect; Stage 8 constitutes the end of the sequence: states can now be encoded in perfective aspect.

The Aspect Hypothesis points out a new direction in the study of acquisition of tense-aspect morphology. Many studies in L2 acquisition have tested it on different languages and given it ample support. Early studies focused on a small number of target languages, namely Spanish, English and French (Salaberry, 1998, 1999; Kumpf, 1984; Robison, 1990; Bardovi-Harlig, 1992, 1998; Kaplan, 1987; Bardovi-Harlig & Bergström, 1996 among others), then later expanded to languages such as Catalan, Dutch, Italian, Japanese, Portuguese and Russian (Comajoan, 1998 and Housen, 1994; Giacalone Ramat, 1995, 1997; Shirai, 1995 and Leary, 1999). Learners involved in the studies include tutored and untutored learners, foreign language learners and second language learners. The data elicitation methods range from personal and impersonal narratives, to written narratives, to silent film retells, to cloze passages.

All four claims seem to be supported with L2 acquisition studies. The association of perfective past (e.g. English simple past, Spanish preterite) with achievements and accomplishments is by far the most robustly attested stage in the distribution of verbal morphology in the interlanguage system. The developmental sequences described by Andersen are also observed in cross-sectional studies. In languages where the opposition
between perfective/imperfective exists (French, Italian and Spanish), imperfective appears to be acquired later than perfective and states seem to be strongly associated with imperfective (Harly, 1992; Bardovi-Harlig & Bergström, 1996; Salaberry, 1999; Kihlstedt, 2002; Howard, 2004 among others). The spread of imperfective over verb classes is not as extensive as the spread of perfective/past. Even when the imperfective reaches its last stage, achievements, the rates of appropriate use (accuracy) are higher with the prototypical uses (atelic verbs) than with the non-prototypical uses (telic verbs). Tokens of states in interlanguage are dominated by *be* and *have* or their equivalents. This phenomenon is not seen in the acquisition of perfective past morphology.

The overgeneralization of progressive to states is observed in learner interlanguages, but the rate is very low for learners with even limited instruction (generally around 3-4% for personal narratives, and 7-9% for cloze passages) (Bardovi-Harlig, 2000).

**Major Studies on the Aspect Hypothesis**

Some major studies on languages other than French and Chinese and their findings are summarized below (studies on Chinese and French will be introduced in detail in the next section).

Bardovi-Harlig (1998) used oral and written narratives from L2 learners of English to examine the Aspect Hypothesis. In her study, the oral data supported the Aspect Hypothesis better than the written data. The oral data showed a clear progression of past tense from achievements to accomplishments to activities, whereas in the written data the achievements and accomplishments patterned the same way. The written cloze passages used by Bardovi-Harlig and Reynolds (1995) did not show a difference between the two telic verb categories (accomplishments and achievements) either. Instead, the marking of
simple past was found to associate much more closely with telic verbs (achievements and accomplishments) than with atelic verbs (activities and states).

Robison’s results (1993 cited in Bardovi-Harlig, 2000) convincingly supported the claims of the Aspect Hypothesis. Spanish-speaking learners of English performed oral interviews, and the findings showed that event predicates (achievements) had the highest use of simple past of all the aspectual categories. The rates of use of simple past tense increased for all lexical categories when proficiency increased. Robison (1995) found that the association of progressive marking with activities strengthened with proficiency level, even as the verbal morphology developed with proficiency level. Also, the use of present tense with states was observed in the past imperfective context.

The German learners of English in Rohde’s (1996) study showed that for both regular and irregular verbs, most of the verbs that are inflected belong to the category of achievements. Bayley (1994) had similar results to Rohde, and showed that although phonetic constraints determined the likelihood that a verb would be inflected for past tense, the tendency for telic verbs (accomplishments and achievements) to carry past cuts across phonetic categories. In other words, telic verbs are more likely to be marked with past morphology, whether they are regular or irregular.

Salaberry claimed in his 1999 study that the effect of lexical aspect may not be as prevalent during the beginning stages as it is during more advanced stages of L2 Spanish acquisition. Yet, a reanalysis of the data in Salaberry (1999) by Bardovi-Harlig (2000) showed that the data do follow the developmental predictions made by the hypothesis. Based on the data collected from intermediate and advanced learners of Spanish using a written cloze test, Salaberry (2002) found that the effect of the lexical aspect of the verb
does not appear to be stronger among advanced learners than among intermediate learners. However, he claimed that it is possible that an even stronger effect of a single marker of past tense (i.e., a default tense marker) could be detected in earlier stages of development.

Housen and Rohde provide counterexamples to the Aspect Hypothesis. Housen (2002) reported a longitudinal study of a child with L1 Dutch learning English. While the data on the acquisition of the progressive aspect supported the predictions made by the Aspect Hypothesis, with the acquisition of simple past marking, the picture was not clear. States (mostly irregular verbs) appeared early in the stages of development and much more often than expected. In addition, an analysis of the types instead of the tokens revealed a lack of the early association between achievements and simple past marking proposed by the hypothesis. Housen argued that the Aspect Hypothesis might work only for regular verbs, not for irregular ones.

Rohde (2002, p. 209) found from his earlier (1996) data of German children learning English that states had a very high past-tense marking frequency rate: 80%-100% among four children in obligatory past contexts.

Harlig, 2000) performed a grammaticality judgment task and were more accurate in recognizing the correctness of –te i- with activities than with achievements.

**Discourse Hypothesis**

Though the Discourse Hypothesis is not the hypothesis tested by the present study, it is important that readers have some knowledge of it to better understand some of the studies reviewed in the following two sections.

Cross-linguistic investigations have suggested that the distinction between background and foreground is a universal of narrative discourse. In the early 1980s, scholars such as Hopper (1982), Flashner (1989) and Kumpf (1984) suggested that a relationship exists between the use of verbal morphology in interlanguage and the grounding of the narrative. Their analysis and findings were later summarized as the Interlanguage Discourse Hypothesis, which predicts that learners use verbal morphology to distinguish foreground from background in narratives (Bardovi-Harlig, 1994). As to which morphological markers are associated with which grounding, different studies provide different results (Kumpf, 1984; Véronique, 1987; Bardovi-Harlig, 1995, 1998). The most typical connections are between perfective markers and foreground as well as between imperfective markers and background. Although the Discourse Hypothesis and the Aspect Hypothesis seem to be competing (they both deal with the distribution of verbal morphology) and distinct (one concerning narrative structure, one lexical aspect), they both rest on shared features of temporal semantics. There are overlaps between features that determine grounding (sequentiality, punctuality and completeness) and those that determine lexical aspects (telicity, dynamicity and punctuality), which explain why both hypotheses can often be supported by the same data in acquisition studies.
Andersen and Shirai (1994) also recognize the discourse motivations for the distribution of tense-aspect morphology observed in L1 and L2 acquisition as well as among native speakers. They argue that both learners and native speakers have the same communicative need to “distinguish reference to the main point/goal of talk from supporting information, within the tradition of research on grounding and the functions of tense-aspect marking in narratives” (p. 152). The role of discourse is offered by Andersen and Shirai more as an explanation to the Aspect Hypothesis than as another (competing) hypothesis describing the distribution of tense-aspect morphology.

**Studies on the Acquisition of French as a Second Language**

As in other languages, studies on the acquisition of temporality in French focus on the acquisition of pastness, in other words, the focus is on how learners acquire the notion of past using different linguistic as well as extralinguistic means. *Imparfait* and *Passé Composé* are the two main past tenses used in spoken French and they remain the center of all the studies on the acquisition of temporality in French. Depending on the level of the subjects, the focus shifts from verbal morphology, to discourse and pragmatics. Studies have been done in various learning environments including untutored immigrant workers, immersion students and beginning, intermediate and advanced foreign language learners.

**Untutored Learners**

Trévise (1987) analyzed three short narratives from two Spanish-speaking informants learning French using an analytical frame he proposed. This analytical frame includes two main parts: the reference point and the structure of the narrative. Basically, the analytical framework calls for a detailed investigation of all the possible ways of expressing temporality, from verb morphology to world knowledge. The results indicated
that temporal linguistic markers and the notional value of time do not necessarily match in learners’ narratives. One notion can be represented by several grammatical or lexical means; at the same time, one grammatical marker can refer to several different notions.

For example, one informant, M1, did not always assign the same value to the only temporal conjunction he used; *quand* (when) was used to mean *when, before, after,* and *at the same time*. There were no meaningful oppositions in verb morphology used by the two learners.

Trévise pointed out that the terms “foreground” and “background” do not represent linguistic concepts and he used two other terms within “structure of narrative” (mentioned above) instead: story line, on the one hand, and comments, explanations, and descriptions, on the other.

Véronique (1987) designed a cross-sectional study to examine conversational excerpts from Arabic- and Berber-speaking workers living in Marseilles, France. The findings showed that the foreground-background dichotomy is too simple for interlanguage analysis. In fact, his results indicated that verb morphology in interlanguage was not determined by grounding, contrary to how it works in the target language. Véronique suggested taking into account local constraints such as adverbials, chronology and spatial devices also.

In addition, Véronique found that learners in his study used similar devices to those of native speakers, namely:

- Reliance on the discursive principle: first happened, first mentioned
- Reliance on shared knowledge of the world and asyndetic relations between clauses
- Use of calendrical expressions and spatial reference
- Use of indexical and anaphoric adverbials
- Use of an elementary V stem ~ (aux.) V + [e] verb morphology contrast (p. 267)
The European Science Foundation (ESF) project examines the acquisition of temporality by foreign immigrant workers in industrialized Western European countries. The target languages (TL) are English, German, Dutch, French and Swedish, while the source languages (SL) are Punjabi, Italian, Turkish, Arabic, Spanish and Finnish. The research involved in the project is cross-linguistic and longitudinal.

In the acquisition of French, four informants from two different SLs (Spanish and Arabic) were interviewed. In each SL, a pair of two learners, one a slow learner and the other a relatively fast learner, was studied in order to obtain insights on developmental sequences. Each learner’s production was analyzed in great detail, as is the case in individual case studies. To avoid the “inflectional paradigm bias” (Klein, 1995), the factors taken into consideration include not only tense and aspect but also temporal adverbials, discourse organization and the principle of natural order\(^1\). The theoretical model adopted in the project is a discourse-based functional model that the researchers of the project call the “conceptual approach” (Dietrich & Perdue, 1995), which means that the starting point is the concept “time”. What is under investigation are all the sub-components available to the learners to express the concept of time and the development of these components over time.

Since the learners were all untutored (even though some of them had had instruction in French for a very short period of time), their verbal morphology was very underdeveloped. There were very few signs of systematic morphological distinctions and these were idiosyncratically marked in relation to the TL when they emerged. For

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\(^1\) The Principle of Natural Order (PNO, Klein, 1986) claims that narratives follow chronological order and that deviation from chronological order must be indicated.
example, one of the learners of French, Berta, from a Spanish-speaking background, seemed to make a mood distinction (realis vs. irrealis) with the verb pattern: V–[e] vs. V-0. What the learners relied on was the discourse structure, in combination with a rich repertoire of temporal adverbials. The principle of natural order was systematically used from the first stage. The functions of adverbials were stretched beyond their target-like uses to compensate for the lack of knowledge in verbal morphology. For example, deictic adverbials were used as anaphoric ones. Another characteristic of the interlanguage was the reliance on (framed and unframed) quoted speech as it provided available deictic adverbials that learners could use with a shifted temporal value.

The objective of the ESF research was not to test the Aspect Hypothesis; furthermore, it was not possible to test the Aspect Hypothesis, because the verbal morphology was at its very early stages in these learners who participated in ESF. However, one of the findings was in line with the results reported in many other studies on the acquisition of French: although French has a grammaticalized aspectual distinction in the past, there is no evidence in the data that even advanced learners acquire it.

The results also indicated that in learners’ narratives, events in the foreground tended to have an inherent boundary, and background situations tended to be durative and to happen at the same time as some foreground events. This finding seems to agree with the Discourse Hypothesis, in that the learners seem to distinguish the foreground from the background, though not by means of verbal morphology. The devices associated with the two groundings differed from one learner to the other. Similarly, Véronique (1987) claimed that his study on African workers’ French shows that the use of IL verbal
morbidity was not determined by backgrounding or foregrounding as is the case in the TL.

It is true that the functional approach is appropriate for the studies on untutored learners because their underdeveloped verbal morphology prevents us from making any quantitative claims, but this approach has several drawbacks. First, because it takes everything into account, the analysis seems to be extremely long yet without focus. Some of the description is so detailed that it requires adequate knowledge of the TL to understand it. Second, there seems to be a lack of systematicity in the analysis. It is sometimes hard to follow, as patterns are not clearly stated by the researchers. Third, the detailed analysis requires a very limited number of subjects, which in turn limits the generalizability of the results.

**Tutored Learners**

**Immersion learners**

In the effort to enhance the grammatical competence of the immersion students with respect to their use of the Imp and PC, Harley (1989) did an experimental study to determine the effect of focused instruction on the acquisition of the two tenses. Activities were designed to provide focused L2 input that promoted perception and comprehension of functional contrasts between the two tenses and to provide more opportunities for students to express these functions in the realization of interesting, motivating tasks. Students were given pre-tests, immediate post-tests and delayed post-tests using compositions, cloze tests and oral interviews. Only immediate benefits were found among the students in the experimental group. In the long run, the experimental students did not do significantly better than the students in the control group. Nevertheless, the present author does not think that it means the treatment was not successful; the fact that
near-native speakers have trouble in grammaticality judgments regarding PC and Imp simply shows that we cannot expect to teach this notorious feature of French in 8 weeks.

Harley (1992) conducted a cross-sectional study to seek patterns of second language development in the acquisition of French by English-speaking immersion students in Canada. Thirty-six early immersion students (from Kindergarten), 12 late immersion students and 24 native speakers were interviewed. The grade levels of the students were grades 1, 4 and 10.

Among the various features of the French verb system under investigation were tense and aspect. The findings suggested a relationship between the tense chosen and the lexical aspect of the verb. PC was found almost exclusively with dynamic verbs whereas Imp was lexically restricted to a small set of inherently durative verbs such as *aimer, avoir, être, pouvoir, savoir* and *vouloir*.

As the subjects in the ESF project, the grade 1 students were found to rely on the wider discourse context or accompanying adverbs, rather than using verbal morphology, to convey distinctions in time. This suggests a universal early stage of acquisition where lexical and discourse means play a more important role than verb morphology.

It seems that Imp poses more difficulty for the students than PC. Grade 10 students (10 years of immersion beginning in kindergarten) produced regular use of Imp to refer to past action in progress, but very little use of this form in the context of habitual past, where Imp is obligatory. A study of adult advanced learners of French (Kihlstedt, 2002) confirms the relative difficulty of the acquisition of this function of Imp. Several reasons are proposed by Harley to account for the slow development of Imp, among which are the multiple homophony of Imp with the infinitive and second person plural/imperative, the
optionality of its use in many contexts and its application, unlike the English progressive, to both states and actions in the past. But note that the students use Imp with durative verbs as *aimer, avoir, être, pouvoir, savoir* and *vouloir*, which in English do not normally occur in the progressive. The author herself states in the conclusion that those lexically bound instances of Imp might be unanalyzed chunks.

**Beginning and intermediate foreign language learners**

Bardovi-Harlig and Bergström (1996) tested the four effects of the Primacy of Aspect Hypothesis (the Aspect Hypothesis) using acquisition studies of English and French as second/foreign language. Twenty-three ESL and 23 FFL learners were asked to recall an 8-minute excerpt from the silent movie *Modern Times*. The results indicated that the acquisitional patterns in both English and French show effects of lexical aspect. In other words, with regards to French, Imp appeared later than PC; Imp marking began with states, extending next to other verb classes; the spread of PC had an early strong association with achievements, followed by accomplishments before spreading to activities and states. But as in Harley (1992), Imp was also found to be lexically restricted to several durative verbs.

Bardovi-Harlig suggested that language teachers provide contextualized examples of state predicates with Imp in French since Imp seemed to be undergeneralized, with *avoir* and *être* accounting for 81.3% of all the instances of states used in the Imp. This seems to be a cross-level problem since even the use of Imp by the advanced learners in Kihlstaedt’s (2000) study and of the immersion learners in Harley’s (1992) study was restricted to a limited number of durative verbs. One example from Kihlstedt illustrates the point very well: one of the subjects, Marie, identified as a late advanced learner,
hesitated and asked for confirmation when extending Imp to the less frequent state verb, *valoir*.

Kaplan (1987) used error analysis in her study of the developmental patterns of past tense acquisition among first and second year university learners of French. The purpose of the study was to test the Input Hypothesis to see what effects, if any, instruction had on the observed generalities. Results showed that the use of PC has a greater overall accuracy rate than Imp. In addition, the verb types\(^2\) supplied for PC was four times greater than those supplied for Imp. Imp was clearly underrepresented in these learners’ output. Imp was often presented by a present tense form, while relatively few present tense forms occurred in the PC slots.

In trying to explain the greater accuracy rate of PC, Kaplan rejected the effect of instruction, because Imp was introduced earlier than PC for those learners. This does not stand as a valid explanation because introducing first is far from being a strong condition for a greater accuracy rate. Besides, the role of instruction implies much more than the order of introduction. The author also proposed the greater frequency of occurrence in the classroom of PC and the subtle aspectual notion of the Imp to explain the results.

Kaplan also claimed that the precedence given to (grammatical not lexical) aspectual organization over time-marking may be a universal language acquisition feature. Support of this claim comes from the observation that present tense was used by the learners in place of Imp but not PC, indicating that learners did see the distinction

\(^{2}\) Verb types are different from verb tokens which include every occurrence of a verb in any form. Verb types are instances of a verb with different inflectional endings. For example, two instances of *avoir* in first person singular count for one type but two tokens.
between Imp and PC. As the distinction was not temporal, it had to be aspectual. There is no consensus in the literature whether the learners mark aspect or tense first in their acquisition of temporality.

Since the basis on which the Aspect Hypothesis was proposed is L1 acquisition, Salaberry (1998) posed the following question: should we assume that adult classroom learners will develop their L2 grammar in the same way as an adolescent in the natural environment? To answer the question, Salaberry conducted a study to analyze the development of aspect markers (PC and Imp) in 39 English-speaking second-semester learners of French and in their control group, 30 native speakers. The data elicitation tasks involved a written narration of a short film and a cloze test. Results from both tasks showed that the selection of past tense marking by native speakers and learners coincided with respect to the prototypical relations between grammatical aspect and inherent semantic values. The data from the cloze test revealed that learners differed from native speakers in their use of non-prototypical grammatical aspect in L2 French. The statistical tests of the narrative task in the study revealed significant differences in the use of verbal morphology between telic verbs (achievements) and atelic verbs (statives and activities) for both groups.

Salaberry viewed the extended use of the PC in both tasks among the learners as a piece of evidence to consider PC a default marker of past tense. The free written task (written narratives) revealed more clearly non-native speakers’ over-reliance on the use of this potential default marker of the past tense. Because the data from the cloze test showed that classroom learners were not successful in the selection of the non-prototypical forms associated with states (PC),
Salaberry concluded that the spread of PC and Imp from prototypical to non-prototypical forms might differ between academic and natural learners. His reasoning was that classroom learners did not have access to a highly contextualized linguistic environment. While it is plausible to account for the difference between classroom learners and natural learners according to the different linguistic environments they are in, it is not clear how Salaberry reached the conclusion that the spread of tense-aspect morphology differed between the two. He did not make it clear whether the difference existed in the distribution of PC and Imp over lexical aspects or in the accuracy of the use of PC and Imp or both.

It was likewise not clear how his study showed a different trend than the developmental sequences proposed in the Aspect Hypothesis, although it was not a longitudinal or cross-sectional study. He seemed to think that a similar profile of use of verbal morphology according to aspectual class between native and non-native speakers would suffice to disprove the developmental sequences. The problem with his claim is that he only had learners from one level; the fact that their use of verbal morphology over aspectual classes pattern similarly with that of native speakers does not mean that they did not go through the developmental stages proposed by the Aspect Hypothesis.

**Advanced foreign language learners:**

It is true that research on advanced learners is sparse compared to that on beginning and intermediate learners. Kihlstedt (2002) tried to fill the gap by investigating the acquisition of tense and aspect by advanced learners of French. His study investigated the following question: Are advanced learners of French still more sensitive to the distributional bias of the input so that the prototypical associations of Imp and PC are more strongly reflected by the learners than by the native speakers?
Generally speaking, the learners in this study were not more constrained by inherent lexical aspect than native speakers. The spread of different verb types in PC and Imp was compatible with that of the native speakers; Imp cluttered predominantly in states, both in the learner group (88%) and the native group (85%). But a “correct” form used “appropriately” in interlanguage can be both correct and appropriate for the wrong reasons. As Kihlstedt pointed out in his discussion: form precedes function. When past inflections begin spreading to the non-prototypical combinations, such as telic verbs in Imp and states in the PC, they do not necessarily express the same functions as in native use.

Most of the mistakes that the learners made in Kihlstedt’s study were associated with the use of Imp. When learners used Imp on their own initiative, the tendency was to explicitly mark duration. In fact, Imp is normally incompatible with time adverbials that express a quantified, limited duration, except when the situation can be seen as habitually repeated within a global temporal frame. The late acquisition of this particular function of Imp: Habitual Imperfect, has also been observed in English-speaking immersion students (Harley, 1992). To explain the problematic feature of the Habitual Imperfect, Kihlstedt proposed that in this function, Event Time and Reference Time are separated. The present author suspects an additional explanation, which is that for English speakers, the Habitual Imperfect is expressed by an analytic form “used to”, so it is hard for the students to accept a synthetic form. The same explanation works for the lack of use of Imp to express the progressive, which is expressed in English by the analytic form be+ -Ving. Kihlstedt further claimed that the principle semantic division of inflection was +/- dynamicity rather than +/- telicity.
Kihlstedt proposed that the default relation of reference to past time is *before now*, and the more an event is specified, aspectually or temporally, the higher the acquisitional stage. This explains in part the acquisitional difficulty of Imp.

Howard (2004) tested both the Aspect Hypothesis and the Discourse Hypothesis with three groups of advanced learners of French. The results of the study showed that the use of each morphological form varied not only between discourse grounds, but also within each discourse ground as a function of the lexical verb class. Howard concluded that it was the joined force of both lexical aspect and grounding that determined tense-aspect marking by learners. In fact, Howard claimed that many factors besides lexical aspect and grounding (e.g. phonetic salience, verb irregularity) interacted to create the interlanguage, and that future research should investigate multiple causes of the variations in tense-aspect marking.

**Studies on the Acquisition of Chinese**

Research on the acquisition of temporality in Chinese is focused on the acquisition of aspect (grammatical aspect). This focus can perhaps be explained by the fact that aspect is the only category in Chinese temporality that is grammaticalized as in Indo-European languages. What’s more, in the aspectual category, the particle *LE* (verb final – *le* more than sentence final *le*) receives much more attention than other particles because it is the most frequently used aspect marker in the language and it has been found to pose the most problems to learners.

There are far fewer acquisition studies on non-Indo-European languages than on Indo-European languages; studies on Chinese are especially sparse. There are very limited numbers of studies available on the acquisition of temporality in L1 and L2 Chinese.
L1 Acquisition of Chinese Temporality

Erbaugh was the first to study the acquisition of temporality in Mandarin Chinese. The subjects of her study (1985), two two-year-old Mandarin-speaking children, virtually never marked time or aspect; the only exception was their broad use of the perfective verb suffix \(-le\).

The features that triggered the perfective were found to follow the ranking below from the most important to the least important: pastness of event, clear end point, re-enactment potential, transitivity and agentivity. The first two factors are self-explanatory. Re-enactment potential “expresses the degree of sensory support which the child has for rehearsing the event she wants to describe” (p. 59). Agentivity means that the situations described involve the children themselves as agents. Transivity indicates the “potency and affectedness of the agent and patient” (p. 60).

Inherent lexical aspect was found to be closely associated with the marking of \(-le\) under the category clear end point. Punctual aspect was very strongly correlated with \(-le\) use; more durative verbs could also be used to express a clear-cut end point and Chinese Resultative Complement Expressions played a critical role in marking end points on durative actions. In addition, as mentioned in Chapter Two, Resultative Complement Expressions (Resultative Compounds in Chapter Two) are a form of achievements. Thus, the results in Erbaugh seem to support the Aspect Hypothesis in that the perfective \(-le\) is more strongly associated with telic verbs (achievements and accomplishments) than with atelic verbs. Both marked and unmarked past references used a full semantic range of predicates, including actions, processes and states, thus supporting Weist’s (1984) assertion that past marking appears cross-linguistically for a full range of predicate types.
Erbaugh (1985) stated that the five factors were universal and that they applied to both children and adults. More importantly, he concluded that personal involvement was a far more powerful trigger for aspect marking than syntactic or semantic factors for children.

Li & Bowerman (1998) designed a very rigorous experimental study on the acquisition of aspect particles: -le, -guo, -zhe and zai by 135 Mandarin-speaking children aging from four to six years old. They proposed that there were natural associations between lexical and grammatical aspect in Chinese: between the perfective marker –le and accomplishments/achievements, between the progressive marker zai and activities, and between the durative marker –zhe and states. The purpose of their study was to see if children were sensitive to those natural associations.

The results of the experiments suggested that the Chinese children were indeed sensitive to these associations and more analysis showed that there was a consistent association of imperfective markers with atelic verbs and of the perfective marker with telic verbs. Statives and semelfactives\(^3\) patterned in general like activities. The authors concluded from those results that children were indeed sensitive to the distinction between process and result as proposed in the Basic Child Grammar Hypothesis (Slobin, 1985 cited in Li & Bowerman, 1998). There was, however, no evidence for the Bioprogram Hypothesis (Bikerton, 1981 & 1984 cited in Li & Bowerman, 1998), which states that distinctions between state and process and between punctual and nonpunctual

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\(^3\) Smith (1991) added semelfactives as an expansion of Vendler’s four-way verb classification. Semelfactives are verbs such as ‘cough’, ‘tap’ and ‘knock’. They are similar to achievements as being punctual. When combined with progressive markers, they are interpreted as specifying a repeated situation.
are preprogrammed into learners. Li and Bowerman pointed out that future research should not focus on the preprogrammed form-meaning mapping in tense-aspect acquisition, but, rather, should seek alternative explanations in models that emphasize children’s ability to detect patterns through the formation of prototypes.

Huang (2000) investigated how two Mandarin-speaking children referred to the past, taking into account not only aspectual particles, but also semantic and discourse-pragmatic perspectives.

The two children’s references to the past were divided into two categories: with or without overt markers. The analysis of the tape recording showed that when children marked their past references, they resorted mostly to aspect markers and most frequently used the perfective marker -le. Experiential marker guo was used for distant past reference. Both guo and -le were used by the children to indicate deictic temporal relations where the reference was speech time.

In line with the findings in Erbaugh (1985), Huang found that children’s access to temporal adverbs appeared to be rather limited, as opposed to their mothers, who used mainly temporal adverbs to establish past time.

In Huang’s study, the children used the perfective marker -le predominantly with resultative verbs (Resultative Compounds), therefore, it appears that their use of the perfective marker was associated with the inherent lexical aspect of verbs. It was also stated in the study that early perfective marking was strongly associated with the sense of pastness. Huang resorted to the prototype account proposed in Andersen and Shirai (1994) to explain the influence of lexical aspect on the acquisition of grammatical aspect. The reason why resultative verbs and pastness were associated with perfective marking is
that these two features are among the prototypical features of the perfective aspect: [+unitary], [+result state], [+punctual] and [+past]. Huang also mentioned that the situations described often involved the children themselves as agent, which Erbaugh termed “agentivity”. For instances where past references were unmarked, context, shared knowledge and world knowledge helped establish the time reference between children and their mothers.

**L2 Acquisition of Chinese Temporality**

According to Duff & Li (2002), the difficulty of acquiring perfective -le for L2 learners lies in the multifunctionality of -le, its interaction with the inherent lexical aspect of predicates, and the role played by the speaker’s perception or viewpoint of the relative boundedness of an event. The multifunctionality of -le is illustrated in this study by a decontextualized sentence, along with its five different possible interpretations. For learners from a tensed language, it is very hard to image an inflected verb in a simple sentence having five interpretations. The sentence given in the article, along with its five interpretations, are reproduced here (p. 421):

\[
\begin{align*}
\text{Ta} & \quad \text{lai-LE (ambiguous)} \\
\text{He} & \quad \text{come-LE} \\
i. & \quad \text{He came} \\
n. & \quad \text{He has come} \\
n. & \quad \text{He is coming} \\
n. & \quad \text{There he comes} \\
\end{align*}
\]

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4 The perfective –le in Duff and Li’s study excluded typical sentence-final le such as Adjective+le, but did not differentiate them in overlapping instances where verb-final –le occurred at the end of the sentence.
The functions listed by Duff and Li as well as those listed by Wen (1998) do not seem to have relationships among them. In other words, the different functions of -le seem scattered in the language, so it is very difficult for L2 learners to grasp the gist of -le. Moreover, as pointed out by Duff and Li, aspect marking is very much oriented toward discourse/pragmatics and, in many cases, is syntactically optional according to the speaker’s perception.

Nine native speakers (NSs) and nine non-native speakers (NNSs) of Chinese completed two oral activities and one written editing task. Based on the results of these activities, it was observed that there are several factors responsible for learners’ production (or omission) of the perfective verb-final -le in Mandarin: L1 transfer from English, cognitive factors related to the functional load of -le, learner’s exposure to Chinese, learner’s proficiency, inherent lexical aspect, discourse features of the tasks, and the effect of instruction and textbook explanation.

The results showed that NNSs, particularly those with low proficiency levels, tended to undersupply –le in their oral narratives, and tended to oversupply it with certain state and non-perfective activities. There were also trends including subjects’ non-suppliance of -le at early points of acquisition, then oversuppliance (attributed to overgeneralization and transfer of L1 tense-marking-sensitivity). The initial instruction and awareness that Mandarin does not have tense, combined with early interlanguage simplification, initially allowed NNSs to suppress all grammatical marking for past and/or perfective events. By the second semester of university study, and increased exposure to -le, students begin to consciously produce, and even overproduce -le, with quantified or other specified objects.
Most of the NNSs’ correct suppliance of -le in the written editing task co-occurred with accomplishments/achievements with quantified or specified objects; incorrect suppliance occurred with states, “say” and “think” verbs, or verbs in nonperfective situations.

Though not directly, the authors also discussed the role of grounding when talking about the influence of the task types. The personal narrative of vacation travel did not elicit as many -les from NSs as the oral video-story-telling, because the travel narratives involved more background description.

One interesting finding in the study is that one of the reasons that the NNSs did not use as many -les as NSs is that they did not have enough vocabulary. The authors posited that NNSs had a smaller repertoire of inherently perfective verbs (V, V+ Quantified Objects or Resultative Compounds), so they attached –le to more generic and less prototypically perfective verbs.

In a study conducted by Wen (1995), fourteen English-speaking students of two different proficiency levels took part in three oral interviews. Wen divided LEs into two categories: verb suffix –le and sentence-final le. He claimed that the two are functionally different and are learned differently in L2 acquisition. Verb suffix –le has a perfective aspect function, whereas sentence-final le signals the end of the sentence and change of state. Each utterance of LE was coded as verb-final or sentence-final and the accuracy of each category was calculated. While most of the studies acknowledge the differences of the two LEs, they focus on the perfective marker or, as in Duff and Li, on the overlapping instances, such as when verb-final –le occurs at the end of the sentence.
In other studies that differentiate the two LEs, Erbaugh (1985) found that 80% to 90% of the cases of LEs by native Chinese-speaking children are perfective markers, leaving only 10% to 20% sentence-final. The findings of Wen’s study agree with what was observed by Erbaugh in L1 acquisition: English-speaking learners acquire the perfective aspect –le earlier than sentence-final le. The evidence makes Wen believe that sentence-final le contains certain linguistic and non-linguistic difficulties not associated with the verb suffix -le. He posits that the constraints on verbs are more active than those on sentences in the minds of both children and adult speakers. In addition, according to Wen, the meaning of the verb suffix –le is more concrete and less varied than sentence final le. Teng (1998) observed the opposite trends, showing that sentence-final le was relatively uncomplicated and was acquired by L2 learners with certainty at a fairly early stage of acquisition, while the verb-final –le was acquired with a persistent ratio of errors perhaps throughout a number of years of the learning career.

Other results of Wen’s study include: 1. the students at beginning and more advanced levels do not differ significantly in their accuracy of the verb suffix –le, but more advanced students are more often able to correctly use sentence-final le; 2. verbal complements influence the accuracy of both Les. For example, students frequently omitted sentence-final le when it was followed by a verb phrase with an object or a resultative verb complement⁵; 3. the use of adverbs such as yijing (already) and tai (too) decrease the accuracy rate in the use of LE; 4. students usually used the verb suffix –le

⁵ Li & Duff (2002) however, suggest that the use of a resultative verb complement might help students produce more les.
with verbs which had an inherent end point built into their meaning or when a durative verb expressed a clear-cut end point.

**Distributional Bias Hypothesis and Prototype Hypothesis**

In his attempt to explain the observations found in L2 acquisition of tense-aspect morphology, Andersen (1986 cited in Bardovi-Harlig, 2000) proposed the Distributional Bias Hypothesis, which claims that the patterns found in learners’ interlanguage also exist in adult native speakers’ speech. In other words, the biased distribution of tense-aspect morphology across the four verb classes is a phenomenon also found among native speakers.

Before the Distributional Bias Hypothesis, there seemed to be a gap between studies in theoretical linguistics on theories governing aspectual systems and studies in SLA on acquisition processes, with each focusing on their own field. It is inevitable that acquisitional studies should discuss how the aspectual system works in the language in question, but few of them talk about the distribution of grammatical aspect markers over lexical aspectual classes while at the same time investigating the relationship between the two aspects in learners’ interlanguage. It is very hard to follow the acquisitional studies without a complete picture of the language, especially if the reader does not possess adequate knowledge of the language under investigation. As Andersen (1993) points out, the acquisitional studies assume an equal distribution of grammatical aspects across lexical aspects in native speech. What’s more, when some studies talk about incorrect associations made by the learners (e.g. overextending progressive to states), they give the false impression that certain associations between grammatical aspect and lexical aspect are not allowed. The truth is, any grammatical aspect can be combined with any verb type, while restrictions apply as to exactly which specific verb may be combined with
which specific grammatical aspect. For example, perfective aspect can occur with any verb type, but it does not mean that it can occur with any single verb in that verb type in any context.

In order to test the Distributional Bias Hypothesis, Andersen’s students conducted studies in several different languages including Japanese, English, and Italian (Andersen, 1993). Their findings are summarized below:

1. There is a greater proportion of the combined category of telic and punctual verbs receiving past or perfective inflections than the other three categories;
2. There is a greater proportion of activities receiving the progressive inflection than is the case for past, perfective and present forms;
3. A lower proportion of imperfective inflections occur on telic or punctual verbs than is the case for perfective inflections.
4. Present tense inflection occurs most frequently with states.

The data elicitation in those studies is limited to interviews and there does not seem to be an equally distributed number of different verb types (so the telic and punctual verbs have to be combined together); those studies nevertheless prove that the distributional bias exists in native speakers’ speech.

In an attempt to account for the distributional bias found in learners’ as well as native speakers’ data, Shirai and Andersen (1995) resort to the Prototype Hypothesis to explain the underlying cognitive processes involved in the acquisition of tense-aspect morphology. The Prototype Hypothesis was developed first in philosophy and in cognitive psychology. It assumes a graded category membership. A category has its best exemplars, which are the prototypes of that category, as well as other peripheral members. For example, when we consider “furniture”, tables, chairs, couches and beds come more easily to mind than ottomans. When applied to the acquisition of languages,
the prototype theory predicts that in L1 and L2 acquisition, learners first acquire the prototypical members of a grammatical category and gradually extend their knowledge to the non-prototypical members.

In a prototype model, for the simple past tense in English, the core or more prototypical function is to indicate past time reference, but we know that it can also indicate counterfactual meaning, as in *If I were you*, or be used as a pragmatic softener as in *Could you lend me some money?* Even in the category that indicates past time reference, there are hierarchies among the different verb classes. Because the features of achievements (i.e. +punctual, +telic, and +result) overlap more with some of the features of perfective aspect (or simple past tense), it is more likely for achievements to be marked by the perfective aspect morpheme. In this sense, we say that there is a prototypical association between achievements and the perfective aspect morphology. The prototypicality decreases from achievements to accomplishments, then to activities, with the least prototypical verb class being states. The above statement can be summarized in the following hierarchy (Andersen & Shirai, 1996, p. 557) for English simple past tense morphology from prototypical members to marginal members:

Deictic past (achievement → accomplishment → activity → state → habitual or iterative past) → counterfactual or pragmatic softener

Following the same rationale, the English progressive can be represented by the following hierarchy (Andersen & Shirai, 1996, p. 557):

Process (activity → accomplishment) → iterative → habitual or future → stative progressive
Parts of these two hierarchies are actually the claims of the Aspect Hypothesis for the acquisition of past tense or perfective aspect morphology and progressive aspect. The claim regarding the distribution of imperfective grammatical aspect across verb classes can be represented by the following hierarchy:

State $\rightarrow$ activity $\rightarrow$ accomplishment $\rightarrow$ achievement

One question arises naturally: how do we determine the prototypical associations in language acquisition? They could be inferred based on the core meanings (language universals) of a grammatical category and the specific meanings of the category in the language in question. But as Andersen & Shirai (1996) point out, there is no established and reliable measure to determine the internal structure of a prototype category. Researchers’ intuition and psycholinguistic experiments are the only ways to determine the associations. However, to use acquisitional experiments to determine patterns of acquisition seems circular, and this is the weakness of the Prototype Hypothesis in language acquisition.

The objective of the present paper is to test the Prototype Hypothesis using French and Chinese L2 data to see if it can explain the observations found in the data from both languages. What is under investigation is the relationship between lexical aspect and grammatical aspect in the two languages. While testing the Aspect Hypothesis requires a longitudinal or at least cross-sectional study, testing the Prototype Hypothesis can be accomplished with learners all at one level (determined by their course level), which is the design of the present study. The Prototype Hypothesis predicts that there will be a biased distribution of tense-aspect marking over four aspectual classes in the
interlanguage. As far as the acquisition of French and Chinese is concerned, the relevant predictions are:

1. Perfective marking (PC in French, -le and –guo in Chinese) is more closely related to achievements and accomplishments than to activities and states.

2. Imperfective marking (Imp in French) is more closely related to states and activities than to accomplishments and achievements.

3. Progressive marking (zai in Chinese) is more closely related to activities than to accomplishments.

More specifically, the present study will consider the following research questions:

1. Is the use of *imparfait* and *passé composé* by intermediate-level learners of French as an L2 influenced by the inherent semantic aspects of verbal predicates?
   - Does the frequency of the use of *imparfait* and *passé composé* vary depending on the verb class considered?
   - Does the level of accurate use of *imparfait* and *passé composé* vary depending on the verb class considered?

2. Is the use of the grammatical aspect markers (-le, –guo and zai) by intermediate-level learners of Chinese as an L2 influenced by the inherent semantic aspects of verbal predicates?
   - Does the frequency of the use of the markers vary depending on the verb class considered?
   - Does the level of accurate use of the markers vary depending on the verb class considered?

3. How does the acquisition of grammatical aspect in the two languages differ in terms of the influence of the lexical aspect?
CHAPTER 4
METHODOLOGY

The objective of the present study is to examine the relationship between inherent lexical aspect and tense-aspect morphology in learners’ production. More precisely, it is to test the Prototype Hypothesis in order to see the distribution of the tense-aspect morphology across four aspectual classes: states, activities, accomplishments and achievements. The present study also looks at the comprehension of time reference in general by the learners. The languages under investigation are French and Chinese, and past time reference will be the focus for the following reasons:

1. In most languages, only the past time reference is morphologically marked, because in order to indicate that the time reference is different from the ‘here and now’, some sort of morphological marker is required. Future time reference is not a good candidate, because it often involves the distinction between realis and irrealis, which goes beyond the focus of the present study.

2. The perfective/imperfective opposition exists in French only in the past time reference.

Participants

The participants in this study were students enrolled in 3rd (French) and 4th (Chinese) semester foreign language classes at University of Florida. The students learning French were from two sections taught by two different instructors, while the students learning Chinese were from two sections taught by the same instructor. All students participated in the study on a volunteer basis. On the French side, 26 students completed all the activities, but one was excluded from the study because he came to the United States after the age of 18 from a Spanish-speaking country and thus English was
not his first language; on the Chinese side, 20 students completed all the tasks. All the students were native speakers of English; some of them were bilingual while some others knew more than one foreign language. There were no students learning French who were native speakers of French, but there were 7 students learning Chinese who encountered spoken Chinese (either Mandarin or Cantonese) at home before English and have parents who are native speakers of Chinese. It should be pointed out that none of them can be considered ‘bilinguals’ because they cannot even hold a simple conversation in Chinese according to their teacher (they are called ‘heritage students’ in the following table) and the language they use at home is English. Only the data from the students who did all the activities were included in the data analysis.

The backgrounds of the students are summarized in table 4.1:

Table 4.1 Information on the participants

<table>
<thead>
<tr>
<th></th>
<th>French</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Number of bilinguals</td>
<td>8 (Spanish or Creole)</td>
<td>9 (Spanish or Chinese)</td>
</tr>
<tr>
<td>Males</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Females</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Number of students who</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>have studied in target-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of heritage</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**French and Chinese Programs**

The elementary French program consists of one year, two semesters. The second year students are considered to be at the intermediate level. The students are placed in the 3rd semester course based on the successful completion of the first year courses or by their SATII score. They meet three times a week for a grammar class, and in addition, twice a week for a conversation class to practice speaking. The data were collected from
the grammar class. A communicative teaching approach is used in the classroom, where the target language is used more than 90% of the time.

Like the French program, the elementary Chinese program consists of one year, two semesters. The participants in the present study are at the 4th semester of their Chinese study and are also considered to be at an intermediate level. The reason for which the participants in the Chinese program were one semester ahead of their French counterparts is that the contrast between Chinese and English is far greater than that between French and English, making Chinese much more difficult for English speakers to acquire. Chinese writing system, which is not alphabetic and thus has nothing to do with the way it is pronounced adds on to its difficulty for English speakers. In fact, in the French program, students start writing compositions from the first exam in their first semester, while in the Chinese program, the students never really have to write a composition in their exams until the second year. They do have a composition part in their first year exams, but the topic is given ahead of time and students practically rewrite what they have prepared outside of class. Since a major part of the data come from compositions, it was predicted that fourth semester students would produce more adequate data than third semester students, who just started to have free-writing experience. In fact, in a pilot study, data was also collected from first year students learning Chinese, but most of the students did not give enough material to allow for an analysis of their compositions.

**French and Chinese Textbooks**

What is under investigation is the acquisition of the tense-aspect morphology in the two languages. Let us first discuss how the content is presented in the textbooks the students were using. As presented in the review of the literature, the
perfective/imperfective distinction exists only in past time reference in French. The perfective past is represented by *Passé Composé* and the imperfective past *Imparfait*. In the French textbook used by the students at UF, and in fact, in the majority of the textbooks available on the market, PC is traditionally introduced first and Imp next.

*Interactions* is the textbook used by intermediate-level French learners at UF. The textbook states that PC is used to express an action that was completed within a specified or implied time frame in the past. One section in the explanation of the use of PC is devoted to the non-prototypical combination of PC with state verbs such as *avoir, être, penser, vouloir,* and *pouvoir*. It is explained that PC is used here because these state verbs refer to an immediate reaction to an event or situation. Imp is said to have three functions: to set a scene, to express habitual actions and to express a state or condition.

The textbook also contrasts PC with Imp. Imp is said to be used for description, whereas PC is for the events happening in the foreground. The same verbs used in both tenses in different sentences are presented and the nuances between the two uses are explained with a translation of the sentences. Again, the same state verbs mentioned above are chosen as examples to illustrate the nuances. The textbook repeatedly points out to students that PC is not the only past tense used in French.

In Chinese, there is also a perfective/imperfective aspectual opposition. The perfective markers are –*le* and –*guo*, while the imperfective markers are *zai* and –*zhe*. In the textbook used by the participants, the four markers are not introduced sequentially, nor as a single grammatical category. *Zai, -le* and –*guo* are introduced during the first year and reviewed in the second year, while –*zhe* is introduced in the second year. *Zai* is first presented as a proposition of location.
In the Chinese first-year materials in use, verb-final -le is first introduced as a “dynamic particle” signifying realization or completion of an action or an event. It is emphasized from the beginning that –le does not equal the past tense in English because it can be combined with future situations. The grammar explanation and the exercises both direct students’ attention to a specific time adverbial and a quantified object that co-occur with –le. It is noted that to negate –le, one should use “mei (you)” (not have) instead of “bu” (no).

The discourse function of verb final –le is also mentioned in the textbook. It states that when there is a series of actions or events, -le is usually used at the end of the series, rather than after each of the verbs. Sentence-final le is introduced later than verb-final –le. The book explains that sentence-final le indicates a change of status or the realization of a new situation.

The structure where both verb-final –le and sentence-final le are used is also discussed in the textbook. This structure is presented as “V+-le + Number + Measure Word + Noun + le” and is contrasted with another structure which is the similar but without the sentence-final le. The difference between the two is that in the first structure, where sentence-final le is used, it is implied that the situation has been continuing and will continue, while the same implicature cannot be deduced from the second structure, where sentence-final le is not used.

At the beginning of the second year of classes at UF, the use of both verb-final –le and sentence-final le is reviewed. This time, the function of “relative past” is introduced, in the sense that verb-final –le is used in the first situation of a series of two situations that happen one after the other.
(Zheng) Zai is introduced in main clauses with “when” subordinate clauses and is explained to express the “ongoing process of an action at a certain point of time”.

Also called a “dynamic particle” in the textbook, -guo is introduced in the second semester of the first year. It is said to denote a past experience, which did not continue to the present but has an impact on the present.

Tasks

The activities that the students completed include: a language background information questionnaire (see appendix A) where they talked about the languages they knew and their levels of each one; a comprehension task where the students were asked to indicate the time reference of each verb predicate (see Appendix B) and a cloze test (see appendix C) in French; a comprehension task (see Appendix D) and a written editing task in Chinese (see appendix E) and three compositions on three different topics (see appendix F).

On the language background information questionnaire, students were asked to provide information concerning their native language(s), second language(s), the age at which they started learning their second language(s) and the length of study. Questions on whether they had extensive experience studying or living in target language countries were also asked. The objective of the language background information questionnaire was to ensure that only native English speakers were included in the study. The Chinese ‘heritage’ students constitute a special group because their native language is either Mandarin or Cantonese, but their primary language used both at school and at home is English and, as mentioned above, none of them can hold a simple conversation in Chinese.
Very few studies on the acquisition of tense-aspect morphology have used comprehension tasks. The reason to include a written comprehension task was to gauge the students’ ability to comprehend the tense-aspect system before analyzing their production. If problems are detected in production, it is helpful to compare production with comprehension to see if the same kind of problems exists in comprehension. Different sentences were included in the French and Chinese comprehension tasks because the students did not have the same set of vocabulary. In the comprehension task, students were asked to choose the time reference from the list for some underlined verbs:

a.– occurred in the past
b.– occurs in the present or is always true
c.– will occur in the future

A sample sentence, with four verbs, is given below from the French task:

Ce matin, nous sommes tous arrivés à l’école bien contents, parce qu’on va
1) prendre une photo de la classe qui sera pour nous un souvenir que nous allons
2) chérir toute notre vie.

In the design of the comprehension tasks for both French and Chinese, the instructors were consulted to make sure that the vocabulary was within the students’ range. For the French comprehension task, sentences were chosen from the book Le Petit Nicolas. There are in total 20 verbs, which include instances used in the past, present and future. Among the verbs used in the past, both uses of Imp and PC were present.

The present author wrote the sentences used in the Chinese comprehension task. As in the French task, among the 26 verbs, there are instances in the past, present as well as in the future. There are seven verbs that have aspect markers –le, -guo or zai. Because the use of aspect markers is only one way of expressing time reference in Chinese, both
instances with and without these markers were included in the task to see if the comprehension would be influenced by the markers.

The topics of the three compositions were chosen based on the content and, more precisely, the verb morphology solicited in the compositions. Camps (2002) showed that beginning language learner’s use of verb morphology is influenced by the type of narrative elicited. While the use of preterite does not seem to change with narrative type, the frequency and accuracy of imperfect depends on narrative types: impersonal or personal narratives. Personal narratives seem to generate a more balanced distribution of perfective and imperfective. The three topics in the present study were chosen to elicit personal narratives and are replicated from Camps (2002), which have been proven to elicit desirable data:

Composition topic 1: Talk about what you and your family did during the winter break.

Composition topic 2. Talk about the things you used to do when you were 16 years old. Give examples of specific events.

Composition topic 3. Talk about what you did last weekend, and compare that to what you used to do on weekends when you were in high school.

The first composition sought perfective aspect markers, the second imperfective markers and the third a combination of the two. The three topics made sure that there would be contexts for all the aspectual markers tested and a relative balance between the imperfective and the perfective. The topics for the French and Chinese students were the same and were given in English. No dictionaries were allowed. Each composition took approximately 25 minutes.
In French, there is a close relationship between habitual past situations and the use of Imp: habitual situations in the past are expressed very often by Imp. Though *zai* is an imperfective aspect marker as Imp, the use of *zai* in Chinese is much more limited than that of Imp in French. *Zai* is a progressive marker and it only indicates ongoing situations. It can be used to express background for punctual events, but its use is not related to habitual situations. The use of *-le* is not directly associated with habitual past, but generally speaking, it is not used with habitual events. While in the French compositions, the first topic was intended to elicit PC, the second topic to elicit Imp and the third one a combination of both; this distribution is not expected in the Chinese compositions. In the Chinese compositions, *-le* was expected to be used most often in the first composition because it requires many occurrences of past events, less uses were expected in the third composition and composition two was expected to elicit the least number of uses of *-le*. The use of *zai* was not expected to differ across different topics. The discussion above illustrates one of the benefits of using compositions as a data eliciting method: the content changes by topic which gives the researcher insights on the influence of different contexts.

Written narrative is the most frequently used data elicitation method in the studies on the acquisition of tense-aspect morphology. This method is the least influenced by the empirical design of a study. It provides contexts that are framed in the past and offers faithful record of learners’ production. Unlike film retell which tends to elicit more sequenced actions happening in the foreground, carefully controlled composition topics like the ones in the present study assure a balance of predicates involved. In sum,
compositions require the least effort in the design yet provide a large quantity of material for analysis.

Bardovi-Harlig (2000) highlights the weaknesses of using learner-controlled narratives compared to cloze passages. First, it is easier in cloze passages to compare across learners and to contrast learners’ with native speakers’ data because of the unified data format. Second, the distribution of verb morphology across semantic verb classes can be carefully controlled in cloze passages to provide a balance among different classes. Cloze passages are a good alternative to compositions, where learners’ limited vocabulary sometimes prevents them from producing an analyzable amount of all four verb classes. Bardovi-Harlig and Reynolds (1995) observed that the tokens of states in interlanguage are typically dominated by the verbs to be and to have and their equivalents. Bergström (1995 cited in Bardovi-Harlig, 2000) used both a cloze test and a silent film retell in her study and found that only in the cloze passages did learners’ PC distinguish achievements from accomplishments and activities. The cloze passages give researchers a broader sample of predicates to examine. The spread of perfective and imperfective to their last stages are better observed with cloze passage data (Bardovi-Harlig, 2000). For this reason, a cloze test in French and a written editing task in Chinese were incorporated into the present study.

The format of the cloze test for French is a standard one: in the 5 passages, 37 verbs were taken out; only their infinitives were given in the parentheses. The students were asked to provide the correct past tense of those verbs. The design of the cloze passages proved to be a challenge. In order to have authentic materials that fit the students’ level, the book Le Petit Nicolas was chosen. The problem of using Le Petit
Nicolas is that the story is told through the voice of a little boy, so the use of PC is very dominant. For the use of both PC and Imp, the associations between grammatical and lexical aspects are very prototypical, namely, they are mainly between perfective and telic verbs and between imperfective and atelic verbs. Especially lacking in the book is the combination of telic verbs with Imp. Though there are many state verbs marked with PC (which is not a prototypical association), when the test was given to native speakers, they provided Imp with most of the state verbs in the places where PC was used in the book. Changing the individual sentences did not result in more atelic verbs with PC. What is worse, it made those sentences awkward, as judged by native speaker consultants. An additional passage (passage 4) had to be composed by the author, with help from a native French speaker, in order to intentionally provide more telic verbs marked with imperfective grammatical aspect. Adding this passage helped reach the goal in designing the cloze test, which was to have a relative balance between the use of Imp and PC within every verb lexical class.

The Chinese written editing passage was in a completely different format. As mentioned in Chapter Two, Chinese verbs do not conjugate according to person, tense, mood, or voice; not every verb should be marked for aspect and the meanings among the markers are relatively distinct (compared to French); therefore, it is not reasonable to give a cloze test where the verbs are provided and blanks given where the verb is supposed to be. The trick in the acquisition of the Chinese aspectual system is more about knowing where and when to put a marker, not which marker to use. For this reason, the Chinese task equivalent to the French cloze task was composed of a passage with no blanks and was more accurately termed a written editing task. The aspect markers in the passage
were deleted and the students were asked to provide the markers –le, zai and –guo
wherever they thought them appropriate. –Zhe was not included in the passage because
the written editing task was originally intended for both second- and first-year students
and the latter had not learned –zhe. The format was adapted from Duff and Li (2002),
who only tested the use of –le with their written editing passage. In both studies, the
written editing task seemed to pose quite a challenge to learners.

The present study did not include any oral data because of the following two
concerns: first, oral data takes much more time to transcribe and to analyze; second, there
are difficulties involved in the analysis of French oral data. In tense-aspect morphology,
it is crucial to transcribe the verb endings correctly, but this is a challenge in French. As
mentioned in Dietrich et al. (1995), there is a problem of segmenting and categorizing the
verbal compounds in oral French. Where the suffix is concerned, /e/ may be the present
tense form of a regular –er verb in second person plural or singular; the infinitive, the
past participle, or the Imparfait for all persons but 1st and 2nd plural. The verb parler is
used here to illustrate this point. All the following words are pronounced [parle]:

<table>
<thead>
<tr>
<th>Word</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>parler</td>
<td>infinitive</td>
</tr>
<tr>
<td>parlez</td>
<td>second person plural or singular in present indicative</td>
</tr>
<tr>
<td>parlé</td>
<td>past participle</td>
</tr>
<tr>
<td>parlais</td>
<td>first person singular in Imp</td>
</tr>
<tr>
<td>parlais</td>
<td>second person singular in Imp</td>
</tr>
<tr>
<td>parlait</td>
<td>third person singular in Imp</td>
</tr>
<tr>
<td>parlaient</td>
<td>third person plural in Imp</td>
</tr>
</tbody>
</table>

The phoneme /e/ is really problematic in the auxiliary, as the same phoneme /e/ can
be one of three possibilities: the auxiliary avoir in first person singular, or the auxiliary
être in the second or the third person singular.
Data Collection Procedures

Data collection was done during normal class periods. After getting permission from the instructors, the investigator went into the classrooms to recruit volunteers and conducted the research. The investigator went into the classrooms three times, with one week separating each data collection. The first time, the students filled out the language background information sheet and completed the comprehension task; the second time, they wrote compositions number one and two; and the third time, the students wrote the third composition and did the cloze test. Each time, the students were told to take as much time as they needed as long as they finished all the required tasks in one class period; this allows approximately 25 minutes for each task. All the tasks were given at the beginning of each data collection, so the students could decide for themselves when to move on to the next task.

For the Chinese section, the data collection was conducted over five sessions, each one week apart from the other, in the classroom. The difference of data collection times between the French section and the Chinese section was entirely due to the schedule that the investigator had worked out with the instructor to fit the schedule of his/her classroom. The L2 Chinese students completed the language background information sheet and the comprehension task during the first data collection, and one composition on each of the following three weeks before completing the last task, which was the written editing passage. Students were given about 25 minutes for each task.

Data Encoding

Once the data collection was finished, the data were analyzed and input into computer spreadsheets. Four native speakers of French and two native speakers of
Chinese helped provide answers to the comprehension, the cloze test in French and the written editing task in Chinese, as well as to analyze the compositions.

For the comprehension task, each answer was recorded and coded as either correct or incorrect according to the answers obtained from native speakers.

In each one of the French compositions, past contexts were identified. A past context is a predicate that actually happens in the past, or a predicate that is marked with past morphology by the student even if past tense is not required in that context. The first case is called an obligatory context while the latter is an example of overuse of past morphology by the learner. The combination of the two cases is called relevant contexts (Camps, 2002). An example of an obligatory context will be: *Je suis rentré chez moi le weekend dernier* (I went home last weekend) when the situation “going home” actually happened last weekend. It is counted as an obligatory past context no matter whether the learner used the right conjugation of the verb *rentrer* or not. An example of an overgeneration would be using *j’aimais le football* (I loved soccer) to express “I love soccer.”

The reason for establishing relevant past contexts is to take into consideration not only the obligatory past contexts but also the cases of overgeneralization. If we count only the obligatory contexts, the picture of accuracy is not complete. Overgeneralization must be taken into account. For example, if a learner uses PC in all obligatory contexts, the accuracy rate would be 100% if we count only obligatory contexts, but we cannot say that the use of PC of this learner is perfect, because he might very possibly use PC when it is not required as well. The present study calculates the accuracy rate in terms of
correct uses over all the relevant contexts, which include both the obligatory contexts and the overgeneralizations.

After identifying a past context, the appropriateness of the verb morphology was analyzed. “Appropriateness” here does not mean the accuracy of form, but that of the use. For example, if a student uses *j’ai vi* for *j’ai vu* (I saw), it is counted as correct because it is a PC used in a context where PC is required. But if a student uses *j’ai été* ‘I was’ (PC) in the context where *j’étais* ‘I was’ (Imp) is required, even though the form is correct, it is registered as an incorrect use because it does not fit the context. The tense the student used and the tense the context required were both recorded. Each verb used then was categorized into different inherent semantic lexical aspects.

For the Chinese compositions, past relevant contexts were identified as in the French section; a marker was counted correct if both its form (the correct choice) and place were right. Overgeneralization was also considered when a learner provided a marker not needed in the context.

The analysis of accuracy of the French compositions was done by two native speakers of French along with the author. The classification of the verbs was done by the author only; when there were uncertainties, the author’s advisors were consulted. The author and another native speaker of Chinese who is also a graduate student in linguistics analyzed the Chinese data together. When there were discrepancies, discussions were conducted until agreement was reached.

As Andersen and Shirai (1995) pointed out, the operational tests according to which the verbs are classified differ in various studies; this might contribute to different findings. The four-way verb classification, which is the analytic framework in widest use
today, was used here, based on Vendler (1967). The semantic features mentioned in Chapter Two (Table 2.3) and repeated here, were used for the classification of the verbs into four categories (states, activities, accomplishments and achievements) in the present study.

The operational tests for the present study follow those from Andersen and Shirai (1995, p. 749, see appendix G) and Salaberry (1998). Salaberry (1998) adopted tests specifically designed for French by Bergström (1995 cited in Salaberry, 1998). “Être en train de” (to be in the process of)” is used to identify activities and accomplishments because they can combine with the phrase, whereas states and achievements fail the test. “En x minutes (in x minutes)” is used to distinguish accomplishments from all other categories.

Table 4.2 Semantic features used in the verb classification

<table>
<thead>
<tr>
<th></th>
<th>Punctual</th>
<th>Telic</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Activity</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Achievement</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 4.3 Test used to determine lexical aspect for French (Bergström, 1995 cited in Salaberry, 1998, p. 519)

<table>
<thead>
<tr>
<th></th>
<th>States</th>
<th>Activities</th>
<th>Accomplishments</th>
<th>achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Être en train de</td>
<td>*</td>
<td>Yes</td>
<td>Yes</td>
<td>*</td>
</tr>
<tr>
<td>En x minutes</td>
<td>*</td>
<td>*</td>
<td>Yes</td>
<td>*</td>
</tr>
</tbody>
</table>

Note:
Asterisks indicate that the verb fails to classify as a member of that category.

For the French cloze passage and the Chinese written editing task, four French native speakers and two Chinese native speakers served as controls. Three native speakers of French gave exactly the same answers and only one speaker had two different answers out of the thirty-seven items. The two Chinese native speakers had exactly the same answers for the obligatory uses in the Chinese cloze test, but had differences
concerning the optional uses. The differences were discussed among the native controls and with the author until agreement was reached. Though the French cloze test was from an authentic French text, native speaker consultants’ answers were used as correct answers when they differed from the original text.
CHAPTER 5
RESULTS

As we discussed in Chapter Four, the tasks performed by the learners of both Chinese and French in the present study included a comprehension task and three compositions. In addition, there was one cloze test for the 25 French learners and a written editing task for the 20 Chinese learners. The results from each task completed by the learners are presented in this chapter.

French Data

Comprehension

There were four sentences in the French comprehension task and 20 verbs were underlined. Students were asked to choose the time reference of those underlined verbs. Among those 20 verbs, there were 10 used in the past, 7 in the present and 3 in the future.

The results show that the learners had a very good comprehension of time reference in French. The average accuracy rate was 86.4% for all twenty items. Seven of the items had an accuracy rate of more than 90%, ten of them between 80% and 90%, only three of them less than 80%. The distribution of the ten verbs used in the past (in either Imp or PC) over the four aspectual classes are analyzed in the following table.

Table 5.1 Accuracy of the French comprehension over the four aspectual classes (percentage)

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>84</td>
<td>86</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PC</td>
<td>92</td>
<td>86</td>
<td>96</td>
<td>94</td>
</tr>
</tbody>
</table>

Note: percentage of Imp (or PC) in each aspectual class is calculated by averaging the percentages in the use of Imp (or PC) of all the sentences that contain predicates in that class.
We can see from table 5.1 that there was no influence of lexical aspect on the accuracy in the comprehension of PC. The non-prototypical association, namely, the combination between states and PC (item number 17) did not yield a lower accuracy rate (92%). There were data available only for states and activities concerning the use of Imp, and these two categories did not show a difference in accuracy.

**Compositions**

Twenty-five learners completed all three compositions, generating a total of 1165 tokens. The tokens represented *relevant contexts*, which included both obligatory contexts and overgeneralizations in the use of past tenses. The average number of tokens in the learners’ production was 15.5 per composition, with a range from 1 to 29\(^1\). There were 371 states, 416 activities, 355 achievements and only 23 instances of accomplishments. Compared to the other three categories, accomplishments occupied a very small portion (1.97%) of the 1165 tokens and were all marked by PC.

Table 5.2 Verb forms used in the three French compositions and their distribution over four aspektual classes (percentages (raw frequencies))

<table>
<thead>
<tr>
<th>Verb form</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>23.7 (88)</td>
<td>67.8 (282)</td>
<td>100 (23)</td>
<td>76.9 (273)</td>
<td>57.2 (666)</td>
</tr>
<tr>
<td>Imp</td>
<td>66 (245)</td>
<td>27.2 (113)</td>
<td>0</td>
<td>18.6 (66)</td>
<td>36.4 (424)</td>
</tr>
<tr>
<td>Pres</td>
<td>9.4 (35)</td>
<td>4.6 (19)</td>
<td>0</td>
<td>2.5 (9)</td>
<td>63</td>
</tr>
<tr>
<td>Plus que parfait</td>
<td>0</td>
<td>0.2 (1)</td>
<td>0</td>
<td>1.1 (4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Infinitive</td>
<td>0</td>
<td>0.2 (1)</td>
<td>0</td>
<td>0</td>
<td>(1)</td>
</tr>
<tr>
<td>Others</td>
<td>0.8 (3)</td>
<td>0</td>
<td>0</td>
<td>0.8 (3)</td>
<td>(6)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>371</td>
<td>416</td>
<td>23</td>
<td>355</td>
<td>1165</td>
</tr>
</tbody>
</table>

**Pres** = present tense, **Others** = future, subjunctive, conditional and unidentifiable forms

---

\(^1\) In the composition that had only one token, the student used one sentence to talk about what the family did during the break, then went on talking about what they normally do on vacations, using the present tense throughout.
States were marked mostly by Imp (66%) and both activities and achievements were marked mostly by PC (67.8% and 76.9%). As in the cloze data, the percentage of verbs marked by Imp decreased from states to activities and then to achievements, while the percentage of verbs marked by PC increased in the same direction except for accomplishments. States patterned differently from other verb categories in both the use of PC and Imp, indicating an influence of dynamicity. In other words, the state and non-state distinction seemed to play a role for learners when they chose tense-aspect markers.

We can also see from the table that Imp was used in only three of the four lexical aspectual categories (states, activities, and achievements) while PC was used in all four of them.

To determine if the use of Imp or PC was concentrated in only a few lexical items, it is important to know how many individual verbs were used. Tokens may not give a complete picture, as there may be a large number of tokens generated from a small number of different verbs. There were, in total, 108 different verbs used in past contexts in the three compositions. The verbs that were used most often (equal to or more than 20 times) included the following 11 verbs: *aimer* (34), *aller* (172), *avoir* (107), *être* (187), *étudier* (23), *faire* (52), *jouer* (28), *manger* (33), *rester* (20), *travailler* (28), *voir* (25).

If we count individual verbs, not tokens, the distribution of Imp and PC over the four verb classes is shown below:

<table>
<thead>
<tr>
<th>Tense</th>
<th>STA (percentage)</th>
<th>ACT (percentage)</th>
<th>ACC (percentage)</th>
<th>ACH (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>73.3 (11)</td>
<td>90.7 (49)</td>
<td>100 (8)</td>
<td>83 (39)</td>
</tr>
<tr>
<td>Imp</td>
<td>86.7(13)</td>
<td>61.1 (33)</td>
<td>0</td>
<td>31.9 (15)</td>
</tr>
<tr>
<td>Total number of individual verbs</td>
<td>15</td>
<td>54</td>
<td>8</td>
<td>47</td>
</tr>
</tbody>
</table>

Note: numbers are individual verbs not tokens, e.g. all instances of *avoir* are counted as one verb.
Table 5.3 shows that there were in total 15 different states, 54 different activities, 8 different accomplishments and 47 different achievements used by the learners in their compositions. Some verbs were used both in Imp and PC, explaining why the number of verbs using Imp plus the number of verbs used in PC does not equal the total number of verbs in one verb class. The most frequently used states, such as avoir, être, and pouvoir can be easily used with both tenses, though the learners' tendency is to use Imp.

The distribution in Table 5.3 looks slightly different from that in Table 5.2. There was a good balance within states between Imp and PC because the number of different states used for Imp and PC was about the same (13 vs. 11 out of a total of 15 states). The greater difference of percentage of the use of states between Imp and PC reflected in Table 5.2 than in Table 5.3 is because these verbs were used more frequently (repeatedly) with Imp. This new piece of information does not disprove the fact that states are more often marked by Imp in learners’ production; what it shows is that learners have a limited vocabulary when it comes to states (15 verbs out of 371 tokens). As in the previous table, accomplishments were marked only by PC. The marking of activities and achievements was still concentrated within PC.

<table>
<thead>
<tr>
<th>Tense</th>
<th>Correct uses in OC</th>
<th>Under use</th>
<th>Over use</th>
<th>Accuracy rate in OC</th>
<th>Accuracy rate in RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>383</td>
<td>219</td>
<td>41</td>
<td>63.6% (383/602)</td>
<td>59.6% (383/643)</td>
</tr>
<tr>
<td>PC</td>
<td>483</td>
<td>21</td>
<td>210</td>
<td>95.8% (483/504)</td>
<td>67.6% (483/714)</td>
</tr>
</tbody>
</table>

OC = obligatory contexts, RC = relevant contexts

As shown in previous studies (Bardovi-Harlig & Bergstrom, 1996; Harley, 1989, 1992; Kaplan, 1987, Kihlstedt, 2002; Salaberry, 1998), the accuracy rate of Imp is lower than that of PC. Table 5.4 shows that the learners used PC more accurately than Imp in
obligatory contexts as well as in relevant contexts. The underuse of Imp was a problem among learners (219 out of 643 relevant contexts). The phenomenon in PC was the opposite since oversuppliance (210 out of 714 relevant contexts) was more of a problem than underuse. This difference suggests that learners were more comfortable with PC than with Imp, and that when there was doubt about which tense to use, they often chose PC over Imp. If we were to look only at obligatory contexts, the accuracy of PC in learners’ production would appear very high (95.8%), but because of the oversuppliance, the accuracy in relevant contexts was only 67.6%.

Table 5.5 Accuracy of Imp and PC over the four lexical aspectual classes in the three French compositions (percentage (appropriate uses/relevant contexts))

<table>
<thead>
<tr>
<th>Tense</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>77.2 (237/307)</td>
<td>49.1 (91/189)</td>
<td>N/A</td>
<td>53.4 (55/103)</td>
</tr>
<tr>
<td>PC</td>
<td>26.5 (26/98)</td>
<td>69.7 (202/290)</td>
<td>100 (23/23)</td>
<td>82.3 (232/282)</td>
</tr>
</tbody>
</table>

Accomplishments constituted a particular case in the compositions since they were marked only by PC. Besides accomplishments, all other classes confirmed the Prototype Hypothesis. States were more accurately used with Imp, achievement verbs more accurately used with PC. For the use of PC, the accuracy rate increased from states, where it was the lowest, to activities, then to achievements. For the use of Imp, states had the highest accuracy rate, but the accuracy rate for activities and achievements were about the same (49.1% vs. 53.4%). States stood out in the use of PC and Imp, suggesting again an influence of dynamicity in action.

Since the topics for the three compositions are different (see Appendix F, the first topic was intended to elicit a series of past events, the second, habitual past, and the third, a combination of the two) it was expected that PC would be used more in the first composition, Imp more in the second, and a relative balance would be found in the third.
Table 5.6 Distribution of Imp and PC by composition

<table>
<thead>
<tr>
<th></th>
<th>Imp</th>
<th>PC</th>
<th>Pres</th>
<th>Total number of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comp 1</td>
<td>27.3% (99)</td>
<td>67.2% (244)</td>
<td>4.7% (17)</td>
<td>363</td>
</tr>
<tr>
<td>Comp 2</td>
<td>46.6% (176)</td>
<td>45.8% (173)</td>
<td>7.1% (27)</td>
<td>378</td>
</tr>
<tr>
<td>Comp 3</td>
<td>35.1% (149)</td>
<td>58.7% (249)</td>
<td>4.5% (19)</td>
<td>424</td>
</tr>
</tbody>
</table>

Table 5.6 shows that in the first composition, PC was used much more often than Imp (67.2% vs. 27.3%), as expected; in the second composition, however, contrary to predictions, there was a balance between Imp and PC (46.6% vs. 45.8%) where a predominance of Imp was expected; in the third composition, PC was used more often than Imp (58.7% vs. 35.1%) while the expectation was to find a balance between the two. Note that the expectations are only best guesses of the researcher based on what might be found in target-like uses, so it is normal for the learners not to meet those expectations.

The topic did have an influence on the distribution of Imp and PC in that the use of PC increased from topic 2 to topic 3 to topic 1 (45.8% to 58.7% to 67.2%) as expected, and the use of Imp decreased in the same direction (46.6% to 35.1% to 27.3%). In other words, the ratio of Imp over PC moved more toward a balance from topic 2 to topic 3 to topic 1.

Tables 5.7, 5.8 and 5.9 show the distribution of Imp and PC over the four lexical classes in the three compositions. The results indicate that the same trends found in all three compositions combined together were also found in each of them individually. Except for the use of Imp in composition 2, where the marking was fairly evenly distributed between activities and achievements (31.7% vs. 34.6%), the percentage of verbs marked by Imp decreased from states to activities and then to achievements; the percentage of verbs marked by PC decreased from achievements to activities and then to states. The trend was clearer in compositions 1 and 3 than in composition 2, because
composition 2 required more Imp than composition 1 and 3, and thus there was more of a balance between Imp and PC. State verbs stood out as a category of verbs that patterned differently from all other categories, again indicating the influence of dynamicity.

Table 5.7 Distribution of PC and Imp over the four aspectual classes in French composition 1 (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>67 (65)</td>
<td>18.8 (25)</td>
<td>0 (0)</td>
<td>7.4 (9)</td>
<td>99</td>
</tr>
<tr>
<td>PC</td>
<td>27.8 (27)</td>
<td>75.2 (100)</td>
<td>100 (11)</td>
<td>86.9 (106)</td>
<td>244</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>133</td>
<td>11</td>
<td>122</td>
<td>343</td>
</tr>
</tbody>
</table>

Table 5.8 Distribution of PC and Imp over the four aspectual classes in French composition 2 (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>62.5 (110)</td>
<td>31.7 (38)</td>
<td>0 (0)</td>
<td>34.6 (28)</td>
<td>176</td>
</tr>
<tr>
<td>PC</td>
<td>25 (44)</td>
<td>64.1 (77)</td>
<td>100 (1)</td>
<td>62.9 (51)</td>
<td>173</td>
</tr>
<tr>
<td>Total</td>
<td>176</td>
<td>120</td>
<td>1</td>
<td>81</td>
<td>378</td>
</tr>
</tbody>
</table>

Table 5.9 Distribution of PC and Imp over four aspectual classes in French composition 3 (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>71.4 (70)</td>
<td>30.7 (50)</td>
<td>0 (0)</td>
<td>19.1 (29)</td>
<td>149</td>
</tr>
<tr>
<td>PC</td>
<td>17.3 (17)</td>
<td>64.4 (105)</td>
<td>100 (11)</td>
<td>76.3 (116)</td>
<td>249</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td>163</td>
<td>11</td>
<td>152</td>
<td>424</td>
</tr>
</tbody>
</table>

The accuracy in the use of Imp and PC, as reflected in Tables 5.10-5.12, followed the same patterns over the four verb classes as those observed in their distribution. But the trend was less clear in composition 2. Learners did not seem to be aware of the association between Imp and habitual past and this caused the relatively low accuracy rate in Imp in composition 2. There were many cases of underuse of Imp in three of the categories (states, activities and achievements), but many cases of oversuppliance of PC.

Table 5.10 Accuracy of use of PC and Imp over the four aspectual classes in French composition 1 (appropriate use/relevant contexts = percentage)

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>75 (60/80)</td>
<td>26 (7/27)</td>
<td>N/A</td>
<td>18.2 (2/11)</td>
</tr>
<tr>
<td>PC</td>
<td>45.5 (15/33)</td>
<td>80.3 (98/122)</td>
<td>100 (11/11)</td>
<td>86 (104/121)</td>
</tr>
</tbody>
</table>

Table 5.11 Accuracy of use of PC and Imp over the four aspectual classes in French composition 2 (appropriate use/relevant contexts = percentage)

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>75 (60/80)</td>
<td>26 (7/27)</td>
<td>N/A</td>
<td>18.2 (2/11)</td>
</tr>
<tr>
<td>PC</td>
<td>45.5 (15/33)</td>
<td>80.3 (98/122)</td>
<td>100 (11/11)</td>
<td>86 (104/121)</td>
</tr>
</tbody>
</table>

Table 5.12 Accuracy of use of PC and Imp over the four aspectual classes in French composition 3 (appropriate use/relevant contexts = percentage)

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>75 (60/80)</td>
<td>26 (7/27)</td>
<td>N/A</td>
<td>18.2 (2/11)</td>
</tr>
<tr>
<td>PC</td>
<td>45.5 (15/33)</td>
<td>80.3 (98/122)</td>
<td>100 (11/11)</td>
<td>86 (104/121)</td>
</tr>
</tbody>
</table>
Table 5.11 Accuracy of use of PC and Imp over the four aspectual classes in French composition 2 (appropriate use/relevant contexts = percentage)

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>66.3</td>
<td>39.2</td>
<td>N/A</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>(108/163)</td>
<td>(38/97)</td>
<td></td>
<td>(27/53)</td>
</tr>
<tr>
<td>PC</td>
<td>21.3</td>
<td>28.6</td>
<td>100</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>(10/47)</td>
<td>(22/77)</td>
<td>(1/1)</td>
<td>(27/53)</td>
</tr>
</tbody>
</table>

Table 5.12 Accuracy of use of PC and Imp over the four aspectual classes in French composition 3 (appropriate use/relevant contexts = percentage)

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>72.6</td>
<td>60.5</td>
<td>N/A</td>
<td>60.5</td>
</tr>
<tr>
<td></td>
<td>6(9/95)</td>
<td>46(76)</td>
<td></td>
<td>26(43)</td>
</tr>
<tr>
<td>PC</td>
<td>5.5</td>
<td>73.9</td>
<td>100</td>
<td>83.5</td>
</tr>
<tr>
<td></td>
<td>1(1/18)</td>
<td>82(111)</td>
<td>(1/11)</td>
<td>(101/121)</td>
</tr>
</tbody>
</table>

All the analyses above treated all the learners as a group. In the following tables, the focus will be individual differences. When we combine all the learners together as we did above, it appears that both Imp and PC were used with all four aspectual classes. But this is not true for everyone. The following two tables show how Imp and PC were combined with the four aspectual classes respectively by individual learners.

Table 5.13 Use of Imparfait with different verb classes by individual participants

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Participant ID (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 STA</td>
<td>4, 7, 12, 16, 17 (5)</td>
</tr>
<tr>
<td>2 STA, ACT</td>
<td>9, 13 (2)</td>
</tr>
<tr>
<td>3 STA, ACT, ACC</td>
<td>None</td>
</tr>
<tr>
<td>4 STA, ACT, ACC, ACH</td>
<td>None</td>
</tr>
<tr>
<td>5 STA, ACT, ACH</td>
<td>1, 2, 3, 5, 6, 8, 10, 11, 15, 18, 19, 20, 21, 22, 23, 24, 25 (17)</td>
</tr>
<tr>
<td>6 STA, ACH</td>
<td>14 (1)</td>
</tr>
</tbody>
</table>

Table 5.13 shows that every learner in the study used Imp in their compositions, but no one used Imp with all four aspectual classes. The latter is because there were only 23 accomplishments in all three compositions and all were used in PC. There were some individual variations among the learners. First, among the participants belonging to the same category (within the same row), the number of verbs used in each aspectual class is different. For example, participants 4, 7, 12, 16 and 17 all used Imp only with states, but participants 4 and 7 produced only one example, participant 16 produced 2 examples,
participant 12 produced 3 examples while participant 17 produced 15 examples. Second, participants in rows 1, 2 and 5 appear to follow the pattern of the progression in the use of Imp first with states, then with activities, then with telic verbs while participant 14 is the only exception to this pattern.

Table 5.14 Use of Passé Composé with different verb classes by individual participants

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Participant ID (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ACH</td>
<td>None</td>
</tr>
<tr>
<td>2 ACC, ACH</td>
<td>None</td>
</tr>
<tr>
<td>3 ACT, ACC, ACH</td>
<td>2, 4, 10, 20, 23 (5)</td>
</tr>
<tr>
<td>4 STA, ACT, ACC, ACH</td>
<td>7, 17, 19, 22, 24, 25 (6)</td>
</tr>
<tr>
<td>5 STA, ACT, ACH</td>
<td>5, 6, 8, 9, 11, 12, 13, 14, 15, 16, 18 (11)</td>
</tr>
<tr>
<td>6 ACT, ACH</td>
<td>1, 3 (2)</td>
</tr>
<tr>
<td>7 STA, ACT</td>
<td>21 (1)</td>
</tr>
</tbody>
</table>

All the participants used PC in their compositions; moreover, all the participants used PC with both telic and atelic verbs (except for participant 21). In the use of Imp, learners moved from the most prototypical association: between states and Imp, to a less prototypical association, namely, between activities and Imp, before finally to the least prototypical association: between achievements and Imp. In the use of PC, no learner relied only on the most prototypical association between achievements and PC; instead, as mentioned above, all learners except one used both telic and atelic verbs with PC. This piece of information alone implies that learners’ use of PC is at a more advanced stage than their use of Imp.

In the next two tables, only the participants who produced all four aspectual classes in their compositions (it does not matter what tense the verbs were in) are included. The rationale for these two tables is that we cannot expect a learner to use Imp or PC with activities if s/he did not produce any activities at all.
Table 5.15 Use of *Imparfait* with different verb classes by participants who produced all four classes

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Participant ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA</td>
<td>4, 7, 17</td>
</tr>
<tr>
<td>STA, ACT</td>
<td>None</td>
</tr>
<tr>
<td>STA, ACT, ACC</td>
<td>None</td>
</tr>
<tr>
<td>STA, ACT, ACC, ACH</td>
<td>None</td>
</tr>
<tr>
<td>STA, ACT, ACH</td>
<td>2, 5, 10, 11, 19, 20, 22, 23, 24, 25</td>
</tr>
</tbody>
</table>

Table 5.16 Use of *Passé Composé* with different verb classes by participants who produced all four classes

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Participant ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACH</td>
<td>None</td>
</tr>
<tr>
<td>ACC, ACH</td>
<td>None</td>
</tr>
<tr>
<td>ACT, ACC, ACH</td>
<td>2, 4, 10, 20, 23</td>
</tr>
<tr>
<td>STA, ACT, ACC, ACH</td>
<td>7, 17, 19, 22, 24, 25</td>
</tr>
<tr>
<td>STA, ACT, ACH</td>
<td>5, 11</td>
</tr>
</tbody>
</table>

We can see from Table 5.15 that learners were either at the beginning of the development of Imp (participants 4, 7 and 17) or at the end of the development in terms of the distribution of Imp over the four aspectual classes. Even though they marked all 4 classes, it does not necessarily mean that they mastered the system. They may have used very few tokens with some very specific verbs they know well.

For the use of PC, Table 5.16 indicates that learners are all at a higher level of development than in their use of Imp.

**Cloze test**

In the French cloze test, there were five passages for a total of thirty-seven blanks (see Appendix C). The instructions told the learners to provide the correct past tenses (*Imparfait* or *Passé Composé*) for the verbs given in parentheses following the blanks.

The French cloze test was given to four native French speakers, three of whom gave exactly the same answers for all the blanks. Only one person had different answers on two of the thirty-seven items and after discussing with the other three speakers, she
agreed with their answers. The answers provided by the four native speakers and their
distribution over the four inherent lexical classes are shown in the following table:

Table 5.17 Distribution of the answers provided by native speakers over the four
aspectual classes in the French cloze test (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>40</td>
<td>50</td>
<td>50</td>
<td>70.6</td>
</tr>
<tr>
<td>Imp</td>
<td>60</td>
<td>50</td>
<td>50</td>
<td>29.4</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>6</td>
<td>4</td>
<td>17</td>
</tr>
</tbody>
</table>

PC = Passé Composé, Imp = Imparfait

The table shows that the distribution of PC and Imp over the lexical aspectual
classes was quite balanced in the cloze test. There was, however, not an exact balance,
even though great caution was taken: states were still marked more by Imp (6 Imp vs. 4
PC), while achievements were marked more by PC (12 PC vs. 5 Imp). This is because the
combination of achievements and PC and of states and Imp is a natural (prototypical)
association in native speech too.

Table 5.18 Distribution of verb forms over the four aspectual classes in the French cloze
test in learners’ production (percentage (raw frequencies))

<table>
<thead>
<tr>
<th>Verb form</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>25.6 (64)</td>
<td>54.7 (82)</td>
<td>58 (58)</td>
<td>61.6 (262)</td>
</tr>
<tr>
<td>Imp</td>
<td>67.6 (169)</td>
<td>41.3 (62)</td>
<td>38 (38)</td>
<td>31.8 (135)</td>
</tr>
<tr>
<td>Pres</td>
<td>1.6 (4)</td>
<td>0.6 (1)</td>
<td>3 (3)</td>
<td>2.4 (10)</td>
</tr>
<tr>
<td>Plus que parfait</td>
<td>2.4 (6)</td>
<td>1.3 (2)</td>
<td>1 (1)</td>
<td>2.4 (10)</td>
</tr>
<tr>
<td>Infinitive</td>
<td>1.6 (4)</td>
<td>0</td>
<td>0</td>
<td>0.2 (1)</td>
</tr>
<tr>
<td>Others</td>
<td>1.2 (3)</td>
<td>2 (3)</td>
<td>0</td>
<td>1.7 (7)</td>
</tr>
<tr>
<td>Total</td>
<td>250</td>
<td>150</td>
<td>100</td>
<td>425</td>
</tr>
</tbody>
</table>

Pres = present tense, Others = future, subjunctive, conditional and unidentifiable forms

The results from Table 5.18 clearly support the predictions of the Prototype
Hypothesis, namely: 1. the percentage of verbs marked by Imp dropped from states to
activities then to accomplishments and reached the lowest point at achievements; 2. the
percentage of verbs marked by PC rose from states to activities then to accomplishments
and at last to achievements.
Both activities and accomplishments were marked more by PC than by Imp. In the use of both Imp and PC, states patterned differently than all the other verb categories, indicating that there might be an influence of the dynamicity feature. The feature of punctuality and telicity do not seem to have an influence on learners’ choice, as there is no pattern difference between achievements and other categories nor between telic and atelic verbs.

The balance found in Table 5.17 is lost in Table 5.18. Across rows, the exact balance for activities and accomplishments among the native speakers is replaced by both categories being marked more with PC than with Imp among the learners. The gap between the marking of Imp and PC is increased for states but decreased for achievements. Across columns, for the marking of both Imp and PC, the effect of lexical aspect is clearer in the learners’ data than in native speakers’. There are many manifestations of this effect in learners’ data: first, in the marking of Imp, the percentage of verbs used in the four aspectual classes clearly decreases from states to activities and then to accomplishments before reaching the lowest point at achievements. In the marking of PC, the percentage of verbs used in the four aspectual classes increases in the same direction. Second, the difference between states and achievements is greater both in the marking of Imp and PC. The fact that a relatively balanced distribution in the design was biased in learners’ data shows that the learners in the present study were indeed influenced by lexical aspect.

Though the instructions specifically indicated that PC and Imp were the only possible tenses to choose from, other tenses and forms, such as the present, the pluperfect, infinitives, the conditional, the future, and some unidentifiable forms were
also used by the learners. These forms were not included in the data analysis, because, first, all these other forms occupied a small portion of the data (5.9%), and second, a close observation of these forms revealed that they were used mostly because some learners did not know the correct form of PC or Imp. For example, there was one learner who had many uses of the pluperfect to represent the meaning of PC.

In comparing Table 5.18 with Table 5.2, we see that the influence of lexical aspect is clearer in the compositions than in the cloze. The percentages of marking of Imp with states in the two activities were almost equal (66% in compositions and 67.6%) in the cloze, but the difference between the markings of states and other categories was more evident in the compositions than in the cloze. In the marking of PC, the percentage of achievements marked by PC was higher in the compositions than in the cloze (76.9% vs. 61.6%); at the same time, the difference between states and other categories was also greater in the compositions than in the cloze. The differences observed between the compositions and the cloze were expected, since the cloze was designed to exclude the distributional bias found in natural speech.

Table 5.19 Accuracy of PC and Imp used in relevant contexts over the four aspectual classes in the French cloze test (percentage (appropriate uses/relevant contexts))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>25.2 (33/131)</td>
<td>40.2 (45/112)</td>
<td>54.3 (38/70)</td>
<td>62 (196/316)</td>
</tr>
<tr>
<td>Imp</td>
<td>54.1 (112/207)</td>
<td>33 (34/103)</td>
<td>44.3 (27/61)</td>
<td>46.2 (98/212)</td>
</tr>
<tr>
<td>Total</td>
<td>42.9 (145/338)</td>
<td>38.2 (79/215)</td>
<td>49.6 (65/131)</td>
<td>55.7 (294/528)</td>
</tr>
</tbody>
</table>

The accuracy rate of the use of PC was clearly associated with the lexical aspect of the verbs. There was a steady increase in the accuracy rate from states to activities, to accomplishments and, last, to achievements. Recall that there was also a higher frequency with dynamic predicates (activities, accomplishments and achievements) than with states,
which once again showed the influence of the dynamic feature. The case for the use of Imp was not as clear. Imp as an imperfective aspect marker was expected to occur with a higher accuracy with atelic predicates (states and activities) than with telic predicates (accomplishments and achievements). As expected, states were marked with the highest accuracy rate, but the trend for the other three classes went in the opposite direction of the expectation. The accuracy rate decreased from activities to accomplishments and then to activities.

When we look down the columns in Table 5.19, the patterns for states and achievements are clear: states were marked more accurately with Imp than with PC (54.1% vs. 25.2%) while achievements were marked more accurately with PC than with Imp (62% vs. 46.2%). Both activities and accomplishments were marked more accurately with PC. The prototypical associations generally generated a higher accuracy rate: state verbs with Imp, accomplishments and achievements with PC.

The same differences between the compositions and the cloze test, in terms of distribution, are observed here in terms of accuracy. For the marking of Imp, the accuracy rate of states is higher in the compositions than in the cloze; for the marking of PC, the accuracy rate of achievements is higher in the compositions than in the cloze; moreover, the difference between states and other categories is larger in the compositions than in the cloze for both the marking of Imp and of PC.

The comparisons between the compositions and the cloze test show that the trends predicted in the Prototype Hypothesis are more clearly manifested in the compositions than in the cloze test, both in terms of distribution and of accuracy of Imp and PC over the four verb lexical aspectual classes.
Summary of the results on French data

The findings from the French data can be summarized as follows:

Both the results from the compositions and the cloze test confirm the predictions of the Prototype Hypothesis. The general trend is that both the distribution and accuracy of the use of PC and Imp are influenced by the inherent lexical aspect of the predicates. This trend was, however, more clearly manifested in the compositions than in the cloze test.

1. In both the compositions and the cloze test, the marking of Imp was concentrated within states and the marking of PC was concentrated within achievements.

2. In both the compositions and cloze test, the percentage of verbs combined with Imp decreased from states to activities and then to achievements. The percentage of verbs combined with PC increased from states to activities and then to achievements.

3. In both the compositions and the cloze test, states were marked more accurately with Imp than other verb classes, and achievement verbs generated the highest accuracy rate with PC.

4. In both the compositions and the cloze test, the accuracy rate in the marking of PC decreased from achievements to activities and then to states. The decrease of accuracy rate in the marking of Imp from states to activities and then to achievements was observed only in the compositions, not in the cloze test.

5. In both the compositions and the cloze test, states patterned differently from all other categories, suggesting that the distinction of state vs. non-state, or the feature of dynamicity influenced learners’ choice of tense-aspect markers.

6. Both the distribution and accuracy in the use of Imp and PC in learners’ compositions was influenced by the topic, more precisely by the context of habitual past.

7. The learners comprehended the time reference in French very well, despite errors in production both on the cloze and on the compositions.

Chinese Data

Comprehension Task

There were a total of 12 sentences and 26 verb phrases underlined in the comprehension task. The learners were asked to indicate the time reference of the
underlined verb phrases (see Appendix D). The objective of the comprehension task was to see if the learners understood how time reference is expressed in Chinese. Five -les, two zais and 1 -guo appeared with the 26 verbs; in other words, 18 verbs did not have any aspect markers attached to them. The time reference of those verbs could be inferred from the context by time adverbials, syntactic structures or simply by world knowledge. Two native speakers of Chinese completed the comprehension task and gave exactly the same answers.

The results from the comprehension task showed that the students comprehended the time reference in Chinese very well: out of 26 predicates, 14 had an accuracy rate equal to or greater than 90% (of which 6 were 100%), 7 were equal to or greater than 80%, while only 5 of them received less than 80% accuracy rate. The lowest accuracy rate was 45% for token number 23. The high overall accuracy rate indicated that the students understood the time reference in those sentences quite well, whether the sentences had particles or not.

### Table 5.20 Accuracy of the answers in the Chinese comprehension task

<table>
<thead>
<tr>
<th></th>
<th>LE</th>
<th>ZAI</th>
<th>GUO</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of verbs</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Accuracy</td>
<td>85%</td>
<td>67.5%</td>
<td>85%</td>
<td>86.7%</td>
</tr>
</tbody>
</table>

### Table 5.21 Accuracy of the answers in the Chinese comprehension task over the four aspectual classes (percentage)

<table>
<thead>
<tr>
<th>Particle</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>N/A</td>
<td>100</td>
<td>90</td>
<td>78.3</td>
</tr>
<tr>
<td>GUO</td>
<td>N/A</td>
<td>85</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>ZAI</td>
<td>N/A</td>
<td>67.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>None</td>
<td>88</td>
<td>85</td>
<td>N/A</td>
<td>88</td>
</tr>
</tbody>
</table>

STA = states, ACT = activities, ACC = accomplishments, ACH = achievements

When there were no aspect markers involved, the verb class itself did not seem to influence the accuracy of the comprehension. The accuracy rates across the three verb
classes were almost equal for such sentences (88% for states, 85% for activities and 88% for achievements). Apparently, there was a decline in the accuracy rate from activities (100%) to accomplishments (90%) and then to achievements (78.3%) for the comprehension of the particle -le, but a closer look indicates otherwise. The low accuracy rate for the achievement verbs was because of predicate number 24 (accuracy rate 60%), which was a case where -le was used to express a future time reference. The combination of the perfective particle -le and the future reference is not among the prototypical functions of -le and, for this reason, was confusing to the students. If we do not count token number 24, the accuracy rate for achievements used with –le rises to 87.5%. In this particular case, it would appear to be not the lexical aspect (achievement) that caused the difficulty in comprehension, but rather, the future reference.

Another potentially misleading trend existed in the case of activity predicates. The accuracy rate declined from the use of -le (100%) to -guo (85%) and then to zai (67.5%), but again this was because the percentage for zai was skewed by token number 23. Token number 23 received the lowest accuracy rate (45%), even though in the sentence, there was a clear indication of time reference: zuotian (yesterday). This suggests that students may have associated the progressive marker “zheng zai” with the concept of present. When token number 23 is not counted, the accuracy rate for activities used with zheng zai rises to 90%. Another example where the students were misled by aspect markers was token number 25. Despite the fact that there was the time adverbial mashang (very soon), 40% of the students thought it was a non-future situation, perhaps because of the marker -le. Unfortunately these speculations cannot be verified without follow-up interviews with the learners. To summarize, the influence of lexical aspect on the comprehension task
was not detected; rather, the students seemed to be influenced by the prototypical associations between the particles and the time reference the particles are normally in, namely, past for the perfective –le and present for the progressive zai.

**Compositions**

Twenty students completed all three compositions. Each of the compositions was analyzed by two native speakers of Chinese, one of whom was the present author. The appropriateness of every verb was discussed and special attention was paid to the use of the particles -le, -guo, -zhe and zai, as well as the negation of -le (mei(you)). Every time one of the particles was used, correctly or not, the phrase that contained the particle was recorded; every time one of the particles was needed but not used, the phrase containing that verb was also recorded. To summarize, what was recorded were all the relevant contexts of particle use as in the French compositions. For every token, the predicate in the phrase was picked out and its inherent semantic lexical aspect analyzed.

After all the tokens were input into an Excel spreadsheet, six sentence-final les were taken out because only verbal morphology, not sentence-final morphology, is the concern of this study. In addition, there were three cases where the students’ intention was too vague to classify so these sentences were disregarded. With the above two categories excluded from the data base, for the compositions there were a total of 133 tokens, which included all the relevant contexts in the use of verb-final -le, and the markers zai, -zhe or –guo. The average number of tokens in each composition was 2.2, with a range of 0 to 10. There were 7 compositions where no particles were found nor needed.

133 tokens is a very small number, considering that there were 20 students who each wrote three compositions. This number seems especially low when we compare it to
the 1165 tokens found in the French compositions. However, in comparison to studies done on authentic Chinese material, it appears to be quite normal. Chu (1989) found that the frequency of *LE* is about once every 100 words in authentic narratives and it is the most frequently occurring aspect markers of all four markers under consideration in the present study. When we take into consideration that the average length of the students’ compositions is less than 100 words, it is not at all surprising to have a small mean of 2.2 per composition. Among the 133 total tokens, there was only one case where either `-guo` or `-le` was appropriate (it was later treated as a case of `-le`), four cases where `zai` was needed, and the other 128 cases all involved `-le` or `mei(you)`.

The 129 tokens of `-le` included 16 instances of the negation of `-le`: `mei(you)`. These are listed separately in all the tables. Out of a total of 113 relevant contexts for `-le` (after excluding the 16 cases for `mei(you)`), there were 93 obligatory contexts, but learners used `-le` only 40 times in those contexts, yielding an accuracy rate of 43%. The learners’ use of the negation of `-le` (`mei/you`) was quite accurate, since there was only one case of oversuppliance and one case of underuse.

**Table 5.22 Particles used in the three Chinese compositions**

<table>
<thead>
<tr>
<th></th>
<th>Number of Tokens</th>
<th>Obligatory contexts</th>
<th>Tokens used in OC</th>
<th>Over-suppliance</th>
<th>Under use</th>
<th>Accuracy rate in OC</th>
<th>Accuracy rate in RC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LE</strong></td>
<td>113</td>
<td>93</td>
<td>40</td>
<td>20</td>
<td>53</td>
<td>43% (40/93)</td>
<td>35.4% (40/113)</td>
</tr>
<tr>
<td><strong>MEI</strong> (YOU)</td>
<td>16</td>
<td>15</td>
<td>14</td>
<td>1</td>
<td>1</td>
<td>93.3% (14/15)</td>
<td>87.5% (14/16)</td>
</tr>
<tr>
<td><strong>ZAI</strong></td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>75% (3/4)</td>
<td>75% (3/4)</td>
</tr>
</tbody>
</table>

*OC = Obligatory contexts
RC = Relevant contexts*

Underuse of `-le` seemed to be a big problem for the learners. As we can see from table 5.22, there were far more cases of underuse than oversuppliance (53 vs. 20) of `-le`.

The accuracy rate of `-le` dropped from 43% to 35.4% from obligatory contexts to relevant
contexts (obligatory contexts plus oversupplied cases). The same trend was observed for negation, as the accuracy rate of mei(you) dropped from 93.3% to 87.5%. The drop in accuracy rate indicates that the learners’ difficulty with -le and mei(you) is two-fold: not only do they not know how to use them in obligatory contexts, but they also have trouble figuring out when they are not needed. The fact that not every Chinese finite verb in the perfective context is marked by -le (actually, most of them are not) complicates the acquisition of this particle even more. Learners’ use of zai, on the other hand, was quite accurate, both in obligatory contexts and in relevant contexts (75%).

In the following tables and discussion, -le and mei(you) will be discussed separately. The reasons for not combining the two are: first, the functions of mei(you) are much less complicated than those of –le. It basically indicates negation and it differs from another negative form in Chinese ‘bu’ in that it is used in the past. Second, because of the first reason, the accuracy of mei(you) is much higher than that of -le. If we grouped them together under the category ‘perfective markers’, a misleadingly high accuracy would be observed.

Table 5.23 Aspect markers used and their distribution over the four aspectual classes in the three Chinese compositions (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>66.7 (2)</td>
<td>36.8 (25)</td>
<td>33.3 (2)</td>
<td>55.4 (31)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>11.8 (8)</td>
<td>0</td>
<td>12.5 (7)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>4.4 (3)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NONE</td>
<td>33.3 (1)</td>
<td>47.1 (32)</td>
<td>66.7 (4)</td>
<td>30.4 (17)</td>
</tr>
<tr>
<td>BU</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.8 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>68</td>
<td>6</td>
<td>56</td>
</tr>
</tbody>
</table>

The category NONE in Table 5.23 refers to particles that were underused. We can see from this table that the problem of underuse exists for every lexical aspectual class: 33.3% for states, 47.1% for activities, 66.7% for accomplishments, and 30.4% for
achievements. This is in line with findings in previous studies (Duff & Li, 2002; Wen, 1998). For those verbs that were marked by learners, across all four aspectual classes, -le or mei(you) was the most frequently used marker.

It should be pointed out that since there were only three cases of states and six cases of accomplishments, the percentages may not be representative for these two verb classes; for this reason, our discussion will be limited to activities and achievements from here forward for the Chinese compositions. Achievements had a higher percentage of marking than activities both in the use of –le and in the use of mei(you) and the gap was greater in the use of –le.

The marking of activities, on the other hand, appears to support the Prototype Hypothesis. Only activity predicates (three of them) were marked by zai, a progressive marker. This is in line with the Prototype Hypothesis, which predicts that in languages that have progressive aspect, progressive marking is more closely related to activities (Andersen & Shirai, 1996). The three uses of zai with activities were the only uses of zai produced by learners.

After discussing the three compositions as a whole, it is useful to analyze individual compositions one by one to see if there is an influence of topic. As mentioned in Chapter Four, while in the French compositions, the first topic was intended to elicit PC, the second topic to elicit Imp and the third one a combination of both; this distribution is not expected in the Chinese compositions. In the Chinese compositions, it was expected that -le would be used most often in the first composition because it required many occurrences of past events, fewer uses were expected in the third
composition and composition two was expected to elicit the least number of uses of -le.

The use of zai was not expected to differ across different topics.

Table 5.24 Aspect markers used by composition in the Chinese compositions (percentage (raw frequency))

<table>
<thead>
<tr>
<th></th>
<th>LE</th>
<th>MEI(YOU)</th>
<th>ZAI</th>
<th>Total number of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comp 1</td>
<td>49.1 (27)</td>
<td>18.2 (10)</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Comp 2</td>
<td>44.4 (12)</td>
<td>3.7 (1)</td>
<td>7.4 (2)</td>
<td>27</td>
</tr>
<tr>
<td>Comp 3</td>
<td>41.2 (21)</td>
<td>7.8 (4)</td>
<td>1.9 (1)</td>
<td>51</td>
</tr>
</tbody>
</table>

Table 5.25 Accuracy of the aspect markers used by composition (percentage (appropriate uses/relevant contexts))

<table>
<thead>
<tr>
<th></th>
<th>LE</th>
<th>MEI(YOU)</th>
<th>ZAI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comp 1</td>
<td>36.4 (16/44)</td>
<td>90.9 (10/11)</td>
<td>N/A</td>
</tr>
<tr>
<td>Comp 2</td>
<td>26.1 (6/23)</td>
<td>100 (1/1)</td>
<td>66.7 (2/3)</td>
</tr>
<tr>
<td>Comp 3</td>
<td>36.9 (17/46)</td>
<td>75 (3/4)</td>
<td>100 (1/1)</td>
</tr>
</tbody>
</table>

The numbers in Table 5.24 showed that -le occurred most frequently with the first composition (49.1%), less frequently with composition two (44.4%) and least frequently with composition three (41.2%). This does not support the predictions and suggests that the learners were not influenced by topic when marking aspects. The accuracy rate is almost equal in composition three and one (36.9% and 36.4%), and the lowest rate is in composition 2 (26.1%). The results showed that the distribution of –le was not affected by composition topics while the accuracy was. Comparison between Table 5.24 and Table 5.25 shows that the learners were not aware of the rule that habitual past most often should not be combined with –le, which attributed to the low accuracy rate in composition two. In other words, -le was used too often in composition two where habitual past was the context. There were only four cases of zai from three compositions, little can be said about its distribution.
Table 5.26 Distribution of the particles over the four aspectual classes in Chinese composition 1 (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>0</td>
<td>36.4 (7)</td>
<td>0</td>
<td>62.5 (20)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>21.7 (5)</td>
<td>0</td>
<td>15.6 (5)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>32</td>
</tr>
</tbody>
</table>

Table 5.27 Distribution of the particles over the four aspectual classes in Chinese composition 2 (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>66.7 (2)</td>
<td>41.7 (5)</td>
<td>0</td>
<td>50 (5)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10 (1)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>16.7 (2)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>12</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 5.28 Distribution of the particles over the four aspectual classes in Chinese composition 3 (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>0</td>
<td>39.4 (13)</td>
<td>50 (2)</td>
<td>42.9 (6)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>9.1 (3)</td>
<td>0</td>
<td>7.1 (1)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>3 (1)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>33</td>
<td>4</td>
<td>14</td>
</tr>
</tbody>
</table>

There did not exist a pattern in the distribution of the particles over the verb classes. Achievements received more markings of -le than activities in all three compositions. But the relationships among other aspectual classes were not consistent. In none of the compositions did the distribution of any of the particles cover all four aspectual classes. More research should be done to compare these results with the distribution of the particles in native speech, but based on the discussion in Chapter Two concerning how the aspectual system works in Chinese, the author suspects that the same phenomena can be found also in native speech with the same topics, namely, the distribution of the particles might not cover all four verb classes and the distribution of the particles might not be influenced by lexical aspect.
Table 5.29 Accuracy of the particles over the four aspectual classes in Chinese composition 1 (percentage (appropriate use/ relevant contexts))

<table>
<thead>
<tr>
<th>Particle</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>0</td>
<td>33.3 (6/18)</td>
<td>0</td>
<td>38.5 (10/26)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>100 (5/5)</td>
<td>0</td>
<td>83.3 (5/6)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5.30 Accuracy of the particles over the four aspectual classes in Chinese composition 2 (percentage (appropriate use/relevant contexts))

<table>
<thead>
<tr>
<th>Particle</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>66.7 (2/3)</td>
<td>11.1 (1/9)</td>
<td>0/2</td>
<td>44.4 (4/9)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100 (1/1)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>66.7 (2/3)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5.31 Accuracy of the particles over the four aspectual classes in composition 3 (percentage (appropriate use/relevant contexts))

<table>
<thead>
<tr>
<th>Particle</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>0</td>
<td>37.9 (11/29)</td>
<td>50 (2/4)</td>
<td>30.8 (4/13)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>100 (2/2)</td>
<td>0</td>
<td>100 (1/1)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>100 (1/1)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Tables 5.29, 5.30 and 5.31 show that in none of the compositions, was the accuracy of the particles influenced by lexical classes. The advantage of achievements over activities in the marking of –le observed in the distribution was lost in the accuracy. Note that in composition 3, the accuracy of the marking of –le with activities was higher than that of achievements (37.9% vs. 30.8%).

One question naturally arises: what are the factors that are related to the use of -le?

Several studies on the acquisition of Chinese aspect markers have shown an influence of verb structures (Erbaugh, 1985; Li & Bowerman, 1998; Duff and Li, 2002). Table 5.32 shows the relation between aspect markers and verb structures used in the compositions.

Table 5.32 Distribution of the aspect markers in relevant contexts over the five different verb structures in Chinese compositions (percentage (raw number))

<table>
<thead>
<tr>
<th>Particle</th>
<th>Qu/Lai + Destination</th>
<th>Verb alone</th>
<th>Verb + Direct Object</th>
<th>Verb + RC</th>
<th>Verb + QO</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>46.9 (15)</td>
<td>59.5 (22)</td>
<td>20 (5)</td>
<td>60 (3)</td>
<td>44 (15)</td>
</tr>
</tbody>
</table>
Table 5.32 Continued

<table>
<thead>
<tr>
<th>Particle</th>
<th>Qu/Lai + Destination</th>
<th>Verb alone</th>
<th>Verb + Direct Object</th>
<th>Verb + RC</th>
<th>Verb + QO</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEI(YOU)</td>
<td>9.3 (3)</td>
<td>5.4 (2)</td>
<td>32 (8)</td>
<td>40 (2)</td>
<td>0</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>5.4 (2)</td>
<td>4 (1)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BU</td>
<td>3.1 (1)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>None</td>
<td>40.6 (13)</td>
<td>29.8 (11)</td>
<td>44 (11)</td>
<td>0</td>
<td>56 (19)</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>37</td>
<td>25</td>
<td>5</td>
<td>34</td>
</tr>
</tbody>
</table>

Qu = to go  
Lai = to come  
RC = Resultative Complement (similar to English finish doing)  
QO = Quantified Object (e.g. one piece of paper)  
Note: The category “Verb + Direct Object” excludes those belonging to Verb + QO.

Since the category ‘Verb alone’ includes states, activities and achievements and is thus not a unified category, it is more practical to talk about the other four categories.

There was a decrease of use of the perfective marker -le from the category ‘Verb + RC’ to ‘Qu/Lai + destination’ to ‘Verb + QO’ and then to ‘Verb + Direct Object’ (60%, 46.9%, 44% and 22%). Note that for the category ‘Verb + RC’, all the members were marked by either –le or mei(you) (in other words, by perfective markers) while in the other three categories, there was a noticeable percentage of members that were not marked (40.6%, 44% and 56%). The fact that the category ‘Verb alone’ had a frequency rate almost as high as that of the category ‘Verb + RC’ and higher than the other structures indicates that structure alone did not influence the distribution of the aspect markers.

The present study is concerned with not only the distribution, but also the accuracy of the aspect markers. Table 5.33 shows the accuracy of the particles over the four lexical classes of predicates used.

Table 5.33 Accuracy of the particles over the four lexical classes in the Chinese compositions (percentage (correct use/ relevant contexts))

<table>
<thead>
<tr>
<th>Particle</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>33.3 (1/3)</td>
<td>32.1 (18/56)</td>
<td>33.3 (2/6)</td>
<td>39.6 (19/48)</td>
</tr>
</tbody>
</table>
Table 5.33 Continued

<table>
<thead>
<tr>
<th>Particle</th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEI(YOU)</td>
<td>0</td>
<td>87.5 (7/8)</td>
<td>0</td>
<td>87.5 (7/8)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>75 (3/4)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

There did not seem to be an influence of lexical aspect on the accuracy of the perfective aspect marker -le. Table 5.33 shows that the accuracy of -le did not differ much according to the different lexical aspects: 33.3%, 32.1%, 33.3% and 39.6%. When we exclude states and accomplishments because of their limited numbers of tokens (3 for states and 6 for accomplishments), the accuracy of –le with achievements was higher than with activities, as in the distribution shown in Table 5.23. The accuracy of mei(you) was much higher than that of -le, but again, did not differ according to lexical aspect. The accuracy for the progressive marker zai was higher than –le and lower than mei(you).

Table 5.34 Accuracy of the particles over the five verbal structures in the Chinese compositions (percentage (raw number))

<table>
<thead>
<tr>
<th>Particle</th>
<th>Qu/Lai + Destination</th>
<th>Verb alone</th>
<th>Verb + Direct Object</th>
<th>Verb + RC</th>
<th>Verb + QO</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>28.6 (8/28)</td>
<td>37.5 (12/32)</td>
<td>25 (4/16)</td>
<td>100 (3/3)</td>
<td>38.2 (13/34)</td>
</tr>
<tr>
<td>MEI(YOU)</td>
<td>75 (3/4)</td>
<td>50 (1/2)</td>
<td>100 (8/8)</td>
<td>100 (2/2)</td>
<td>0</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>75 (2/3)</td>
<td>100 (1/1)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Qu = to go
Lai = to come
RC = Resultative Complement (similar to English finish doing)
QO = Quantified Object (e.g. one piece of paper)
Note: The category “Verb + Direct Object” excludes those belonging to Verb + QO.

If we exclude the structure ‘Verb alone’ for the reason mentioned above, the accuracy rate decreases from the structure Verb + RC to Verb + QO, to Qu/Lai + destination and then to Verb + Direct Object (100%, 38.2%, 28.6% and 25%). Not only did Verb + RC have a much higher accuracy rate than all three other structures, but also all the uses were correct. The learners demonstrated a good mastery of the negation of -le: mei(you). The accuracy of mei(you) for Verb alone was 50%, and for all the other
categories was very high (75%, 100% and 100%)\(^2\). Recall that as shown in Table 5.22, there were only one case of oversuppliance and one case of underuse. When we look at the accuracy of -\textit{le}, one verb structure stands out: \textit{Verb + Resultative Complement}. This can be seen as one piece of evidence for the Prototype Hypothesis. Completeness is definitely one of the prototypical meanings associated with the perfective marker -\textit{le} and the structure \textit{Verb + Resultative Complement} indicates completeness more clearly than the other four structures.

\textbf{Written Editing Task}

In the written editing task, the present study included -\textit{le}, -\textit{guo}, and \textit{zai}, unlike in Duff and Li (2002) where only -\textit{le} was studied. There were 12 obligatory contexts for \textit{LE}, 4 for -\textit{guo} and 4 for \textit{zai} (or \textit{zheng}zai). In addition, there were two optional contexts for -\textit{le} and one for \textit{zai}. Of the 12 \textit{LE}s in the passage, the structure of seven of the phrases was \textit{Verb + Quantified Object}; there was one Resultative Compound, two Verbs and two sentence-final \textit{les}.

As mentioned in Chapter Four, the format of the Chinese written editing task was very different from that of the French cloze test. Since there were no blanks, there was not a fixed number of answers that the learners could come up with. There were in total 32 verbs, of which four were involved with sentence-final \textit{le} and were thus not included in the analysis; of the remaining 28, there were five accomplishments, eight achievements, 13 activities and two states. There were two optional cases in the use of -\textit{le} and one optional case in the use of \textit{zai} that were not included in the analysis.

\(^2\) The number of tokens for the use of \textit{mei(you)} with the structures of ‘Verb alone’ (2) and ‘Verb + RC’ (2) and for the use of \textit{zai} with the structure ‘Verb + DO’ (1) may be too small to be representative.
Table 5.35 Answers supplied by two native speakers in the Chinese written editing task and their distribution over four aspectual classes (percentage (raw number))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Le</td>
<td>0</td>
<td>18.2 (2)</td>
<td>80 (4)</td>
<td>57.1 (4)</td>
</tr>
<tr>
<td>Guo</td>
<td>0</td>
<td>18.2 (2)</td>
<td>0</td>
<td>28.6 (2)</td>
</tr>
<tr>
<td>Zai</td>
<td>0</td>
<td>27.3 (3)</td>
<td>20 (1)</td>
<td>0</td>
</tr>
<tr>
<td>None</td>
<td>100 (2)</td>
<td>36.4 (4)</td>
<td>0</td>
<td>14.3 (1)</td>
</tr>
<tr>
<td>Total number</td>
<td>2</td>
<td>11</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

Notes: 1. “None” indicates the cases with no markers.
   2. The three optional cases are not included.

The native speakers’ answers in the written editing task did show a bias in the supplance of the markers according to lexical aspect. Both –le and –guo were used more for achievements than for activities (57.1% vs. 18.2% for –le and 28.6% vs. 18.2% for -guo). The use of zai showed the opposite trend: it was used more for activities than for accomplishments (27.3% vs. 20%) though most of them were not marked (36.4%). These trends were in line with the Prototype Hypothesis.

Table 5.36 Distribution of all the particles over the four aspectual classes in learners’ answers in the Chinese written editing task (percentage (raw frequencies))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>0</td>
<td>15.9 (35)</td>
<td>44 (44)</td>
<td>42.9 (60)</td>
</tr>
<tr>
<td>GUO</td>
<td>0</td>
<td>11.8 (26)</td>
<td>2 (2)</td>
<td>15 (21)</td>
</tr>
<tr>
<td>ZAI</td>
<td>0</td>
<td>11.4 (25)</td>
<td>1 (1)</td>
<td>0.7 (1)</td>
</tr>
<tr>
<td>NONE</td>
<td>100 (40)</td>
<td>60.9 (134)</td>
<td>53 (53)</td>
<td>41.4 (58)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>220</td>
<td>100</td>
<td>140</td>
</tr>
</tbody>
</table>

As in the native speakers’ answers, students’ data was lacking in the use of aspect markers with states, but Table 5.36 did show some trends that are in line with the Prototype Hypothesis. First, accomplishments and achievements were marked by the perfective marker -le at a much higher rate than activities (44% and 42.9% vs. 15.9%), indicating that, in this activity, telicity played a role when learners marked the grammatical aspect of verbs. Second, activities were marked to a much higher degree by the progressive marker zai than accomplishments or achievements. Another interesting
observation is that, for all four aspectual classes (except for achievements, where the difference of percentages between verbs marked by -le and those with zero marking is only 1.5%), most of them were not marked by the learners. This was not the case with native speakers. Table 5.35 shows that for native speakers, most of the accomplishments and achievements were marked with –le, instead of left with no marker. A closer look at Table 5.35 and 5.36 indicates that, in the use of –le, the gap between activities on the one hand and accomplishments and achievements on the other is greater in native speakers than in learners; whereas in the use of zai, the gap is greater in learners than in native speakers. This difference suggests that for the native speakers in the present study, the use of –le was more concentrated in telic verbs while the use of zai was more spread out and less concentrated in atelic verbs than for learners.

Table 5.37 Accuracy of the particles in relevant contexts in the Chinese written editing task

<table>
<thead>
<tr>
<th>Particle</th>
<th>Correct uses in obligatory contexts</th>
<th>Error of place</th>
<th>Oversuppliance</th>
<th>Underuse</th>
<th>Accuracy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>66</td>
<td>18</td>
<td>31</td>
<td>92</td>
<td>31.3%</td>
</tr>
<tr>
<td>GUO</td>
<td>37</td>
<td>1</td>
<td>12</td>
<td>35</td>
<td>40.2%</td>
</tr>
<tr>
<td>ZAI</td>
<td>21</td>
<td>1</td>
<td>3</td>
<td>44</td>
<td>25.3%</td>
</tr>
</tbody>
</table>

Table 5.37 shows the accuracy of the use of the three particles. The low percentages indicate that the learners still struggle to understand how to use these three particles. In the case of -le, learners had trouble knowing when to use it, when not to use it and where to use it when needed. Problems of oversuppliance and underuse existed for all three particles and underuse was a more severe problem than oversuppliance as also seen in the compositions.
Table 5.38 Accuracy of the particles over four lexical classes (percentage (correct uses/ relevant contexts))

<table>
<thead>
<tr>
<th></th>
<th>STA</th>
<th>ACT</th>
<th>ACC</th>
<th>ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE</td>
<td>0</td>
<td>11.7 (7/60)</td>
<td>37.6 (32/85)</td>
<td>40.9 (27/66)</td>
</tr>
<tr>
<td>Guo</td>
<td>0</td>
<td>41.3 (19/46)</td>
<td>0 (0/2)</td>
<td>42.9 (18/42)</td>
</tr>
<tr>
<td>Zai</td>
<td>0</td>
<td>32.8 (20/61)</td>
<td>5 (1/20)</td>
<td>0 (0/1)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>220</td>
<td>100</td>
<td>140</td>
</tr>
</tbody>
</table>

Similar trends to those seen in Table 5.36 were observed in Table 5.38: the perfective aspect marker -le was more accurately used in accomplishments and achievements than in activities (37.6% and 40.9% vs. 11.7% respectively). The feature of telicity seemed to play a role not only in the distribution, but also in the accuracy of students’ use of this particle. The accuracy of the progressive aspect marker zai was higher in activities than in accomplishments or achievements (32.8% vs. 5% and 0%), which again showed the influence of telicity. In addition, achievements and accomplishments were marked more accurately by –le than by zai, while activities were marked more accurately by zai than by -le.

**Summary of the results of the Chinese data**

The results of Chinese data can be summarized as follows:

1. The learners seemed to have a very good comprehension of the Chinese time reference in general although specific combinations of particles and time reference appeared to cause difficulty.

2. In the compositions, both the frequency and accuracy of the perfective aspect markers -le were consistently higher in achievements than in activities.

3. In the compositions, the progressive aspect marker zai was combined only with activities.

4. In the written editing task, both the frequency and the accuracy of the perfective aspect markers -le were consistently higher in achievements than in activities. But the difference was not as important as in the compositions.

5. In the written editing task, the use of zai was concentrated in activities.
6. In the written editing task, neither the distribution nor the accuracy of the experiential aspect marker guo appeared to be influenced by the lexical aspect of verbs.

7. In both the compositions and the written editing task, oversuppliance as well as underuse were two main problems in learners’ production, with the former more important than the latter.

8. The accuracy but not the frequency in the use of the perfective marker –le was influenced by the composition topics.
CHAPTER 6
DISCUSSION

The present chapter tries to bring all the chapters together as it discusses the findings of the present study, offers answers to the research questions posed in Chapter Three and compares these findings with those in previous studies.

Research Question One

Answer to Question One

Research question one asks: is the use of *imparfait* and *passé composé* by intermediate-level learners of French as an L2 influenced by the inherent semantic aspects of verbal predicates?

- Does the frequency of the use of *imparfait* and *passé composé* vary depending on the aspectual class considered?
- Does the level of accurate use of *imparfait* and *passé composé* vary depending on the aspectual class considered?

Generally speaking, the French data showed a clear influence of lexical aspect in learners’ use of Imp and PC in both their frequency and accuracy of use, except that the decrease of accuracy rate in the marking of Imp from states to activities and then to achievements was observed only in the compositions.

Comparisons with Previous Studies of French

The previous studies in French all recognize that Imp poses more problems for learners than PC based on the following observations: first, the accuracy of Imp is lower than that of PC (Kaplan, 1987; Kihlstedt, 2002); the use of Imp is concentrated on a limited number of state predicates (Harley, 1992; Bardovi-Harlig, 1996; Kihlstedt, 2002);
more base forms (third person singular in the present) are used in the contexts of Imp than of PC (Kihlstedt, 2002). The present study also found that the accuracy of Imp was lower than that of PC in the compositions, but not that the use of Imp was clustered over a limited number of verbs. There was a total of 424 verbs in Imp and 666 in PC in the compositions, spreading over 57 different verbs for Imp and 95 for PC. The ratio of individual verbs over tokens for Imp is 13.4% and for PC is 14.3%. The similarity between the two ratios indicates that the learners used an equivalent variety of verbs in Imp as in PC. The reason why other studies found a limited number of verbs associated with Imp may be because of the topics of their narratives. If the topic does not require a lot of background description or habitual past contexts, the use of Imp will be rather limited to states and to a small number of different verbs. The three topics in the present study, however, were specially designed to elicit a relative balance between Imp and PC. The content of the second topic, in particular, elicited many Imps used in the habitual past, which compensated for a lack of Imp used in the other two compositions and elicited a wider variety of verbs than in previous studies.

As in Bardovi-Harlig and Bergström (1996), the present study confirms the Prototype Hypothesis on two accounts: in both the compositions and the cloze test, the frequency of and the accuracy in the use of PC increased from states to activities then to achievements; the distribution and accuracy in the used of Imp follows the opposite direction of that of PC in the compositions.

Salaberry (1998) found no difference between the narratives and the cloze test in his study in terms of influence of lexical aspect. The present study, however, suggests that the distributional bias is more evident in free writing than in the cloze test used here.
Bergström (1995 cited in Bardovi-Harlig, 2000) used both a cloze test and a silent film retell in her study and found that only in the cloze passages did learners’ PC distinguish achievements from accomplishments and activities. Contrasting with her study, in the present study the difference between achievements and other verb classes was observed both in the compositions and in the cloze test; moreover, the trend was clearer in the compositions than in the cloze test. Statistical analyses of the results of the narrative task in Salaberry’s study revealed significant differences in the use of verbal morphology between telic verbs (achievements) and atelic verbs (statives and activities) for both native speakers and learners. The present study found, as did Kihlstedt (2002), that the distinction between states and non-states (activities, accomplishments and achievements) played a more important role.

**Research Question Two**

**Answer to Question Two**

Research question two asks: is the use of the grammatical aspect markers (-le, -guo and zai) by intermediate-level learners of Chinese as an L2 influenced by the inherent semantic aspects of verbal predicates?

- Does the frequency of the use of the markers vary depending on the aspectual class considered?
- Does the level of accurate use of the markers vary depending on the aspectual class considered?

There are traces of the influence of lexical aspect in the Chinese data: in the compositions as well as in the written editing task, the use of the progressive marker zai was concentrated within activities; in the compositions and the written editing task, the frequency and the accuracy of use of the perfective marker –le was higher with achievements than with activities; in the written editing task, neither the frequency nor
the accuracy of use of the experiential marker –guo showed patterns among aspectual classes: the percentage for activities was almost equal to that of achievements, whereas the percentage for accomplishments was lower than both activities and achievements (see Tables 5.36 and 5.38).

**Comparisons with Previous Studies of Chinese**

The results of Li’s (1998) study on L1 acquisition support the Prototype Hypothesis as they showed that there was a consistent association of imperfective markers with atelic verbs (states and activities) and of perfective markers with telic verbs (accomplishments and achievements). The findings from the written editing task in the present study are in line with Li’s results: in the marking of -le, telic verbs and atelic verbs pattern differently both in distribution and in accuracy, suggesting an influence of telicity.

The reason why Li found a relationship between grammatical aspect and lexical aspect is that, as in the written editing task in the present study, the distribution of the particles over different lexical aspects was altered so that there were almost equal numbers of different aspects with each particle. The point to be underlined here is that there is a relationship between lexical aspect and grammatical aspect in Chinese, but in the present study, the influence of lexical aspect of the verbs was not as important as in the French data and even less important in the compositions than in the written editing task.

Though neither of the two studies addressed the influence of inherent lexical aspect on the acquisition of -le with a quantitative design, both Erbaugh (1985) and Huang (2000) observed an association between the perfective marker -le and predicates with a clear end-point in their meaning. This proves again that the distinction between achievements and non-achievements plays an important role, as shown in the present
study. Li and Bowerman (1998) also found evidence supporting the importance of telicity in their learners.

The present study found that undersuppliance is a problem in both the compositions and the written editing task for the use of -le over all four aspectual classes. Duff and Li (2002) suspect that by the second semester of their study, because of increased exposure to le, learners would overgenerate -le in their production. The learners in the present study were in their fourth semester, yet undersuppliance was more of a problem for them. Overgeneralization was more evident in the written editing task in Duff and Li’s study than in the present study. The oversuppliance of -le in their cloze test and the underuse of -le in the present study might be explained by the fact that there were only four obligatory –les and one optional one in their written editing task while there were ten obligatory -les in the present study.

**Research Question Three**

Research question three asks: how does the acquisition of grammatical aspect in the two languages differ in terms of the influence of lexical aspect?

In general, the effect of lexical aspect was more evident in the French data than in the Chinese data. In the French data, the influence of lexical aspect was found in the compositions as well as in the cloze test, in both the distribution and the accuracy of the two tenses under investigation: Imp and PC. In addition, results showed that the influence of lexical aspect manifested itself more clearly in the compositions than in the cloze test. Different topics elicited different ratios of Imp over PC, but the influence of lexical aspect remained strong in each of the compositions examined individually, as well as when all three compositions were analyzed as a whole. Those results indicated that
learners were indeed influenced by the lexical aspect of the verbs when they marked tense-aspect in French.

The Distributional Bias Hypothesis claims that the biased distribution between grammatical aspect and lexical aspect (more in prototypical associations and less in the non-prototypical associations) exists in native speakers as well as in learners. No studies have been done to test specifically how the distribution works in native speech in French. The data available in English, Spanish, and Italian (Andersen, 1993) make the present author suspect a similar trend in the distributional patterns in native speech in French. Evidence can also be found in Salaberry (1998) and Kihlstedt (2002) in their studies on French. Both of them used native speakers in their control groups and found that native speakers and non-native speakers demonstrated similar trends in their distribution of Imp and PC over aspectual classes.

The difference between a learner and a native speaker does not lie in the distribution, since the distributional bias also exists in native speakers’ speech, but in accuracy of use. The fact that the bias exists in both distribution and accuracy in the learners’ production indicates that lexical aspect influences learners’ decision of which marker to choose. Native speakers make tense-aspect decisions based on the meaning they intend to convey, but since learners do not have good control over form-meaning associations, the forms they use might not convey their intentions. When their intentions are not very helpful in choosing the correct tense-aspect, they rely on a covert grammatical form: the lexical aspect of the verb.

In the Chinese data, when the three compositions were considered as a whole, the perfective aspect marker –le was combined more often and more accurately with
achievements than with activities. But this tendency is lost in the accuracy of –le in composition 3. No study has been done to specifically test the distribution of the aspect markers over the four lexical classes in native speech in Chinese, but the present author suspects, from a native speaker’s intuition, that native speakers’ speech will not show an influence of the lexical aspect either, because very often, the discourse functions (peak-marking and anteriority marking) override the influence of lexical aspect. Different composition topics produced differences in the use of the markers, as in the French compositions. But the topics only influenced the accuracy of -le in that -le was used less accurately when habitual situations were involved (in composition 2).

The influence of verb structures were analyzed in Chapter Five and results show that even though the verb structure in general did not have an influence on the use of aspect markers, one verb structure stood out: Verb + Resultative Complements. The accuracy of achievements marked by -le had only a slight advantage over other aspectual classes (see table 5.29) while Resultative Complements (a subcategory within Achievements as classified by Li & Bowerman (1998) and Li (2000)) yielded a much higher accuracy rate than all other verb structures. The reason behind this can be explained within the framework of prototypical associations. Achievements as a category are not as close to the prototypical feature: completeness of the perfective marker -le as Resultative Compounds. For example, all the cases of qu (to go) are classified as achievements but they are not Resultative Compounds structurally speaking. In the semantic representation of qu, the meaning of “going to a place” is not very strongly associated with “completeness”. “Zuo wan” (finish doing), on the other hand, has a clear end point and is classified both as an achievement and a Resultative Compound. The
verbs that are classified as both an achievement and a Resultative Compound have a stronger association with “completeness”, which is one of the core (prototypical) meanings of the perfective marker -le.

In the written editing task in Chinese, there appeared to be different patterns for activities on the one hand and achievements and accomplishments on the other, suggesting that telicity might have influenced the learners’ aspect marking. The distinction between states and non-states was important in the French data. This difference in the dominant features in the two languages suggests that there might not be a universal semantic feature (among dynamicity, durativity and telicity) that is most strongly associated with tense-aspect marking in L2 acquisition, but that acquisition might differ according to target language.

Furthermore, the French data showed a more important influence of lexical aspect in the compositions than in the cloze, while in the Chinese data, the opposite was observed. The difference between activities and achievements is greater in the Chinese written editing task than in the compositions. This may be explained by the following: There does exist a close relationship between lexical aspect and grammatical aspect in Chinese as evidenced by the natural associations between imperfective aspect and atelic predicates (states and activities), as well as between perfective aspect and telic predicates (accomplishments and achievements) (Li & Shirai, 2000). More precisely, natural associations exist between the perfective marker -le and accomplishments/achievements, between the progressive marker zai and activities, and between the durative marker zhe and states (Li & Bowerman, 1998). However, the relationship is not as strong as in French. In the Chinese compositions, there were other factors that influenced the marking
of grammatical aspect, for instance the discourse functions of the verbs. Recall that as discussed in Chapter Five, there was a considerable portion of predicates in the Chinese written editing task that were not marked by any aspect marker both by native speakers and by learners. The influence of lexical aspect may not have been very strong in the Chinese activities, so it lost in its competition with other factors in the compositions. On the contrary, in the written editing task, because of the design, the ratio of the markers associated with different verb classes changed. The influence of lexical aspect was magnified. In summary, because the relationship between lexical aspect and grammatical aspect is so strong in French, the distribution and accuracy manifest themselves through free writing (compositions) more easily than in the cloze test, where the influence was diminished. The weaker relationship in the cloze test showed that the learners did not depend exclusively on lexical aspects, but also on discourse functions such as grounding and habitual situations in their choice of tense-aspect.

Imp and PC in French are in complementary distribution. In spoken French, these are the two main past tenses used. Since every verb must be marked for tense, either Imp or PC should be used (the other past tenses: pluperfect, anterior past, immediate past, etc. do not occupy a considerable place in speech when talking about past events). This complementary distribution does not exist in Chinese among its perfective aspect marker -le and its imperfective aspect marker zai. Zai, as a progressive marker, covers far fewer functions than Imp while -le’s functions overlap with those of PC. The main difference between -le and PC is that -le is not (and should not be) used in every occurrence of past perfective events. The use of -le is determined to a large extent by certain discourse functions, which are, as mentioned in Chapter Two, the peaking-marking function and
the anteriority-marking function. This difference between the two languages explains why the relationship between the distribution of perfective aspect and imperfective aspect was influenced by composition topics in French but not in Chinese.

In French, the marking of PC is predominant in learners’ and in native speakers’ speech. Recall that Table 5.2 showed that the ratio of Imp over PC used in learners’ compositions was 424/666. The frequency of the Chinese \(-le\) is much higher in the tense-aspect system in Chinese in both learners’ and native speakers’ speech than PC in the French system. Table 5.14 shows that there are 129 cases of \(-le\) (and mei(you)) while there are only 4 cases of \(zai\) and no trace of \(-guo\) or \(-zhe\). Even when states are marked, they are more likely to be combined with \(-le\) than with \(zai\) or \(-zhe\). We should note, however, that states are seldom combined with \(-le\), compared to verbs from other aspectual classes. In many cases, when states are combined with \(LE\), careful analysis will reveal that this \(LE\) is in fact sentence-final \(le\). In the data collected for this study, there are six cases where states are combined with sentence-final \(le\), so they are not included in the data analysis. In other words, states in Chinese, in general, are not marked either by imperfective or by perfective aspect markers.

In both French and Chinese, lexical aspect is not the only factor that determines learners’ choice of tense-aspect markers. The difference between the French data and the Chinese data exists in the interaction of these factors. For instance, in French, there are overlaps between the functions of grounding and lexical aspect. For example, achievements also tend to occur in foreground and both are associated more often with PC. The effects of grounding and lexical aspect often point in the same direction and result in the same marker. Of course, there are discrepancies. For example, when a
situation denoted by an achievement occurs in the background (habitual situations), Imp instead of PC is required. This achievement used with Imp constitutes a non-prototypical association.

The situation in Chinese is quite different. There do exist natural associations between grammatical aspect and lexical aspect and between grammatical aspect and grounding, but neither of them has a strong influence. The results from the present study showed that in the acquisition of Chinese, lexical aspect does not play as important a role in marking grammatical aspect as in French. The results in French were more consistent and had fewer exceptions; in the Chinese data, the marking of –guo was not influenced by lexical aspect. The present author suggests that we should look into other discourse functions: peak-marking and anteriority marking, which might play a more decisive role. It is hypothesized that this constitutes the most important difference between tense-aspect marking in the two languages. The result of these two discourse functions is that not every finite verb in Chinese is marked by grammatical aspect. The marking of Chinese tense-aspect must to go beyond individual phrases, which is why lexical aspect does not play an important role; furthermore, as grounding is only one of the factors in discourse functions, the present author suspects that grounding does not play an important role either.

Howard (2004), in his study of the acquisition of tense-aspect marking in advanced learners of French, found that the influence of inherent lexical aspect and grounding, among other factors in the acquisition of tense-aspect morphology, cannot be separated. Rather, the interaction between the two factors better explains the learners’ interlanguage. The results of his study suggest that the use of each morphological form varies not only
between discourse grounds, but also within each discourse ground as a function of the inherent lexical aspect of the verbs to be marked. Based on his study, Howard claims that it is wrong to pose the question of which one (lexical aspect or grounding) exerts a more dominant influence, because it is the interaction of both that results in the tense-aspect marking in learners’ interlanguage.

This claim seems plausible in French and other Indo-European languages, even in Japanese where every verb has to be marked for its tense and aspectual feature. The fact that the distributional bias exists among native speakers of French proves that lexical aspect is an important factor to investigate in L2 acquisition.

Howard is right in suggesting that we investigate the interaction of different factors, but these different factors do not play the same role in acquisition in different languages because of the way the languages themselves work. For instance, the results of the present study indicate that lexical aspect does not have the same effect in Chinese as in French.

Keeping the importance of these interactions in mind, however, the effect of individual factors should still be explored. First, the interaction of different factors should not obstruct the fact that some factors do play a more important role than others; second, the task that researchers are facing now is to know more in-depth how each factor works; third, the investigation of individual factors touches on the acquisition of tense-aspect morphology from different angles, so they do not contradict each other. What is important is to tease out the effect of other factors in the research design.

The results of the present study indicate that lexical aspect may not be a fruitful factor to look at in L2 acquisition of Chinese aspect markers. Furthermore, as mentioned
in Chu (1998), more often than not, verbs in the foreground do not require the perfective marker -le. This simple fact indicates that grounding is also not a good angle from which to investigate the acquisition of Chinese aspect markers.

The present author is aware that how the language itself works does not necessarily indicate how L2 learners will behave in their learning process. The point is that knowing how the language under investigation works should be the starting point of any study in L2 acquisition.

**Research Implications**

As Andersen (2002, p. 93) points out, there are at least six separate dimensions in the concept of pastness: 1. verbal semantics (the four aspectual classes: states, activities, accomplishments and achievements); 2. event type (unitary events vs. habitual or iterative events); 3. realis-irrealis (real factual realized situations vs. hypothetical or counterfactual situations); 4. pragmatic role (direct assertion vs. indirect pragmatic softener); 5. grounding (foreground vs. background); 6. discourse structure (position and function within discourse segment). Andersen revises the Aspect Hypothesis based on these six dimensions and suggests that the grammatical aspect used in learners’ production has a compositional nature of those six dimensions and other additional factors, such as input and L1 transfer variables.

The focus of the present paper is the first dimension only: verbal semantics. The results showed that verbal semantics, which is the basis of verb classification, had a more important influence in the French data than in the Chinese data. To explain the phenomena found in the Chinese data, other dimensions should be considered. There has been research done on the influence of event type (Huang, 2000; Shirai, 2002), while other dimensions still wait to be explored. Particularly important for Chinese, it would be
interesting to investigate the role of discourse structure, for example, the use of time adverbials, the relationship among different phrases, the peak-event marking, etc. When these other dimensions and factors are added into the Prototype Hypothesis along with verbal semantics, the hypothesis would explain the Chinese data better. Moreover, the Chinese data do not exclude an effect of lexical aspect. As shown in Chapter Five, there were observations that showed such an effect. But the Chinese data in this study indicate that the effect of lexical aspect is only scattered, whereas it is strong in the French data.

The task for future research is to tease out the influence of each dimension, as well as other factors, in order to know what is really behind learners’ use of tense-aspect morphology. Studies focusing on each dimension, especially those that have not been studied before, are called for. When the influence of each dimension becomes clear, studies can concentrate on the interaction of all the dimensions and factors. Interaction here not only means how they influence one another, but also which one has the most power in determining how learners develop their tense-aspect system.

Studies like those in French by the European Science Foundation (Dietrich et al., 1995) are fundamental in the field because they avoid the “morphological bias.” They study all the dimensions, but at the same time, this makes the picture less clear. What we need is a combination of the approach adopted in the European Science Foundation project and the quantitative approach. We should think about other factors instead of focusing on only one and try to find patterns within each factor when talking about the interactions among them.

The Prototype Hypothesis serves to explain the observations made in the studies that tested the Aspect Hypothesis and its expanded version (with the six dimensions). The
original version of the Aspect Hypothesis predicts a relationship between the acquisition of tense-aspect morphology and inherent lexical aspects (verb semantics). The predictions concur with those of the Prototype Hypothesis in that the more prototypical the associations, the earlier they are acquired and the more accurate the uses are. In the expanded version of the Aspect Hypothesis, there are prototypical associations within each dimension and, more importantly, among the different dimensions in terms of their relationship with the acquisition of tense-aspect morphology. For example, verbal semantics might be the most important dimension for the acquisition of French, but discourse structure might be the most important for Chinese, because the use of the tense-aspect morphology has a more prototypical association with verbal semantics in French and with discourse structure in Chinese.

Because of the complex nature of language acquisition in general, the Prototype Hypothesis does not provide complete explanatory power. There are more details to explore in the cognitive processes of language learning. For instance, it is true that learners have trouble understanding form-meaning associations in the target language, which explains why they only know the most prototypical associations and also why their use of a certain form is quite limited in its range of meanings. But at the same time, because of learners’ limited knowledge of form-meaning associations, a form that they use does not necessarily reflect the meaning it has in the target language. In other words, learners might use a certain form to express something other than what the form is used for by native speakers of the target language. For example, learners sometimes use simple past in English to express events that happen in the present or vice-versa. In both ways,
the form the learners use does not necessarily express the meaning in the learners’ mind or the TL meaning for that form.

Studies on the acquisition of tense-aspect morphology faithfully record the forms that the learners use as their data base for analysis. In this way, they assume that learners know the inherent lexical aspect of the verbs they use and that they attach markers according to the inherent semantics of the verbs. But the problem is that learners do not necessarily understand inherent lexical aspect in a target-like way. For example, as mentioned in Chapter Two, most verbs in Chinese only indicate an attempt (not an attainment) of goal and are for this reason classified as activities. Learners, however, might interpret them as achievements which renders the verb classification of researchers invalid. Think-aloud protocols or retrospective interviews are needed to really find out what learners think when they make decisions. Only when we know the learners’ intentions can we really understand the interlanguage.

One methodological issue is worth our attention. In acquisitional studies in general, and in the acquisition of tense-aspect in particular, it is helpful to compare learners’ production with native speakers’ production. Otherwise, researchers cannot know whether the trend (or bias) found in learners’ production is idiosyncratic or if it also exists in native speakers’ speech. In studies on tense-aspect morphology, it is after the proposal of the Aspect Hypothesis that Andersen (1985 cited in Bardovi-Harlig, 2000) suspected that the same trend existed in native speakers and proposed the Distributional Bias Hypothesis. One possible reason for the mistakes in learners’ production is that lexical aspect is not the only determiner for the use of tense-aspect morphology and the trend (bias) observed in native speakers is not a categorical rule.
To summarize, in order to know the whole picture of tense-aspect acquisition, there are several different layers that researchers need to explore:

1. How tense-aspect works in the languages under investigation;
2. How native speakers use the tense-aspect morphology within the six dimensions mentioned by Andersen (2002);
3. How learners use the tense-aspect morphology in the TL and how this use is different from native speakers’ speech;
4. How the six dimensions interact with each other and how other factors, such as input and L1 transfer, influence the acquisition processes.

**Pedagogical Implications**

**French**

Because both the data from native speakers as well as from non-native speakers show an influence of lexical aspect, it will be helpful to introduce this existing bias to students and at the same time caution them that those are just prototypical associations not categorical ones.

As in all the studies reviewed in Chapter three, the present study also found that learners were even weaker on the use of Imp than PC. The focus should be on Imp in teaching. Most textbooks introduce PC first, and what’s worse is that the introduction of PC is normally at the end of the first semester of study, and students might leave the classroom thinking that PC is the only past tense in French. It would be a good idea to introduce Imp first and at the same time give a brief introduction to PC. Moore (1981), an American teaching English and French in France suggests that Imp instead of PC should be introduced first because Imp is structurally easier than PC. It is a synthetic form whereas PC is an analytical form (auxiliary with past participle). Moreover, Imp is more regular than PC. Moore also points out that giving a set of rules is far from enough for
learners, instead, we should contrast English with French to prevent the false associations students might make between the two languages. For example, we should contrast “depuis + verb in present tense” with “since + verb in simple past” to point out to students that the tense in the two languages do not necessarily match.

The weakness of the learners in the use of Imp is manifested clearly in the context of habitual past. The second topic of the compositions in the present study asks the learners to talk about what they used to do when they were sixteen. This topic requires Imp for habitual past and this is the topic where Imp had the most underuse of the three topics. It seems that the textbook should emphasize the use of Imp in this context with meaningful exercises. Present tense was often used in the places where Imp was obligatory (41 out of 223 instances in the present study) which suggests that the distinction between present and Imp should be pointed out to students even though both are imperfective. As with the aspect markers in Chinese, Imp and PC in French should also be introduced in the discourse context to present contrast between the two.

The experiment in Harley (1989) showed that only immediate benefits were found for the experimental group where activities were designed to promote meaningful input and output during the acquisition of Imp and PC. The fact that even advanced learners have trouble with Imp and PC proves that this imperfective/perfective distinction in the past in French is really a notorious grammar point for learners. Since classroom input does not seem to be enough for students to grasp the concept, study-abroad might be a good solution.

Chinese

The results showed that the use of the aspect markers by learners of Chinese was not influenced by the lexical aspect of the verbs. So if lexical aspect cannot be the factor
that caused the mistakes, then what is behind the mistakes? The following factors seem to play a role according to the present study.

First is the issue of the habitual past. There were only two mistakes in the use of *mei(you)* and one mistake in the use of *zai*, but two of these three mistakes occurred in the context of the habitual past. The mistake concerning *mei(you)* is an oversupply in habitual past. *Mei(you)* is the negation of the perfective aspect –le, and as its positive counterpart, normally is not compatible with habitual past. Unlike *mei(you)* or –le, *zai* is compatible with habitual past. The mistake with *zai* was an undersupply in habitual past. The sentence was:

1a). *Wo shiliu sui shi jingchang shang gaozhong.*
I always was in high school when I was sixteen.
Should be:

1b). *Wo shiliu sui shi ZAI shang gaozhong.*
I was in high school when I was sixteen.

There were also many oversupplies of –le in habitual past. Of the twenty oversupplies of –le, ten of them were in habitual past. One example is presented here:

2a). *Wo meige zhoumuo qu-le wo baba jia kan ta.*
I went to my dad’s house to see him every weekend.
Should be:

2b). *Wo meige zhoumuo dou qu wo baba jia kan ta.*
I went to my dad’s house to see him every weekend.

Second, learners frequently overlooked discourse coherence. As mentioned in Chapter Two, when a series of situations happen one after another, the most important situation will be marked by –le. This is called the peak-marking function. Usually the situation that receives the marking is the last one. The learners did not seem to be aware
of this discourse function of –le which results in oversuppliance because what they
tended to do was to mark every past situation with –le. All the sentences were
grammatically correct if viewed individually, but the oversuppliances of –le makes the
whole discourse awkward. It was as if the learner was describing individual pictures
instead of a coherent narration. See the following example:

3a). Wo nupengyou lai-le, he wo jiaren yiqi chi-le yi-dun wanfan.
    My girlfriend come-le with my family together eat-le one dinner.
My girlfriend came and had dinner with my family.
Should be:
3b). Wo nupengyou lai he wo jiaren yiqi chi-le yi-dun wanfan.
    My girlfriend come with my family together eat-le one dinner
    My girlfriend came and had dinner with my family.

In this example, the situation “having dinner with my family” is the peak and thus
should be marked; the situation “my girlfriend’s coming” serves as an introduction to the
second one, so it should not be marked.

Another common mistake was also related to the peak-marking function. Many
students started their composition with an introductory sentence that summarized the
whole composition. For example,

4a). Shangge zhoumuo wo gen gege qu St. Augustine.
    Last weekend I follow (older) brother go St. Augustine
I went to St. Augustine with my brother last weekend.
Should be:
4b). Shangge zhoumuo wo gen gege qu-le St. Augustine.
    Last weekend I follow brother go-le St. Augustine.
I went to St. Augustine with my brother last weekend.

Sentences like the one mentioned above are sentences that contain the topic of the
whole composition. Chinese is a topic-prominent language (Li & Thompson, 1975),
sentences containing the topic are definitely the peak and should be marked by –le. The
point is that the grammaticality of Chinese sentences must go beyond sentence-level and be discussed in a discourse setting.

Third, there were many problems with quantified objects. Quantified objects are objects (direct or indirect) that are modified by a number and a measure-word. Equivalent examples in English will be “two cups of coffee” or “three buckets of apples”. Quantified objects are frequently used in Chinese and often require –le in the past context. Learners in the present study did not seem to associate the use of –le with quantified objects and thus had 25 cases of underuse of –le of this kind out of in total 52 cases of underuse of –le.

The following pedagogical implications are derived from the afore-mentioned mistakes by learners, taking into consideration the way the perfective marker –le is introduced in the textbook:

1. The textbook that the learners in this study used does not talk about the use of the markers in habitual past. The fact that mistakes in the use of zai, mei(you) and –le all appeared in habitual past suggests this is a weak area for students. It would be helpful if passages in habitual past were presented to the students to let them know what particles are typically associated with it.

2. The discourse function of –le should be emphasized. In fact, the discourse functions prevent the marking of –le in every occurrence of past events. It is important for the teachers to make it clear to students that discourse is the basis to determine the use or non-use of –le.

3. Structures such as Verb + Quantified Object and Verb + Resultative Complement need to be introduced to students and their association with the perfective –le should be pointed out. The textbook that the learners in the present study were using did mention that –le often co-occurs with quantified objects.

4. The students should practice writing more compositions. For the students in the present study, composition is not a very important part of their Chinese study. They started free-writing at the beginning of second year and compositions were done after class. Maybe it would be beneficial to not only start early and practice more, but also write compositions in class with instructions on coherence and on how the use of –le is determined by discourse.
5. Another suggestion concerns the way the textbook introduces the particle –guo. The written editing task of the present study showed that some learners confused –guo with –le. It would be helpful to contrast –guo with –le, because first, the students are confused with another particle denoting past situations besides –le; second, though both can be used to describe the past, the semantic difference (see Chapter Two) between the two are evident and should be mentioned to the students.

**Limitations of the Present Study**

The present study was designed to test the Prototype Hypothesis and it would be better done with a developmental study or a cross-sectional study. The original plan was to carry out a cross-sectional study, and data from different course levels were collected. Due to the following reasons, only one course level from the Chinese program and one from the French program were included in the data analysis:

First, the learners in the first-year Chinese program did not give enough data to work with in their compositions. Since they had never had the chance to practice free-writing in a limited time without a dictionary, many of them produced only one sentence. Second, the data collection from one of the French sections had to be done in one day due to the schedule of that class. The data were deemed not reliable because all the five activities were done during one class period.

If time had permitted, adding think-aloud protocols during activities or retrospective interview procedures would have been a good idea. In particular for the present study, think-alouds and interviews would have helped the researcher find out learners’ explicit knowledge of the forms under investigation; they would have shown if the learners were influenced by their L1 English; they would also have revealed if the learners had the same understanding of the lexical aspect of the verbs as native speakers do.
It would also be very helpful to have native controls in the study. For the cloze test in French and the written editing task in Chinese, native speakers served as controls and offered valuable data, but the comprehension and compositions did not have any native speaker participants. Native speakers would provide information on the use of the forms on different topics besides the distribution and accuracy of these forms over the four lexical classes. A contrast of the data between native speakers and the learners would help explain the weakness of the learners and point out the direction for learners to work on.
CHAPTER 7
CONCLUSION

The present study tested the Prototype Hypothesis with data from the acquisition of tense-aspect in French and Chinese by English-speaking learners.

The Aspect Hypothesis (Andersen & Shirai, 1994, p. 133) states that “first and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with or affixed to these verbs.” While the Aspect Hypothesis points out acquisitional sequences of grammatical aspect among the four aspectual classes by learners, the Prototype Hypothesis predicts that the marking of a certain grammatical aspect is more closely related to the most prototypical aspectual class associated with that grammatical aspect.

The French data were in line with the Prototype Hypothesis with the following findings. First, states were more frequently marked with Imp than other verb classes and achievements were more frequently marked with PC than other verb classes; second, the frequency of use as well as the accuracy of PC increases from states to activities and then to achievements and the frequency of use and the accuracy of Imp decreases in the same direction. In addition, the feature of dynamicity was found to play an important role in determining the distribution and the accuracy in the use of Imp and PC across the four lexical aspects.

Traces of the influence of lexical aspect were also found in the Chinese data: zai was concentrated within activities and the frequency of use of the perfective marker –le was consistently higher in achievements than in activities except for its frequency in the
written editing task. Overall, the influence of lexical aspect in the Chinese data was not as strong as in the French data. The marking of the experiential marker –guo did not show any influence of lexical aspect. When the verbs were marked, -le was the marker that was most frequently used across the four lexical classes. In addition, it was found that the feature of telicity played a role in determining the frequency of use and accuracy in the use of these markers.

The difference of findings between the French and the Chinese data can be explained by the difference between the two tense-aspect systems. In the tense-aspect system in Chinese, discourse functions such as peak-marking and anteriority marking, may play a more decisive role whereas in French, lexical aspect and grounding determine the marking. It is hypothesized that this constitutes the most important difference between tense-aspect marking in the two languages and serves as the explanation for the differences observed in the acquisition of the two systems.

The revised version of Aspect Hypothesis (Andersen, 2002) includes six factors that influence the acquisition of tense-aspect morphology which are, besides lexical aspect, event type, realis-irrealis, pragmatic role, grounding and discourse structure. The revised Aspect Hypothesis would explain the Chinese data better because discourse structure is included as a factor.

There are prototypical associations between the acquisition of tense-aspect morphology and each of the six factors mentioned in Aspect Hypothesis as well as among the six factors themselves. The task for researchers is to figure out these prototypical associations for each language using quantitative and qualitative analyses.
APPENDIX A
LANGUAGE BACKGROUND INFORMATION

1. Name

2. Gender

3. Age

4. What’s your native language?

5. Do you speak other language(s) natively? If YES, what are they?

6. Have you ever lived in or visited a foreign country? If Yes, for how long?

7. Please list the foreign languages in the order you have learned them. Indicate the age at which you began to learn each one, and the length of time that you studied each.

<table>
<thead>
<tr>
<th>Language</th>
<th>Age you started</th>
<th>Length of time studied</th>
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<td>6)</td>
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8. Please indicate the fluency of each of the languages you know (including your native language) you know on a 1 to 5 scale. 1: not fluent at all or with great difficulty, 2: with relative difficulty, 3: manageable but with mistakes from time to time, 4: relatively fluent with sparse mistakes, and 5: native or nativelike.

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<thead>
<tr>
<th></th>
<th>speaking</th>
<th>listening</th>
<th>writing</th>
<th>reading</th>
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<tbody>
<tr>
<td>1) native language</td>
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<td>2) ___________</td>
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<td>6) ___________</td>
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</table>

9. How do you perceive the difference between English and French on a scale of 1 to 5 (1 being no difference and 5 being extremely different)?

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<th>4</th>
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<td>Grammar</td>
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<td>Vocabulary</td>
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<td>Sentence structure</td>
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<tr>
<td>Pronunciation</td>
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APPENDIX B
FRENCH COMPREHENSION TASK

For the following activity, read each sentence carefully. For each underlined verb, indicate (by writing a, b, or c under the verb) whether the situation
a.– occurred in the past
b.– occurs in the present or is always true
c.– will occur in the future

1. Ce matin, nous sommes tous arrivés à l'école bien contents, parce qu'on va
   1) prendre une photo de la classe qui sera pour nous un souvenir que nous allons
   3) chérir toute notre vie.

2. C’est l’anniversaire de ma maman et j’ai décidé de lui acheter un cadeau comme
   5) toutes les années depuis l’année dernière, parce qu’avant, j’étais trop petit.

3. Papa ne voulait pas m’acheter de vélo. Il disait toujours que les enfants sont très
   8) imprudents et qu’ils veulent faire des acrobaties et qu’ils cassent leurs vélos et
   11) qu’ils se font mal.

4. Je me sentais très bien hier, la prevue, j’ai mangé des tas de caramels, de bonbons,
   14) de gâteaux, de frites et de glaces, et dans la nuit, je me demande pourquoi, comme
   16) ça, j’ai été malade.

5. Maman m’a fait baigner, peigner, elle m’a dit de mettre le costume bleu marine,
   18) celui qui a des plis au pantalon, la chemise blanche en soie et la cravate à pois.

Translation of the comprehension task:

1. This morning, we all arrived at school very happy, because we are going to take a
class photo that will be for us a souvenir that we are going to cherish all our life.

2. It’s my mom’s birthday and I decided to buy her a gift just as I did all the years
since last year, because before, I was too young.
3. Dad didn’t want to buy me a bike. He always said that children are very imprudent and they want to do acrobat and they break their bikes and hurt themselves.

4. I was feeling pretty good yesterday, the proof, I ate tons of caramel, candy, cake, fries and ice cream, and at night, I wonder why, just like that, I fell sick.

5. Mom gave me a bath, combed my hair, she told me to put on the marine blue suit, the one that has creases on the pants, the white silk shirt and the tie with little peas.
APPENDIX C
FRENCH CLOZE TEST

Fill in the blanks with the **past tense** (Passé Composé or Imparfait) of the verbs provided in parentheses.

1. Les caisses, on est allé les chercher dans la cave de l’école. On a bien rigolé, parce qu’il n’y 1) _________ (avoir) pas beaucoup de lumière dans la cave et Rufus s’était mis un vieux sac sur la tête et il criait: << Hou! Je suis le fantôme>>. Et puis, on 2) __________ (voir) arriver la maîtresse. Elle n’3) __________ (avoir) pas l’air contente, alors nous 4) __________ (partir) avec les caisses. Le seul qui 5) __________ (rester), c’est Rufus. Avec son sac, il ne 6) __________ (voir) pas ce qui 7) __________ (se passer) et il a continué à crier: <<Hou! Je suis le fantôme>>, et c’est la maîtresse qui lui 8) __________ (enlever) le sac. Il a été drôlement étonné, Rufus.

2. En sortant de l’école, j’ai suivi un petit chien. J’ai pensé que le petit chien serait content de trouver un ami et j’ai eu du mal à le rattraper. Comme le petit chien n’ 9) __________ (avoir) pas l’air d’avoir tellement envie de venir avec moi, je lui 10) __________ (offrir) la moitié de mon petit pain au chocolat, et le petit chien 11) __________ (manger) le petit pain au chocolat et il 12) __________ (se mettre) à remuer la queue dans tous les sens et moi je lui 13) __________ (caresser) la tête et je le/l’ 14) __________ (appeler) Rex comme dans un film policier que j’avais vu jeudi dernier.

3. Un après-midi, après l’école, je/j’ 15) __________ (fumer) une cigarette avec Alceste avant de rentrer à la maison. Papa était assis dans le salon en fumant sa pipe, maman 16) __________ (tricoter) un pullower et moi j’ai été malade. Maman était très inquiète, elle me/m’ 17) __________ (demander) ce que j’ 18) __________ (avoir), je lui 19) __________ (dire) que c’ 20) __________ (être) la fume, mais je n’ai pas pu continuer
à lui expliquer le coup du cigare, parce que j’ai été encore malade. <<Tu vois>>, a dit maman à papa, <<je te/t’ 21) __________ (dire) toujours que cette pipe empestait!>>


APPENDIX D
CHINESE COMPREHENSION TASK

For the following activity, read each sentence carefully and think about when the situations happen. For each underlined phrase, indicate (by writing a, b, or c under the verb) whether the situation

a. — occurred in the past
b. — occurs in the present or is always true
c. — will occur in the future

1. 王朋是中国人，但他喜欢吃美国饭。

2. 昨天你请我吃了饭，所以今天我请你看电影。我们下课就去，好吗?

3. 昨天晚上，小王和小张去白老师家玩。在白老师家，他们认识了白老师的太太。她叫李红，在学校医院工作。白老师做了很多菜。小王最喜欢的是春卷，小张更喜欢糖醋鱼。他们还喝了三瓶啤酒。吃完饭后，他们一起聊天儿，看电视。小王和小张晚上十二点才回家。

4. 我上个星期考试考得不错，因为你帮我复习，所以考得很好。

5. 开始我不习惯在中文课上说中文，后来我有了一个中国朋友，他经常帮助我，所以我的中文进步很快。

6. 我明年夏天要去中国学中文。

7. 谢谢你那天开车送我到机场。

8. 李老师是和他姐姐一起开车来的。

9. 昨天我去李友家时，他正在给王朋讲语法。

10. 爸爸的生日马上就到了。

11. 汤姆最近很忙，因为他正在准备考大学。
12. 我学过“朋友”这个词。

Translation:

1. Wang Peng is Chinese, but he likes American food.

2. You invited me to dinner yesterday, I’m inviting you to a movie. Let’s go after class, OK?

3. Last night, Xiao Wang and Xiao Zhang went to Dr. Bai’s place. They met Dr. Bai’s wife whose name is Li, Hong and she works at the infirmary. Dr. Bai made a lot of dishes. Xiao Wang’s favorite were spring rolls while Xiao Zhang liked the fish the most. They also had three bottles of beer. After dinner, they were chatting and watching TV. Xiao Wang and Xiao Zhang went home after midnight.

4. I did well in my exam last week. It was because of your help that I could do so well.

5. At the beginning, I was not used to speaking in Chinese in class, but I had a Chinese friend later who helped me in my study, that is why I made a lot of progress in my study.

6. I will go to China to study Chinese next summer.

7. Thank you for driving me to the airport the other day.

8. Dr. Li and his sister came here by car.

9. When I got to Li You’s house yesterday, he was explaining grammar to Wang Peng.

10. Dad’s birthday is around the corner.

11. Tom is really busy recently, because he’s preparing for his entrance exams to college.

12. I have learned the word “friend.”
亲爱的爸爸妈妈，
你们好。
你们知道我现在干什么吗？我听京剧！我的室友小张看电视。刚到北京来的时候，我住在宿舍里。但是宿舍太小了，而且外面盖新楼房，所以我就在校外租一套房子。
学校已经开学两个星期，我选很多课。课后我经常到中国朋友家作客。上周末，我去王老师家吃饭。我学会包饺子！我一共包十五个饺子，但我吃三十多个。吃完饭我们还一起看一场电影。
我在这里已经认识许多朋友，汤姆是我最好的朋友。我在学中国功夫，他也学。他以前来中国两次，但从没学中文。下个周末，我们要一起去长城玩。你们去长城吗？丽莎下个月就大学毕业，我给她准备一个礼物：京剧唱片。我肯定她没听。但我忘她的地址。你们有她的地址吗？
祝
好
小明

Translation:
Dear Mom and Dad,
How are you doing?
Do you know what I'm doing right now? I'm listening to Beijing opera! My roommate Xiao Zhang is watching TV. When I first arrived at Beijing, I lived in the dorm. But the room was too small, besides, there were constructions outside of the dorm, so I rented an apartment off-campus.
It has been two weeks since class started, I have a lot of classes. After class, I’m often invited by my Chinese friends to their houses. Last weekend, I went to Dr. Wang’s house to have dinner. I learned to make dumplings! I made in total fifteen dumplings, but I ate more than thirty of them. We saw a movie after the dinner.

I have made many friends here. Tom is my best buddy. I’m learning Gongfu and so is he. He has been to China twice, but never studied Chinese. Next weekend, we’re going to visit the Great Wall. Have you ever been there? Lisa is graduating from college next month and I prepared a gift for her: Beijing opera on CD. I’m sure she has never listened to it. Unfortunately, I forgot her address, do you have it?

Best,

Xiao Ming
Composition topic 1: Talk about what you and your family did during the winter break.

Composition topic 2. Talk about the things you used to do when you were 16 years old. Give examples of specific events.

Composition topic 3. Talk about what you did last weekend, and compare that to what you used to do on weekends when you were in high school.
APPENDIX G
OPERATIONAL TESTS

Shirai and Andersen, 1995, p. 749

Step 1. State or nonstate
Does it have a habitual interpretation in simple present tense?
If no → State (e.g. I love you)
If yes → Nonstate (e.g. I eat bread) → go to Step 2

Step 2. Activity or nonactivity
Does ‘X is Ving’ entail ‘X has Ved’ without an iterative/habitual meaning? In other words, if you stop in the middle of Ving, have you done the act of V?
If yes → Activity (e.g. run)
If no → Nonactivity (e.g. run a mile) → go to step 3

Step 3. Accomplishment or achievement
[If test (a) does not work, apply test (b), and possibly (c).]
• If ‘X Ved in Y time (e.g. 10 minutes)’, then ‘X was Ving during that time’
  If yes → accomplishment (e.g. He painted a picture.)
  If no → achievement (e.g. He noticed a picture.)
• Is there ambiguity with almost?
  If yes → Accomplishment (e.g. He almost painted a picture has two readings: he almost started to paint a picture / he almost finished painting a picture)
  If no → Achievement (e.g. He almost noticed a picture has only one reading.)
• ‘X will VP in Y time (e.g. 10 minutes)’ = ‘X will VP after Y time’.
  If no → Accomplishment (e.g. He will paint a picture in an hour is different from He will paint a picture after an hour, because the former can mean that he will spend an hour painting a picture, but the latter does not.)
  If yes → Achievement (e.g. He will start singing in two minutes can have only one reading, which is the same as in he will start singing after two minutes, with no other reading possible.)
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Hongli Fan received a master’s degree in French language at the College of Foreign Affairs, Beijing, China, before she started pursuing a Ph.D. degree in French linguistics at the University of Florida in August, 2000. Her areas of interest include French theoretical linguistics, and second language acquisition.