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Variability of English Past Tense Morphology by L1 Thai and L1 French Learners



Miss Chariya Prapobratanakul

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in English as an International Language
Inter-Department of English as an International Language
Graduate School
Chulalongkorn University
Academic Year 2019
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ลักษณะแปรของหน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษโดยผู้เรียนที่มีภาษาไทยและผู้เรียนที่มีภาษา
ฝรั่งเศสเป็นภาษาที่หนึ่ง



น.ส.จรียา ประภาพรตันกุล

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต
สาขาวิชาภาษาอังกฤษเป็นภาษานานาชาติ สหสาขาวิชาภาษาอังกฤษเป็นภาษานานาชาติ

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จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

จริยา ประภพรัตนกุล : ลักษณะแปรของหน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษโดยผู้เรียนที่มีภาษาไทยและผู้เรียนที่มีภาษาฝรั่งเศสเป็นภาษาที่หนึ่ง. (Variability of English Past Tense Morphology by L1 Thai and L1 French Learners) อ.ที่
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งานวิจัยฉบับนี้ศึกษาลักษณะแปรของหน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษโดยผู้เรียนที่มีภาษาไทยและผู้เรียนที่มีภาษาฝรั่งเศสเป็นภาษาที่หนึ่ง โดยภาษาอังกฤษ ภาษาฝรั่งเศส และภาษาไทยนั้นมีความแตกต่างกันในเรื่องที่ลักษณะแปรของหน่วยคำที่แสดงกาลอดีตเป็นสิ่งจำเป็นในภาษาอังกฤษ และภาษาฝรั่งเศส แต่ไม่ใช่ในภาษาไทย ตามสมมติฐานลักษณะแสดงหน้าที่ล้มเหลว (Failed Functional Features Hypothesis) (Hawkins & Chan, 1997; Hawkins & Liszka, 2003) งานวิจัยฉบับนี้ตั้งสมมติฐานว่า ลักษณะแปรของหน่วยคำที่แสดงกาลอดีตโดยผู้เรียนที่มีภาษาไทยและผู้เรียนที่มีภาษาฝรั่งเศสเป็นภาษาที่หนึ่งเป็นผลมาจากตัวแทนทางวากยสัมพันธ์ที่ไม่เหมือนเป้าหมาย (non-target-like syntactic representations) ไม่ใช่ตัวแทนทางวากยสัมพันธ์ที่เหมือนเป้าหมาย (target-like syntactic representations) ตามสมมติฐานการผันคำระดับพื้นผิวที่หายไป (Missing Surface Inflection Hypothesis) (Prévost & White, 2000; Lardiere, 2003) ผู้วิจัยได้ขอให้ผู้เข้าร่วมวิจัยที่เป็นผู้เรียนที่มีภาษาไทยเป็นภาษาที่หนึ่งและมีความสามารถภาษาอังกฤษในระดับสูง จำนวน 30 คน ผู้เรียนที่มีภาษาฝรั่งเศสเป็นภาษาที่หนึ่งและมีความสามารถภาษาอังกฤษในระดับสูง จำนวน 30 คน และเจ้าของภาษาจำนวน 5 คน ทำแบบทดสอบเติมคำในช่องว่าง (cloze test) และแบบทดสอบตัดสินความถูกต้องทางไวยากรณ์ (grammaticality judgment test)

ผลการวิจัยพบว่าระดับการใช้หน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษที่ไม่ถูกต้องของผู้เรียนที่มีภาษาไทยเป็นภาษาที่หนึ่งสูงกว่าผู้เรียนที่มีภาษาฝรั่งเศสเป็นภาษาที่หนึ่งอย่างมีนัยสำคัญทั้งในแบบทดสอบเติมคำในช่องว่าง และแบบทดสอบตัดสินความถูกต้องทางไวยากรณ์ นอกจากนี้ผลการวิจัยยังพบหลักฐานความสัมพันธ์ระหว่างระดับการใช้ที่ถูกต้องของหน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษรูปปกติ (regular past tense morphemes) และรูปไม่ปกติ (irregular past tense morphemes) ในผู้เรียนที่มีภาษาไทยเป็นภาษาที่หนึ่ง แต่ไม่พบความสัมพันธ์ระหว่างหน่วยคำที่แสดงกาลอดีตทั้ง 2 รูปในผู้เรียนที่มีภาษาฝรั่งเศสเป็นภาษาที่หนึ่ง ทำให้สันนิษฐานได้ว่ากรณีไม่มีหน่วยคำที่แสดงกาลอดีตในภาษาไทยนำไปสู่การแปรในการใช้หน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษ และความสมมาตรระหว่างระดับการใช้ลักษณะแปรของหน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษรูปปกติและรูปไม่ปกติของผู้เรียนที่มีภาษาไทยเป็นภาษาที่หนึ่ง เนื่องจากผู้เรียนที่มีภาษาไทยเป็นภาษาที่หนึ่งไม่สามารถรับหน่วยคำที่แสดงกาลอดีตแบบภาษาอังกฤษได้ ดังนั้น ผลการวิจัยจึงยืนยันสมมติฐานลักษณะแสดงหน้าที่ล้มเหลว ไม่ใช่สมมติฐานการผันคำระดับพื้นผิวที่หายไป ความสมมาตรระหว่างระดับการใช้ลักษณะแปรของหน่วยคำที่แสดงกาลอดีตในภาษาอังกฤษรูปปกติ และรูปไม่ปกติของผู้เรียนที่มีภาษาไทยเป็นภาษาที่หนึ่งสอดคล้องกับคำอธิบายของ Hawkins and Liszka (2003) ที่ว่ากริยาแสดงกาลอดีตรูปไม่ปกติถูกนำมาใช้ในฐานะคำศัพท์ ในขณะที่กริยาแสดงกาลอดีตรูปปกติถูกใช้การอาศัยกฎแสดงกาลอดีต ความสมมาตรนี้ยังสามารถอธิบายได้ด้วยรูปแบบกลไกแบบคู่ (dual mechanism model) (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991) ซึ่งเสนอว่ากริยาที่แสดงกาลอดีตในภาษาอังกฤษรูปปกติและรูปไม่ปกติประมวลผลโดยใช้กลไกที่แตกต่างกันในลักษณะนี้ ในส่วนของประโยชน์ของงานวิจัยในด้านทฤษฎีและการสอน ผลการวิจัยมีประโยชน์สำคัญในด้านนัยยะทางภาษาศาสตร์ที่เกี่ยวกับการรับภาษาที่สองและนัยยะทางการเรียนการสอน

สาขาวิชา ภาษาอังกฤษเป็นภาษานานาชาติ
ปีการศึกษา 2562

ลายมือชื่อนิสิต
ลายมือชื่อ อ.ที่ปรึกษาหลัก

5787759120 : MAJOR ENGLISH AS AN INTERNATIONAL LANGUAGE

KEYWORD: English past tense morphology, L1 Thai learners, L1 French learners, Failed Functional Features Hypothesis

Chariya Prapobratanakul : Variability of English Past Tense Morphology by L1 Thai and L1 French Learners.

Advisor: Assoc. Prof. NATTAMA PONGPAIROJ, Ph.D.

This study examined variability of English past tense morphology by L1 Thai and L1 French learners. English, French and Thai are different in that past tense inflectional morphology is obligatory in English and French, but not in Thai. Based on the Failed Functional Features Hypothesis (FFFH) (Hawkins & Chan, 1997; Hawkins & Liszka, 2003), it was hypothesized that variability of English past tense morphology by L1 Thai learners was due to non-target-like syntactic representations, not the target-like syntactic representations according to the Missing Surface Inflection Hypothesis (MSIH) (Prévost & White, 2000; Lardiere, 2003). A cloze test and a grammaticality judgment test were administered to 30 L1 Thai and 30 L1 French advanced learners of English, and five native speakers of English.

The results showed that the L1 Thai learners' incorrect suppliance rates of English past tense morphemes were significantly higher than those of the L1 French learners in both the cloze test and the grammaticality judgment test. Moreover, asymmetries in the L1 Thai learners' correct suppliance rates of English regular and irregular past tense morphemes were evidenced, whereas such asymmetries were not found among L1 French learners. It is assumed that the non-existence of past tense inflectional morphology in the Thai learners' L1 led to variable English past tense morphemes as well as the asymmetries of regular and irregular past tense morphemes as L2 English pastness cannot be acquired by L1 Thai learners. The results, therefore, confirmed the FFFH, not the MSIH. Such asymmetries between the two verb types by L1 Thai learners were in line with Hawkins and Liszka's (2003) explanation in that irregular past tense verb forms were retrieved as lexical items, whereas regular past tense verb forms were supplied according to the past tense rules. The asymmetries could also be accounted for by the dual mechanism model (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991), which proposed that English simple past tense regular and irregular verbs are processed by different mechanisms. With respect to the theoretical and pedagogical contributions, the findings from the research have made significant contributions with respect to linguistic implications in second language acquisition as well as having pedagogical implications.

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

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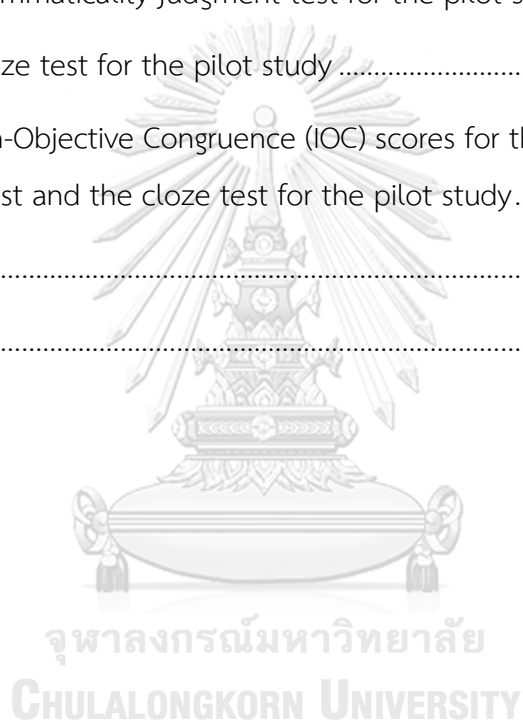
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CHAPTER 1 INTRODUCTION

1.1 Background of the study

Variability of functional morphology in learners' second language (L2) has been evidenced in many research studies, especially the inflectional morphology that is obligatory in the learners' L2, but absent from their first language (L1) (Hawkins & Chan, 1997; Lardiere, 1998a, 1998b, 2000). Variability of L2 functional morphology refers to L2 learners' use of two linguistic variants, a correct form and an incorrect form, to express the same linguistic phenomenon in which native speakers of the target variety use only the correct form (Ellis, 1985; Song, 2012). The incorrect form consists of L2 learners' omission of a grammatical marker or their suppliance of a grammatical marker in inappropriate contexts (Pongpaiboj, 2007).

English past tense morphology is a feature in which advanced L2 speakers of English from certain L1 backgrounds have shown persistent variability in production as in “*the police caught the man and take him away” (Hawkins & Liszka, 2003, p. 21) especially L2 learners who started learning their L2 after the critical period, an optimal age for SLA (Goad et al., 2003; Hawkins & Chan, 1997; Lardiere, 1998a, 1998b, 2000).

Attention has been paid to the implications of such variability and various attempts have been made to explain this phenomenon, including research investigating SLA from the perspective of principles and parameters of Universal Grammar (UG) (Chomsky, 1976), which is “...the system of principles, conditions, and rules that are elements of properties of all human languages...” (p. 29). UG includes "principles", which are unvarying and generally true to all human languages, and "parameters", which account for variation across languages (White, 2003). Two broad perspectives have been proposed regarding the implications of variability of L2 functional morphology, i.e. target-like syntactic representations and non-target-like syntactic representations. Specifically, the Missing Surface Inflection Hypothesis (MSIH) explains the variability using target-like syntactic representations, whereas the

Failed Functional Features Hypothesis (FFFH) uses non-target-like syntactic representations.

The MSIH introduced by Prévost and White (2000a) and Lardiere (2003) supports the view that L2 learners can establish the fully-specified or target-like L2 syntactic representations. Specifically, the MSIH suggests that the cause of variability in L2 functional morphology is not due to the lack of L2 syntactic knowledge but rather the result of post-syntactic or extra-syntactic factors. On the contrary, with regard to the FFFH, Hawkins and Chan (1997) argues that a morphosyntactic category that is not activated in L1 grammar is inaccessible to learners in their L2 (Franceschina, 2001; Hawkins & Liszka, 2003). The foundation for the FFFH is that the inventory of morphosyntactic features in any language is not universal but is subject to parametric variation. As a result, learners whose L1 grammar does not have a particular feature are unable to acquire it in their L2, i.e. the presence of non-target-like L2 syntactic representations.

English has been a required subject for every Thai student from primary school until high school since 1995 (Office of the Basic Education Commission Thailand, 2012). There have been, however, a number of studies showing pervasive variability of English past tense morphology produced by L1 Thai learners (Chawwiwattanaporn, 2013; Khumdee, 2013; Noochoochai, 1978; Sorattayatorn, 2003; S. Sripthrom & Ratitamkul, 2014; Sukasame, Kantho, & Narrot, 2014; Suwattee, 1971; Tawilapakul, 2003; Yamput, 2011; Yorchim & Gibbs, 2014)

Noochoochai (1978), Sukasame et al. (2014) and Suwattee (1971) concluded that the variability of English past tense morphology produced by L1 Thai learners was due to the absence of past tense inflectional morphology in the Thai language.

Past tense inflectional morphology is obligatory in expressing pastness in English (Noochoochai, 1978), as shown in (1):

- (1) I lived in Sicily for ten years.

Leech (1989, p. 13)

In (1), the English regular past tense morpheme ‘-ed’ is added to the verb ‘live’ to express pastness.

Thai, however, does not express pastness through past tense inflectional morphology on the verb. Thai pastness is heavily implied by context and lexical words (Iwasaki & Ingkaphirom, 2009), as shown in (2) and (3):

- (2) Question: *mûawaannii thu paj nǎj*
 yesterday you go where
 ‘Where did you go yesterday?’
 Answer: *paj rɔŋpháyaabaan*
 go hospital
 ‘I went to the hospital.’

Koosamit (1984, p. 58)

In (2), although there is no word expressing pastness in the answer, the interlocutors can imply when the action occurs through context, which is shown by the adverbial phrase /*mûawaannii*/ ‘yesterday’ present in the question.

- (3) *mûa pii thîi-léew chǎn pen khru thîi yá-laa*
 when year last I was teacher in Yala
 ‘I was a teacher in Yala last year.’

Higbie and Thinsan (2008, p. 91)

In (3), the pastness is expressed through the adverbial phrase /*pii-thîi-léew*/ ‘last year’ showing that the verb /*peen*/ ‘was’ happened in the past.

Variability of English past tense morphology by L1 Thai learners in relation to the FFFH was investigated by Khumdee (2013). Her research findings showed low suppliance of English past tense morphemes, and asymmetric rates of correct suppliances between regular and irregular past tense morphemes in the production by L1 Thai learners, supporting the FFFH, not the MSIH.

However, to the best of my knowledge, there have been no studies to date exploring the variability of English past tense morphology by native speakers of Thai, a language without past tense morphology, in comparison to that by native speakers of French, a language with past tense morphology, under the assumption of the FFFH (Hawkins & Chan, 1997) in comparison to the MSIH (Lardiere, 2003).

English and Thai are different in that past tense inflectional morphology is obligatory in expressing pastness in English while Thai does not have such a feature but uses contexts and lexical words to express pastness. English and French, however, are similar in that past tense inflectional morphology is obligatory in expressing pastness in the two languages.

There are three types of past tense in French, whose usages overlap with the English simple past tense, namely the *passé composé* tense, the *passé simple* tense, and the *imparfait* tense, as presented in the following examples:

- (4) a. *Estelle a acheté des livres.*
 Estelle has bought-PERF some books
 ‘Estelle bought books.’
- b. *Sophie acheta des livres.*
 Sophie bought-PERF some books
 ‘Sophie bought books.’
- c. *Marie achetait des livres.*
 Marie bought-IMP some books
 ‘Marie bought books.’

Dalila (2013, p. 5)

The *passé composé* tense in (4a) is formed with the combination of the auxiliary ‘a’ ‘to be’ and ‘acheté’ ‘bought’ which is the past participle form of the verb ‘acheter’ ‘to buy’. To form the verb ‘acheter’ ‘to buy’ for the *passé simple* tense in (4b), the *passé simple* ending ‘-a’ is added to the verb stem ‘achet-’. In (4c), the verb stem ‘achet-’ is combined with the *imparfait* tense ending ‘-ait’ to form the verb ‘achetait’ ‘bought’ in the *imparfait* tense.

The MSIH, a hypothesis favoring target-like syntactic representations, claims that fully-specified syntactic knowledge of an L2 grammatical feature can be established in learners' L2, despite differences between the L1 and L2 grammars or the lack of such an L2 feature in the learners' L1 (Lardiere, 1998a, 1998b). Therefore, under the assumption of the MSIH, L2 learners from whatever L1 background, i.e. whether or not an L2 feature is instantiated in the learners L1, should have nearly the same level of processing problems, i.e. extra-syntactic factors (Trenkic, 2007).

On the contrary, the FFFH, a hypothesis favoring non-target-like syntactic representations, views that fully-specified syntactic knowledge of an L2 grammatical feature can only be established in learners' L2 after the critical period only if that feature is activated in the learners' L1. A grammatical category which is not activated in an L1 grammar is inaccessible to the learners in their L2 after the critical period (Hawkins & Chan, 1997). Therefore, for the FFFH, it is assumed that L2 learners from an L1 background which exhibits an identical L2 syntactic feature should perform better in production of that L2 feature when compared to L2 learners whose L1 does not exhibit such an L2 feature (Pongpairoj, 2007).

Therefore, the present study was aimed at exploring the issue by providing an analysis of the variability of English past tense morphology by L1 Thai learners in comparison to that by L1 French learners under the assumption of the FFFH (Hawkins & Chan, 1997) in comparison to that of the MSIH (Lardiere, 2003). The MSIH argues for target-like syntactic representations and suggests that the cause of variability in L2 functional morphology is the result of post-syntactic factors. However, the FFFH, a proponent of non-target-like syntactic representation perspective, posits that a morphosyntactic category which is not activated in an L1 grammar is inaccessible to learners in their L2.

1.2 Research questions

The research questions addressed in the study were as follows:

- 1) What is the variability of the L2 English past tense morphology by L1 Thai learners and L1 French learners?
- 2) Can the variability be explained in relation to the Failed Functional Features Hypothesis (FFFH) rather than the Missing Surface Inflection Hypothesis (MSIH)?

1.3 Objectives of the study

The objectives of the study were as follows:

- 1) To investigate the variability of the L2 English past tense morphology by L1 Thai learners and L1 French learners, and
- 2) To investigate whether the variability of the L2 English past tense morphology by L1 Thai learners and L1 French learners is caused by non-target-like syntactic representations according to the Failed Functional Features Hypothesis (FFFH), not the target-like syntactic representations according to the Missing Surface Inflection Hypothesis (MSIH)

1.4 Statement of hypothesis

The formulated hypothesis was as follows:

1) Based on the Failed Functional Features Hypothesis (FFFH), the variability of the L2 English past tense morphology by L1 Thai learners and L1 French learners is due to the non-target-like syntactic representations, not the target-like syntactic representations according to the Missing Surface Inflection Hypothesis (MSIH).

1.1) L1 Thai learners' incorrect supplings of English past tense morphemes are significantly higher than those of L1 French learners in the cloze test and the grammaticality judgment test.

1.2) L1 Thai learners' asymmetric rates of correct suppliance between English regular and irregular past tense morphemes are significantly higher than those of L1 French learners in the cloze test and the grammaticality judgment test.

1.5 Scope of study

The present study aimed to investigate the variability of L2 English past tense morphology by L1 Thai learners and L1 French learners. Cross-sectional studies were conducted. Data were collected from advanced learners of English who took the cloze test and the grammaticality judgment test.

1.6 Definitions of terms

Definitions of important terms used in the study are as follows:

1.6.1 Second Language Acquisition

The term 'Second Language Acquisition' refers to the process or result of learning a language beyond the learners' native language (Crystal, 2008; Long, 2003). In this study, Second Language Acquisition refers to the process through which L1 Thai and L1 French learners learned English as their second language.

1.6.2 Variability

In the field of second language acquisition, the term ‘variability’ refers to a case where L2 learners use two linguistic variants, a correct form and an incorrect form, to express the same linguistic phenomenon in which native speakers of the target variety use only the correct form (Ellis, 1985; Song, 2012). The incorrect form consists of L2 learners’ omission of a grammatical marker or their suppliance of a grammatical marker in inappropriate contexts (Pongpairroj, 2007). In this study, variability refers to L1 Thai learners’ and L1 French learners’ use of English past tense morphology in comparison to that of English native speakers.

1.6.3 English past tense morphology

The term ‘English past tense morphology’ refers to the minimal distinctive unit of grammar attached to a verb stem in English to mark that the action took place in the past, without changing the grammatical class of the verb (Crystal, 2008). In this study, English past tense morphology refers to both regular English past tense morphemes, which signal the past through ‘-ed’ affixation, and irregular English past tense morphemes, which signal the past through suppletion.

1.6.4 L1 Thai learners

In this study, the term ‘L1 Thai learners’ refers to native Thai speakers who were learning English as their second language. They were advanced learners of English as classified by their performance on the grammar part of the Oxford Placement Test.

1.6.5 L1 French learners

In this study, the term ‘L1 French learners’ refers to native French speakers who were learning English as their second language. They were advanced learners of English as classified by their performance on the grammar part of the Oxford Placement Test.

1.7 Significance of the study

The present study is significant for the following reasons:

1.7.1 Theoretical significance

As the variability of English past tense morphology by L1 Thai learners was explained in relation to a non-target-like syntactic representation hypothesis, i.e. the FFFH, and a target-like syntactic representation hypothesis, i.e. the MSIH, the findings of this study provided further understanding of the possible causes of L1 Thai and L1 French learners' variability of English past tense morphology and further insights into the hypotheses to SLA researchers, teachers and L2 learners of English.

1.7.2 Practical significance

As the present study provided findings on the variability of English past tense morphology by L1 Thai and L1 French learners, it contributed to English teachers' and learners' awareness of the causes of the variable production and allowed teachers to design and develop more appropriate and effective teaching and learning materials related to English past tense morphology for L1 Thai learners.

1.8 Chapter summary

Chapter 1 of this dissertation presents an introduction to the study, which includes the background and rationale on which this study is based, research questions, objectives, hypotheses, scope of the study, definitions of terms, and significance of the study. Chapter 2 reviews theoretical backgrounds and related previous studies. Chapter 3 describes the research methodology with details on participants, research instruments, data collection and data analysis. Chapter 4 reports and discusses the study's results. Chapter 5 concludes the main findings, and discusses pedagogical implications, limitations of the study and suggestions for future research.

CHAPTER 2 REVIEW OF LITERATURE

This chapter reviews related theories and previous studies. Section 2.1 presents earlier approaches to the erroneous production of L2 learners. Section 2.2 reviews two perspectives on variability of L2 functional morphology. Section 2.3 reviews previous studies on the acquisition of L2 English regular and irregular past tense morphology. Section 2.4 discusses pastness in English, Thai and French. Section 2.5 reviews previous studies on English past tense morphology by L1 Thai learners.

2.1 Earlier approaches to the erroneous production of L2 learners

It has been well-shown that during the course of learning an L2, learners encounter many kinds of difficulties when using the language. In order to find out the causes of the problems, contrastive analysis, error analysis and interlanguage theory have been proposed.

2.1.1 Contrastive Analysis (CA)

Contrastive Analysis (CA) is introduced based on the idea that errors in L2 production are influenced by or transferred from learners' L1. CA hypothesizes that where structures of an L1 differ from those of an L2, errors that reflect the structure of the L1 are produced (Dulay, Burt, & Krashen, 1982; Tarone, 2006). Lado (1957) claims that L2 learners tend to transfer features from their L1 to their L2 both linguistically and culturally. L2 linguistic elements which are similar to the learners' L1 are easy for them to produce in comparison to linguistic features which are different.

Dulay et al. (1982) propose two types of transfer in CA, which are negative and positive transfer. The former refers to cases where the linguistic features of the learners' native and target languages are different, resulting in the learners' difficulties in producing such features in their target language. Positive transfer, however, refers to cases where linguistic elements in the two languages are similar, so it is easy for the learners to master those features in the target language.

Dulay et al. (1982) illustrate the two types of transfer with a case of an L1 Spanish learner of English. In Spanish, an adjective is usually placed after a noun. Therefore, when the learner says “the girl smart” instead of “the smart girl” when attempting to communicate in English, according to CA, this error is explained by the difference between the learner’s native and target language, i.e. negative transfer. The use of the Spanish plural markers ‘-s’ and ‘-es’ on English nouns, on the other hand, should yield a correct English plural noun (e.g. ‘niña-s’ and ‘mujer-es’ in Spanish; ‘girl-s’ and ‘dress-es’ in English) as a result of the positive transfer.

Under these assumptions, CA claims that a good contrastive analysis of a native language and a target language can accurately predict all the difficulties that learners will encounter when trying to learn the target language (Tarone, 2006). This would, therefore, provide teachers and developers of L2 materials with specific guidelines for lesson planning (Dulay et al., 1982).

CA was popular up until the 1960’s (Dulay et al., 1982) as many types of errors found among L2 learners cannot be solely explained based on L1 transfer as CA predicts (Tarone, 2006). An example is that although Spanish plurals are formed almost exactly like English plurals, L1 Spanish learners still go through a plural-less stage when they learn English (Dulay et al., 1982; Hernández-Chávez, 1972). This type of errors then became an increasingly major source of difficulty for the CA hypothesis (Tarone, 2006). Error Analysis introduced by Corder (1967) then later started to receive attention from the L2 research community.

2.1.2 Error Analysis (EA)

Error Analysis (EA) is a hypothesis proposed in an attempt to validate the predictions of CA by systematically gathering and analyzing the speech and writing of L2 learners. EA aims to account for the learners’ errors that cannot be explained or predicted by CA or behaviorist theory (Dulay et al., 1982). The focus shifts from teaching materials and hypotheses about L2 learning problems, to systematic observation of a learner language in order to find out the real causes of L2 learners’ difficulties when using the target language (Tarone, 2006).

Corder (1967) provides an influential and fundamental viewpoint towards the L2 learners' errors. He points out that many of the errors produced by the L2 learners are not predicted by means of CA. The focus of an L2 research study should then be shifted to a study of L2 learners' errors as it would provide evidence of their language system, especially in terms of what the learners use or have learnt at a particular point in time. These errors could tell language teachers what the learners have achieved, and what still remains to be learnt. Errors also provide researchers evidence of how language is learnt or acquired, and what strategies or procedures learners employ when learning an L2. Errors could also serve as a learning device for the learners themselves.

Learners' errors in EA are not only influenced by L1 transfer or L1 interference, but also by the complexities of a target language, other strategies employed by learners in target language learning, and structural and developmental conflicts in language learning (Corder, 1981; J. C. Richards, 1970).

Corder (1972) classifies EA into remedial EA and developmental EA. The former type facilitates teachers' evaluation and correction of L2 learners' language, while the latter is used to describe the language at its transitional stages (Schachter & Celce-Murcia, 1977).

J. C. Richards (1970) proposes an alternative classification of errors based on the sources of difficulty. There are three types of errors: interference, intralingual, and developmental errors. Interference errors are caused by differences between the learner's native and target languages. Intralingual errors originate within the complexity of a target language structure. Developmental errors reflect strategies learners use or false hypotheses they make during the L2 learning process. In his later article, J. C. Richards (1980) further classified learners' errors into overgeneralization, simplification, developmental errors, communication-based errors, induced errors, and errors as avoidance. This classification was based on the different processes the learners used to simplify their learning.

EA has made a significant contribution to the field of applied linguistics and has brought the issues of learners' errors to the linguists' attention (Dulay et al., 1982). EA also provides an opportunity for the teacher to create a more appropriate

L2 learning condition as it allows the teacher to learn more about the L2 learning process and what the learners already have (Corder, 1967).

Even though EA has made a number of contributions, Brown (2000) points out some of the concerns regarding EA. First, EA places too much attention on learners' errors and language teachers can become so preoccupied with noticing errors that the learners' correct utterances of an L2 could become unnoticed. In addition, increasing language proficiency is measured through the decrease in errors rather than the communicative fluency, which should be the goal of L2 learning. Furthermore, EA puts overemphasis on production data, while in Brown's opinion, comprehension of the target language has an equal important role to play in developing an understanding of the L2 acquisition process. Many studies (James, 1998; Kleinmann, 1977; Schachter, 1974; Tarone, 1981) have also shown that EA fails to account for the strategy of avoidance. A learner who avoids a particular sound, word, structure, or discourse category might be assumed incorrectly to have no difficulty with those linguistic features. The absence of error does not mean that they have native-like competence because they might avoid an L2 feature that is difficult for them. Finally, EA focuses exclusively on specific languages rather than viewing universal aspects of language. The language systems of learners may have elements that reflect neither the target language nor the native language, but rather a universal feature of human language.

2.1.3 Interlanguage (IL)

The term interlanguage (IL) was introduced by Selinker (1972) to refer to a separate linguistic system that adult L2 learners use when attempting to express meaning in a language they are in the process of learning. This linguistic system does not only involve phonology, morphology, and syntax, but also lexical, pragmatic, and discourse levels. The IL system is systematically different from the learners' native and target languages. IL is not the reflection of a target language's vocabulary, morphology or syntax that learners use to try to express their meanings in their native language. Neither is it a language system that native speakers use to express those same meanings (Tarone, 2006). An important objective of the IL hypothesis is

to encourage systematic research on the development of the language produced by adult L2 learners (Tarone, 2006).

One important characteristic of any IL is fossilization. Fossilized linguistic phenomena refers to linguistic items, rules and subsystems which speakers of a particular native language tend to keep in their IL, no matter what age the learners are, or the amount of explanation and instruction they receive in the target language (Selinker, 1972). Learners' IL development, therefore, might cease at some point in the learning process, and thus, with respect to the IL hypothesis, adult L2 learners may not achieve the same level of target language proficiency when compared to that of children learning their first language. Fossilization is an issue heavily explored and explained across many research studies within the IL framework. Studies on IL also describe and explain the development of learners' L2 and what the causes of problems in L2 production are (Tarone, 2006).

Selinker (1972) suggests that there are five psycholinguistic processes which are involved in L2 learning and in forming L2 learners' IL. The processes are L1 transfer, transfer of training, strategies of L2 learning, strategies of L2 communication, and overgeneralization of a target linguistic material. L1 language transfer refers to fossilized linguistic materials observed in an IL as a result of a native language. Transfer of training in a learner language is a case where a learner's linguistic feature is traceable to what is presented in training procedures. Strategies of L2 learning occur when a learner's linguistic structure is evidence of their own approach to an L2. Strategies of L2 communication refer to strategies that L2 learners' use when communicating with native speakers of a target language, especially when they are faced with communication problems in the target language. Overgeneralization of target linguistic features is due to overgeneralizing target language rules or semantic elements.

IL has received some criticisms on the issues of L2 learners' stages. The learners might be at different stages in various areas of language at a particular point in time. IL views that the learner language is controlled by a single competence. In fact, L2 learners might perform differently in different situations, with different interlocutors, or according to a task they perform (Brown, 2007). Out of all these

concerns, IL is one of the most productive frameworks in the field of SLA. The hypothesis has had a strong influence on SLA research and has become central to many SLA theories (Tarone, 2006).

2.2 Two perspectives on L2 learners' production of functional morphology

Successful communication in a variety of situations has been achievable by L2 learners; however, when it comes to certain areas of functional morphology, persistent variability of such features has still been evidenced (Beck, 1997). Variability of functional morphology by L2 learners has been the subject of many studies in the field of SLA (Haznedar, 2003) especially with L2 learners who started learning their L2 after the critical period, an optimal age for SLA (Goad et al., 2003; Hawkins & Chan, 1997; Lardiere, 1998a, 1998b, 2000). Attention has been paid to the implications of such variability. Researchers investigating SLA from the perspective of principles and parameters of Universal Grammar (UG) have been among those interested in the phenomena (Franceschina, 2001). According to Chomsky (1976), UG is "...the system of principles, conditions, and rules that are elements of properties of all human languages..." (1976, p. 29). It is an innate linguistic system that governs how all languages are produced and comprehended.

White (2003) explains that UG is proposed as an explanation of how children can know properties of grammar that are not learnt from the input that they are exposed to. Based on UG, such properties do not have to be learnt as they are knowledge that the learners already have from when they acquired their L1. Proposals for UG are motivated by the observation that, in the case of L1 acquisition, there is a mismatch between the linguistic input the children have, and the grammatical knowledge that they acquire. In other words, the children know more than what they could possibly learn solely from the input. This kind of problem is known as the "poverty of stimulus" or the "logical problem of language acquisition" (p. 20). UG is a concept which can explain such language achievement of children.

UG consists of "principles", which are unvarying and generally true to all human languages, and "parameters", which account for variation across languages. The principles of UG are universal and are a part of a human's innate knowledge of

language. They underlie the rules of languages and constrain the form that grammatical rules can take. Each principle has a limited number of built-in options, which allow for variations across languages. Such options in the principles are called parameters. Most parameters are assumed to be binary, i.e. there are two choices, and they are predetermined by UG. Each language has its own set of choices based on what are available in the principles. For L1 acquisition, these parameters give children advanced knowledge of what the available possibilities are in the language and help limit the range of hypotheses they need to consider. Appropriate parameter options are set by the language input that children are exposed to. Parameters are claimed to help language learning as language learners do not have to learn unrelated properties individually. They can find the appropriate setting of a parameter and a range of associated syntactic properties then follow automatically (White, 2003).

For L2 learners, White (2003) explains that there is a lot of evidence supporting the fact that an interlanguage is determined by UG. Learners have been able to successfully acquire an L2 linguistic feature, despite a poverty of stimulus, suggesting that this knowledge might originate from UG.

Based on the notion of principles and parameters of UG, two broad perspectives have emerged regarding the implications of variability in L2 functional morphology. The first posits that an L2 learner could establish target-like syntactic representations and that the variability is caused by extra-syntactic factors, e.g. processing problems in production (Lardiere, 1998a, 1998b, 2000; Prévost & White, 2000a, 2000b). The latter, on the other hand, supports non-target-like syntactic representations, suggesting that the variability is considered an impairment in a learner's L2 grammar (Franceschina, 2001; Hawkins & Chan, 1997; Hawkins & Liszka, 2003).

Relevant theoretical backgrounds and studies regarding the variability, explained in terms of the target-like syntactic representations and the non-target-like syntactic representations, are reviewed in Section 2.2.1 and Section 2.2.2, respectively.

2.2.1 Variability explained in terms of target-like syntactic representations

This perspective supports the view that L2 learners can establish L2 appropriate syntactic derivations or the target-like syntactic representations despite the non-existence of an L2 functional feature value in the L1 (Lardiere, 1998a, 1998b, 2000; Prévost & White, 2000b). The variable use of morphological forms in interlanguage grammar reflects a problem in accessing the representations or a processing problem in production. Access to UG is fully available. L2 learners can acquire fully-specified syntactic knowledge of an L2. The Missing Surface Inflections Hypothesis (MSIH) is a hypothesis based on this account.

2.2.1.1 *The Missing Surface Inflection Hypothesis*

According to the Missing Surface Inflection Hypothesis (MSIH), UG is available to an adult L2 learner and L2 acquisition is still governed by UG. Features of functional categories which are absent in the learners' L1 are still accessible to adult L2 learners. Their syntactic representations according to the MSIH are not impaired or defective, and thus they can establish target-like syntactic representations. Non-existence of an L2 feature in a learner's L1 has no negative impact on L2 production.

Variability in L2 performance with regard to the functional morphology is assumed to be due to consequences of processing problems in identifying the appropriate morphological realization of L2 functional categories, i.e. the result of a decreasing ability to construct the mapping from abstract features to their surface morphological form (Lardiere, 2000). The MSIH posits that:

“L2 learners already have knowledge of functional categories and features via prior language knowledge. They do not need to rely on L2 morphological form to trigger syntactic representation or derivation. For L2 acquirers, the problem lies in figuring out how and whether to spell out morphologically the categories they already represent syntactically or the mapping problem.”
(p. 121)

The post-syntactic or extra-syntactic factors, such as phonological transfer from the L1, are likely the cause of the variability of L2 functional morphology rather than anything in the syntactic computational component (Lardiere, 1998a). When there is great variability, including omission of an L2 feature, for the MSIH, fully-specified syntactic knowledge is assumed when appropriate production of related syntactic features is evidenced or when such variability is systematic or not random (Prévost & White, 2000a).

Haznedar and Schwartz (1997) supports this idea of “missing inflection” focusing on the absence of surface manifestation of inflection. Prévost and White (2000a, 2000b) later proposed the term “missing surface inflection” emphasizing that the abstract morphosyntactic features were not absent (White, 2003, p. 193).

2.2.1.1.1 Previous studies supporting the Missing Surface Inflection Hypothesis

A number of studies were conducted with regard to the MSIH with L2 learners from various L1 backgrounds and with different grammatical categories. However, as the present study focuses on the variability of L2 English past tense morphology, only studies exploring verbal inflections under the assumption of the MSIH were reviewed.

Lardiere (1998a) explored English past tense marking production by an adult learner of English named Patty whose L1 is Chinese. Data were collected from three recordings. The first recording took place around eight years before the second and third recordings. The findings suggested that her correct suppliance rates of past tense marking in production were at around 34% and remained unchanged over the three recordings. Lardiere further explored Patty’s pronominal case marking as the functional category tense was assumed available in Patty’s syntactic representation if the pronominal case markings were acquired. The results showed Patty’s 100% accurate suppliance of nominative case in obligatory contexts, indicating that she had acquired the contrast between the [+]/[-] finite distinction, and that the functional category tense was present in her grammar. Lardiere attributed Patty’s

variable production of L2 functional morphology to the post-syntactic or extra-syntactic factors, e.g. phonological transfer from the L1.

Lardiere (1998b) further investigated the same data set collected from Patty in a later study. This study, however, focused on verbal agreement morphology with respect to agreement markings and verb-raising. Verb-raising was a weak feature in the English verb agreement, and the functional categories such as tense and agreement was assumed to motivate this syntactic movement of verb-raising. Lardiere hypothesized that (1) learners who had not yet acquired the L2 verbal agreement paradigm would exhibit optional verb-raising, (2) knowledge of the [+/-] strong feature was impaired among adult L2 learners, resulting in permanent optionality of verb-raising in the target language, even if verbal morphology was eventually acquired, and (3) knowledge of syntactic verb-raising was intact but developed independently of verbal agreement affixation, and might have developed long before the acquisition of the morphological paradigms associated with subject-verb agreement. The results indicated that Patty's overall correct suppliance rates were less than 70% and remained unchanged between the first and the last recordings. Therefore, verb-raising did not appear to be an option in her L2 English grammar, and hypotheses (1) and (2) were disconfirmed. However, the results clearly supported hypothesis (3). Patty knew that the English feature value for syntactic verb-raising was weak despite the fact that her agreement inflection rate was severely deficient. The results indicated that even in cases where regular verbal morphology production did not reach the 70% criterion of acquisition, it was still possible for the learner to determine feature strength and the status of verb-raising in the target language.

Prévost and White (2000a) explored variable production of verbal inflection in L2 French and German learners, focusing on finite versus non-finite morphemes, the contexts in which each type of morphemes was found, and verbal agreement. Spontaneous production data were obtained longitudinally from two adult learners of French and two adult learners of German through interviews. The findings indicated that finite forms did not occur in non-finite contexts, that learners exhibited syntactic reflexes of finiteness, and that inflected forms largely showed accurate

agreement. The results suggested that the participants represented finiteness and agreement at an abstract level. They were not impaired by the learners' grammar, supporting the claim of the MSIH that variability in adult L2 performance did not reflect a deeper lack of functional categories or features associated with tense and agreement, but rather that L2 learners had difficulties with the overt morphological realization.

White (2003) studied the L2 English grammar of an adult native speaker of Turkish named SD, who was assumed to be at the end-state level of grammar. L2 English verbal and nominal inflection and associated syntactic features were the focus of the study. The data were collected from two interviews which took place 18 months apart, through an elicitation task. The findings showed a high level of accuracy in suppliance of English tense and agreement morphology. However, low numbers, but appropriate suppliance of definite and indefinite articles were found. Syntactic correlates such as verb placement, presence of overt subjects, and case assignment were all found to be completely accurate. Although an omission of morphology was observed, the participant's considerable sensitivity to associated syntactic properties was evident. SD never omitted subject pronouns and had no errors of case marking. She also showed greater accuracy in other tasks than in the spontaneous production task. With accurate suppliance of the related syntactic features, the results suggested that the relevant underlying categories and features were represented in the interlanguage grammar and there was no underlying impairment in functional categories or features. This was consistent with the MSIH, which claimed that the missing inflection was in some sense a surface phenomenon.

Hsieh (2009) investigated the acquisition of three English morphemes, which were the third person singular '-s', the regular past tense '-ed', and the copula 'be' by L1-Chinese-speaking learners of English. Chinese, unlike English, has no subject-verb agreement and tense marking. Nevertheless, the Chinese verb 'shi' functions similarly to the English copula 'be'. The researcher hypothesized that, in accordance with the MSIH, the participants would (1) sometimes produce non-finite forms to replace finite forms in verbal inflections (i.e., the third person singular -s and the regular past tense -ed), and (2) perform better in producing the copula 'be' than in

producing verbal inflections. Spontaneous production data were collected through an interview and a story telling task. The participants were 20 L1 Chinese learners of English, who were all school students in Taiwan. The results confirmed the predictions, suggesting that the participants had knowledge of functional categories and features in tense and agreement; however, they had problems with the realization of surface morphology as there were high rates of the omission of verbal inflections. Moreover, the participants also performed well on producing the copula 'be' suggesting that forms of the copula 'be' were acquired before the inflectional morphology on thematic verbs. The findings correlated with the predictions made by the MSIH.



Muftah and Eng (2011) investigated the acquisition of English 'be' auxiliary and thematic verb constructions in non-past contexts by adult Arab learners of English. An oral production task was conducted with 77 adult Arab ESL learners from three proficiency levels, which were lower-intermediate, upper-intermediate and advanced. English and Arabic are different in that tense in Arabic, unlike English, only differentiates between perfect and imperfect tense and is not realized by an overt morpheme on the predicate. The data showed that the functional categories of non-past tense and agreement, including the 'be' auxiliary verbal inflection (am, is, are) and the thematic verb inflection (-s) were available to L2 learners, even at the beginning state of L2 acquisition. The results from the upper-intermediate and advanced groups suggested that it was possible for L2 learners to attain native-like proficiency of the target language. Low rates of omission and inappropriate use of inflection, and the accurate use of uninflected forms in obligatory contexts suggested that the learners had syntactic representations of agreement. The uninflected bare forms or non-finite verbs were evident but, as claimed by the MSIH, such occurrences were defaults rather than incorrect grammar. It was concluded that variability in the production of verbal inflectional morphology was rather due to problems with the realization of surface morphology in accordance with the MSIH.

Chaengchenkit (2011) investigated the use of English tense and agreement morphology by L1 Thai learners. The study was aimed to test the MSIH assumption that variable production of functional morphology by adult L2 learners was due to

extra syntactic factors rather than the non-target-like syntactic representations. Data were collected from three elicitation tasks, which were an aural-oral production task, a written-oral production task and a gap-filling task. These three tasks aimed to reflect differences in communication pressure ranging from the highest to the lowest, respectively. The results supported the MSIH as, in the oral production tasks, it was found that irregular past tense forms and the suppletive form of the auxiliary “be” were supplied with high frequency. In the gap-filling task, the third person singular inflection “-s”, the auxiliary “be”, the regular past tense inflection “-ed”, and the irregular past tense forms were supplied with high frequency. It was also found that the third person singular inflection “-s”, and the auxiliaries “have” and “be” were used appropriately with regard to subject-verb agreement in high percentages in all tasks, suggesting that the relevant morphosyntactic features were present in the underlying syntactic representations. The data from the intermediate speakers were also in line with the MSIH as their phonological exponents of English tense and agreement morphology were omitted to a greater extent in tasks which involved considerable communication pressure, but to a lesser extent in tasks which involved less communication pressure. Moreover, the intermediate speakers appeared to have difficulty producing forms with final consonant clusters while forms without final consonant clusters were less problematic. Lastly, there was no significant difference between the suppliance rates of the regular past and the irregular past. The results, therefore, confirmed the MSIH.

2.2.2 Variability explained in terms of non-target-like syntactic representations

This perspective posits that variability of L2 functional morphology is a result of defective morphosyntactic representations and that functional categories are impaired in L2 grammars. Only L1 parameter settings are exemplified in interlanguage grammars (Franceschina, 2001; Hawkins & Chan, 1997; Hawkins & Liszka, 2003). Opinions are divided, however, on whether L2 grammars suffer from a "global impairment" (Clahsen & Hong, 1995; Neeleman & Weerman, 1997) or a "local impairment" (Hawkins & Chan, 1997).

Global impairment views that access to UG is impaired in adult L2 learners. Parameters of UG are only available for L1 acquisition but not for L2 acquisition. Interlanguage grammars are not constrained by UG and may demonstrate properties which are not characteristics of a natural language (White, 2003). Studies have supported the fact that global impairment shows that L2 learners cannot master L2 grammatical features and that there is an absence of characteristics typical of either L1 or L2 parameter settings (Clahsen & Hong, 1995; Neeleman & Weerman, 1997).

Local impairment, on the other hand, maintains that access to UG is still available and complete. However, the range of parametric options is restricted. Only L1 parameter settings have been exemplified in interlanguage grammars. UG is available for L2 acquisition only through L1 parameter settings. L2 functional categories which are not selected in the learners' L1 parameter settings are unavailable to the learners after the critical period. A hypothesis favoring local impairment is the Failed Functional Features Hypothesis (FFFH).

2.2.2.1 The Failed Functional Features Hypothesis

The Failed Functional Features Hypothesis (FFFH) claims that UG is partially available to adult L2 learners and that the features of functional categories that are absent in the learners' L1 are inaccessible to adult L2 learners. UG is available to the learner only through their L1. An L2 value, which is not selected in a learner's L1 parameter settings, was unavailable to the learners after the critical period (Hawkins & Chan, 1997). The "Failed Functional Features Hypothesis" was proposed by Hawkins and Chan (1997) supporting the idea that

"UG is then accessible to L2 learners 'in some attenuated form'. The class of postchildhood L2 grammars will be 'possible grammars,' but where parameter settings differ between an L1 and a target L2 there will be considerable restrictions on the extent to which an L2 learner can build a mental grammar like that of a native speaker" (p. 189).

Therefore, it is impossible for L2 learners to reset options already fixed in the L1. Differences between L1 and L2 grammatical features prevent the learners from successfully acquiring of such L2 features and from constructing fully-specified syntactic representations of such features (Hawkins & Chan, 1997).

Variability of L2 functional morphology is considered a consequence of the unavailability of certain features in adult L2 learners. Syntactic representations of adult L2 learners are assumed to be incomplete as some grammatical features may be missing. The inventory of morphosyntactic features activated in any language is, therefore, not universal, but is subject to parametric variation. The learners whose L1 grammars do not activate a particular L2 feature will be unable to acquire it in their L2 (Hawkins, 2005).

2.2.2.1.1 Previous studies supporting the Failed Functional Features Hypothesis

The FFFH has been explored in a number of grammatical categories with participants from various L1 backgrounds. However, with regard to past tense morphology, which is the focus of the present study, only previous studies which have investigated L2 verbal inflection under the assumption of the FFFH are reviewed.

Hawkins and Liszka (2003) analyzed the marking of thematic verbs for the English simple past tense by comparing data from three L1 groups, which were German, Japanese, and Chinese. German and Japanese have a past/non-past distinction while Chinese does not have such feature. However, only German had consonant clusters similar to those in English for regular past tense morphemes. The results showed that L1 Chinese speakers provided significantly lower correct suppliance rates of English past tense marking compared to L1 German and L1 Japanese speakers. Chinese was the only language in the study which has no past/non-past distinction and no consonant clusters. Chinese and Japanese have complex constraints against complex codas, which are the portion of a syllable which follows the syllabic nucleus and contains more than one segment, e.g. /lp/ of /help/ 'help'. The complex codas are usually employed by English regular simple

past verbs. Therefore, if phonotactic L1 transfer affected low correct suppliance rates of past verb morphology in this case, according to the MSIH, L1 Chinese speakers and L1 Japanese speakers should have had approximately the same correct suppliance rates of such feature. The researchers then argued for the inaccessibility of the L2 past tense morphosyntactic features not activated in the Chinese learners' L1, supporting the FFFH claim that the morphosyntactic categories that are not instantiated in the L1 grammar are inaccessible to the learners in their L2.

Pongpairroj and Kijpanich (2011) investigated English unaccusative verb production by L1 Thai learners of English. Contrary to English, unaccusatives are assumed to be non-existent in Thai. Two groups of undergraduate L1 Thai learners of English from two universities were the participants of the study. Their English proficiency was at the intermediate level. The data were obtained from the grammaticality judgment test (GJT) and the Thai English Learner Corpus. The results from the GJT supported the predictions that (1) the participants would show impaired judgment in the use of English unaccusatives and misjudgment data from the two groups would be at approximate levels and (2) the learners would make incorrect judgments in both active and passive unaccusatives. The data from the corpus showed the L2 learners' variability in production of English unaccusatives, especially with the passive unaccusatives. They tended to overgeneralize passive morphology in unaccusatives. The results from the GJT and the corpus supported the FFFH in that the absence of unaccusatives in the learners' L1 led to variability of such a feature in the L2. The unaccusative category negatively influenced the L1 Thai learners' unaccusative production, causing the production of this subcategory not to be syntactically motivated.

Khumdee (2013) investigated variable production of English simple past tense marking by L1 Thai learners. The results from the grammaticality judgment test, the cloze test and the story-telling test indicated that L1 Thai speakers showed variability and low suppliance rates of English past tense marking in their production across the three tests. Asymmetric rates of correct suppliances between regular and irregular past tense marking were observed. The suppliance rates of English past tense marking were higher when adverbial phrases of time indicating pastness were

present. The low suppliance together with the asymmetric phenomena supported the FFFH.

2.3 Previous studies on the acquisition of L2 English regular and irregular past tense morphology

The acquisition of L2 English past tense morphology has been extensively investigated in the field of second language acquisition. One aspect that has received particular attention is the asymmetry between the acquisition of second language regular and irregular past tense morphology in a second language.

From the studies conducted on the issue to date, there are two possible factors explaining the asymmetry between the acquisition of second language regular and irregular past tense morphology in a second language. The first explanation is the use of different mechanisms in processing the two types of verbs, namely the dual mechanism, the single mechanism, and the multiple stochastic rules approaches. The second explanation concerns the principle of saliency.

Among the most heavily explored explanations is the use of different mechanisms in processing the regular and irregular past tense morphology. The dual mechanism and the single mechanism models were proposed focusing on answering a single question, namely whether the regular and irregular morphemes are processed by two different mechanisms or by one single mechanism (Tkachenko & Chernigoveskaya, 2010). Proponents of the dual mechanism posit that regular and irregular past tense verbs are processed differently using different mechanisms (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991). The model proposes that regular past tense verbs are computed by a grammar system that applies the past tense rule, while irregular past tense verbs are stored and are retrieved from lexical memory (Newman, Ullman, Pancheva, & Waligura, 2007). The single mechanism model supports a different claim (Albright & Hayes, 2003; Eddington, 2000; McClelland & Patterson, 2002; Rumerhart & McClelland, 1986). Rumerhart and McClelland (1986) proposed that both English simple past tense regular and irregular forms are produced by a single system. Learners generate new regular or irregular past tense verbs from a stem input when the probability of it being the past tense

pair of a particular stem is sufficiently high. When the past tense form has been learned, the connections between the stem and its past tense pair are established in the system and the generations are no longer needed. Both English simple past tense regular and irregular verbs follow this similar association-based network. Based on this model, the regular verb is easier to generate as it is more common and is applied in the same way regardless of the sound of the stem. Nevertheless, as the irregular verbs are usually high in frequency, they are able to overcome the network's general bias toward regularization.

One of the main claims of differences between the two models is regarding the role of input factors in processing the regular and irregular past tense morphology. The dual mechanism model predicts that frequency factors affect only the acquisition and processing of irregular verbs, but not regular ones, whereas for the single mechanism model, the input frequencies affect the processing of both regular and irregular verbs (Tkachenko & Chernigovskaya, 2010).

The two models have been extensively investigated in the field of L1 acquisition (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991; Rumelhart & McClelland, 1986). There have been, however, few studies which have explored the issues with L2 English learners. Birdsong and Flege (2001) investigated 30 Spanish and 30 Korean learners of English through a multiple-choice test and found that regular verbs were not sensitive to the verb stem frequency, whereas irregular verbs were dependent on input frequency. The results were consistent with the dual mechanism model.

Beck (1997) explored the same issue with 31 L2 English learners from various L1 backgrounds, including Chinese, Japanese, Urdu, Korean, Malay, Farsi, Indonesian, Ibo, French, Spanish, Norwegian, Arabic, Hungarian, Italian and German. Data were collected from an oral elicitation task which required the participants to produce the simple past tense forms of verb stems cued on a computer screen. The results suggested that there was no frequency effect on both regular and irregular verbs, which partly supported the dual mechanism model for its explanation on regular verbs.

Albright and Hayes (2003) proposed an alternative model, which is the multiple stochastic rules approach. They designed an experiment to test their model against the dual mechanism and the single mechanism approaches. The first experiment aimed at testing the dual mechanism model. The data were collected from 20 native speakers of American English. They were asked to rate the phonological well-formedness of novel verbs, or “wug” verbs, i.e. nonsense verbs, in the pretest, and then complete the main production task or the “wug” test to elicit past tense forms. For the production task, the participants listened to two sentences containing a “wug” verb stem, and then filled in the appropriately inflected forms of the given “wug” verb in the other two sentences given, one in the past tense form and the other in the present participle form. The results showed that phonological shape of the verb stem affected the participants’ ratings of both regular and irregular novel pasts. This observation of the regular pasts could not be explained by the dual mechanism approach, which claimed that all regulars were derived from a single rule. The second experiment aimed at evaluating the single mechanism model, which claimed that new forms were generated solely by similarity to existing verbs. The experiment was conducted with 25 native speakers of American English. The researcher adopted the Generalized Context Model (GCM) (Nosofsky, 1990) by calculating how similar the novel verbs were to the existing verbs and determined how such similarity influenced the participants’ intuitive judgments on English past tense forms. In the experiment, the participants listened to two sentences containing each “wug” verb in its stem form, read the two sentences aloud, and then provided correctly inflected present participle and past tense forms in the other two sentences. Then, they listened to a regular or irregular past tense form of the verb stem and rated it according to how natural it sounded. The participants’ ratings were compared to the predicted ratings of the rule-based model and of the analogical model. The results showed that the analogical model was less accurate in predicting the observed participant rating when compared to the rule-based model. It was then concluded that speakers generated morphological patterns from multiple stochastic rules rather than a single rule or pure analogy.

Apart from the explanations concerning the different mechanisms used in processing the two types of past tense verbs, there is still another explanation which is not related to the issue of mechanisms. The principle of saliency is another issue explored to provide an explanation for the asymmetry between English regular and irregular past tense morphemes.

Wolfram (1985) studied 16 L1 Vietnamese learners of English who had one-to-three and four-to-seven years of residence in the United States. Data from the interview suggested that English past tense irregular verbs were supplied more frequently than regular verbs. Wolfram also studied five high-frequency irregular verbs and found that there was an order in the frequency of marking English past tense irregular verbs such that suppletive forms (e.g. 'is'/'was', 'go'/'went') were marked first, followed by internal vowel changes (e.g. 'come'/'came'), internal vowel changes plus a regular suffix or '-t/-d' (e.g. 'do'/'did') and final consonant replacement (e.g. 'have'/'had'), respectively. To explain this order, Wolfram proposed the principle of saliency, which states that 'the more distant phonetically the past tense irregular form is from the non-past, the more likely it will be marked for tense' (p. 247)

Bayley (1991) study also supported the principle of saliency. Bailey explored 20 L1 Chinese learners of English who lived in the United States through interviews. The results suggested that the salience of the difference between the past and present tense verbs affected the past tense marking of Chinese learners of English. Specifically, the suppletive (e.g. 'go'/'went') was marked first, followed by the doubly marked, which included the internal vowel change and the adding of a regular suffix or '-t/-d' (e.g. 'do'/'did', 'leave'/'left'), the internal vowel change (e.g. 'come'/'came'), the replacives and regular non-syllabics (e.g. 'send'/'sent', 'talk'/'talked') and regular syllabics (e.g. 'want'/'wanted'), respectively. The findings were in line with Wolfram (1985) in that irregular verbs were marked more than regular verbs, and the suppletive irregular verbs were marked before other types of irregular verbs. This confirmed the hypothesis that the more salient the difference between the past and present tense forms, the more likely a past-reference verb is to be marked for tense. One difference between Wolfram (1985) and Bayley (1991)

was that in Wolfram (1985) study, the internal vowel changes (e.g. ‘come’/‘came’) were marked before the internal vowel changes plus a regular suffix (e.g. ‘do’/‘did’) while the results were the opposite in the study of Bayley (1991).

Cuskley et al. (2015) explored the asymmetry of English regular and irregular simple past tense morphemes in the production of English non-native speakers. Two experiments were conducted with English native and non-native speakers from various L1 backgrounds. The first experiment adapted the “wug” task (Berko, 1958), which provided participants with a nonsense word to elicit an inflected form. A total of 589 English native and non-native speakers were the participants of the study and they completed a total of 1,811 responses online. The results showed that the nativeness of the respondent, types of stimuli and self-reported proficiency were significant predictors of whether a non-word would be “regularized” or “irregularized”. The non-natives were more likely to provide an irregular form than the natives. Irregular non-words were more likely to be irregularized than regular ones. Specifically, words which were more phonetically similar to the existing irregular forms were much more likely to elicit irregular forms than the regular ones. Moreover, participants who provided more irregular forms were likely to have lower self-rated proficiency. The second experiment extended the first experiment by examining in more detail how both natives and non-natives irregularized the non-words. The methodology was similar to the previous experiment. Data were collected from 210 participants completing a total of 3,150 responses online. The overall findings were similar to the first experiment in terms of effects of nativeness and types of stimuli. Moreover, irregularization rates were higher with the non-natives, especially those whose ages of arrival, i.e. the age when they started learning English, were higher. It was also shown that the participants’ regularizations and irregularizations of the non-words were not random but followed the regular rules and irregular sub-rules of past tense inflection found in a corpus representative of input. The rates of highly used irregular verb types, i.e. the identical form (e.g. “quit-quit”) and the vowel change form (e.g. “hide-hid”) corresponded to the irregular verb categories which had exhibited growth in the Corpus of American English (CoHA) over the past hundred years. The findings indicated that token-frequency in input

had influenced the non-native speakers' use of English past tense morphemes and that they had used rules in generating the morphemes.

For the perception of English regular and irregular morphemes, Solt, Pugach, Klein, Stoyneshka, and Rose (2003) studied L2 English learners' perception of the regular past -ed morpheme. Data were collected from 68 adult learners of English whose native languages were Mandarin, Cantonese, Russian, Turkish, Arabic, Ukrainian and French through a perception and a perception/production task. The results suggested that the beginner and more advanced learners did not perceive the regular past tense morpheme -ed in a target-like manner. However, they were able to perceive the syllabic allomorph [ɪd] more accurately than the non-syllabic allomorphs [t] and [d].

2.4 Previous Studies on English Past Tense Morphology by L1 Thai Learners

Variability of English past tense morphology among learners from different L1s has been extensively studied. L1 Thai learners have also been investigated on the issue as English has been a required subject from primary school until high school since 1995 (Office of the Basic Education Commission Thailand, 2012). There are a number of research studies showing that the English simple past tense is one of the English grammatical features that L1 Thai learners have difficulties in producing.

Suwattee (1971) conducted a contrastive analysis between the English and Thai verbal systems and studied the use of the English verbal system by L1 Thai students to see the predictive value of the contrastive analysis. Data were collected from English university entrance examination papers, a multiple-choice objective test, and a questionnaire about the L1 Thai students' English learning experience and their attitudes toward English verbal systems. The results showed that the error count in the use of tenses had the highest frequency. The difficulty was mostly in the incorrect use of present perfect verb forms instead of past simple verb forms. The data also suggested that L1 Thai learners were unable to perceive meanings of inflectional affixes.

Noochoochai (1978) studied the use of English tenses by L1 Thai advanced learners of English, using data collected from 200 compositions written by advanced

English students at Ramkhamhaeng University in Bangkok, Thailand. The results showed that the English simple past tense ranked highest among the errors found, followed by the future simple tense, and the present simple tense, respectively.

Sukasame et al. (2014) also explored grammatical errors in the usage of English tenses among 31 Matthayom Suksa 4 students of the Demonstration School of Khonkaen University, investigating the tense errors the students made. Data were collected from a multiple-choice test examining grammatical errors, and interviews with students who made errors. Of all the tenses errors made, the past simple tense (74.2%) ranked the second for errors. Other tenses with errors were the past perfect tense (87.1%), the present perfect tense (67.7%), the past continuous tense (54.8%), the present simple tense (48.4%), the future simple tense (41.7%), and the present continuous tense (32.3%). It was concluded that the causes of the errors were the influence of the participants' first language.

Yamput (2011) analyzed grammatical errors in the use of English simple and progressive past tenses among 60 Thai undergraduate English major and non-English major students from Silpakorn University. Data were collected from an English grammar test which consisted of a sentence completion test, a conversation test, and a cloze passage test. The results showed that the frequency of errors was high in both groups, but that of the non-major group was higher. The findings also suggested that the past continuous tense was more problematic for the participants than the past simple tense.

Pongpairoj (2002) investigated syntactic and morphological errors, and errors in word usage in paragraphs written by 100 L1 Thai undergraduate students of English as a second language. The data showed that the highest number of errors was in word usage, followed by morphological errors, and syntactic errors. The causes of errors were analyzed with regard to contrastive analysis and error analysis. It was shown that interlingual interference could account for the majority of errors found in the study. English past tense morphemes (6.50%) were the third most frequent error found in the morphological category and it was preceded by present tense morphemes (53.56%) and plural morphemes (26.93%). Pongpairoj concluded that the participants' morphological errors might have arisen as a result of interference in

the way that English had inflectional morphemes while Thai did not have such corresponding morphemes.

The effect of time markers on the use of English past tense by L1 Thai learners has also been explored. Tawilapakul (2003) studied the use of English tenses by 75 first-year Thai university students by focusing on the impact of Thai time markers on English tenses. Data were collected from two translation tests and a short passage comprised of five sentences without time markers. The results suggested that the participants performed better when explicit Thai time markers were used. Apart from the time markers, the level of English proficiency also affected the students' use of English tenses as the more proficient learners performed better than the other group.

Chawwiwattanaporn (2013) also examined whether time markers clearly stated in Thai contexts reduced the errors of using wrong tenses when translating from Thai to English, and the types of errors concerning the use of verbs and tenses made by English major students in translation tests. The participants of the study were 33 second-year English major students from Kasetsart University. Data collected from two versions of Thai-to-English translation tests with and without clearly stated time markers showed that most participants were able to correctly use the present simple tense (93.93%), the past simple tense (87.87%) and the past continuous tense (30.30%), respectively. However, they still had difficulties using the present continuous tense (1.51%). The participants performed better in the test with clearly stated time markers. The existence of clearly stated Thai time markers helped the students use certain English tenses accurately but did not efficiently help the students use all the tenses proficiently due to the differences in concepts of time between Thai and English.

Focusing on past tense morphemes, Sorattayatorn (2003) and Yorchim and Gibbs (2014) explored errors related to the use of English regular and irregular past tense markers by L1 Thai learners. Sorattayatorn (2003) investigated the use of English regular and irregular past tense markers and the past copula "be" among second-year students of the Armed Forces Academies Preparatory School, Thailand. The participants were divided into four levels according to their grades from reading

and writing courses. The findings suggested that the highest scoring group had the highest score in terms of ability to supply correct morphemes in a cloze passage. The data also showed that English irregular morphemes (91%) were more accurately supplied than regular ones (88%), and the tense-marked copula 'be' (87%).

Yorchim and Gibbs (2014) also examined the use of regular and irregular past tense morphemes. The study investigated the linguistic competence of Thai university students majoring in Business English based on their knowledge of English inflection by using the Error Analysis framework, focusing on the errors of noun, adjective and verb inflections. For the past tense related errors, the results showed that more errors were found in the use of regular past tense morphemes (94%) than irregular ones (42.2%).

Khumdee (2013) investigated the production of English past tense morphemes by L1 Thai learners under the assumption of the Failed Functional Features Hypothesis, which asserts that one's failure to supply L2 inflectional morphology is due to the impairment of ones' grammar (Hawkins & Chan, 1997). Data from a grammaticality judgment test, a cloze test and a story-telling test showed the participants' low suppliance rates of past tense morphemes and difference in rates of suppliances between regular and irregular past tense morphemes. The participants performed better on the regular past tense morphemes than the irregular ones. The findings also suggested that the presence of temporal adverbs affected the participants' production of English past tense morphemes. The participants performed better when the time adverbials indicating pastness were present. Khumdee concluded that the low suppliance of English past tense marking and the asymmetry between the suppliance of regular and irregular past tense markings supported the Failed Functional Features Hypothesis.

S. Sriprom and Ratitamkul (2014) conducted a cross-sectional research study investigating the use of the English simple past tense by 20 Thai speakers divided into two groups: high proficiency and low proficiency English learners. The study aimed at testing the Aspect Hypothesis (Shirai, 2010) by asking two research questions: (1) whether the learners in the high proficiency group tended to use simple past tense form more correctly and (2) whether the high proficiency learners

used the simple past tense form with verbs of all aspectual classes while low proficiency learners used the simple past tense form with telic verbs¹ more frequently than with verbs in other aspectual classes. Data were collected through a cloze test adapted from the study of Ayoun and Salaberry (2008). Although the findings suggested that proficiency levels played an important role in the accurate use of simple past tense forms, they did not support the Aspect Hypothesis as both the high and low proficiency groups were more successful in using simple past tense forms with states and telic events than with activities.

Variability of English past tense morphology by L1 Thai learners has been evidenced and has been explained from various perspectives. There have been, however, no studies to date investigating the issue under the assumption of non-target-like syntactic representation, i.e. the FFFH in comparison to two hypotheses from target-like syntactic representation perspectives, i.e. the MSIH. Moreover, there has been no research conducted on the issue with a comparison between L1 Thai learners, whose native language has no past tense inflectional morphology, and learners from a language background with such morphology. The present study, therefore, aimed to explore the issue with an analysis of English past tense morphology by L1 Thai and L1 French learners. The findings of the study provide further understanding of L1 Thai learners' variability of English past tense morphology.

¹ 'Telic verbs' are dynamic verbs which have a specific endpoint. They could be divided into two categories, which are achievements and accomplishments. Achievements are verbs like 'begin', 'end', 'arrive', 'leave', 'recognize', 'die', 'fall asleep' and 'reach the summit'. This type of verb captures the beginning or end of an action. On the other hand, accomplishments have no endpoint but do not take place instantaneously, and they have a duration like activities, e.g. 'run a mile', 'make a chair', 'build a house', etc. (S. Sriphrom & Ratitamkul, 2014, p. 66)

2.5 Pastness in English, Thai and French

This section illustrates pastness in English, Thai and French. Pastness in English is presented in Section 2.5.1 followed by pastness in Thai and French in Section 2.5.2 and 2.5.3, respectively.

2.5.1 Pastness in English

English, a language in the Indo-European language family, is a language with an inflectional system. This means that a certain word form transforms to another form to code grammatical functions such as number, gender and tense (Khumdee, 2013). Tense, however, is the only category marked directly on the verb in English, which can be either present (e.g. *departs*) or past (e.g. *departed*) (Aronoff & Fudeman, 2005, p. 159).

These inflections on verbs with or without the combination of auxiliaries are obligatory in expressing pastness in English and they are different from the Thai language, where there is no tense-marking system (Noochoochai, 1978, p. 77). The simple past tense in English is formed with a regular past tense morphological marking of *-ed* or irregular past tense morphological markings of the verb (S. Sriprom, 2014).

There are two elements of meaning in the use of the English simple past tense: (1) the happening takes place before the present moment, e.g. 'I lived in Sicily for ten years' and (2) the speaker has a definite time in mind, e.g. 'Haydn was born in 1732'. Leech (1989) further classifies the simple past tense into (1) unitary past which refers to an event that happens just once, e.g. 'William Barnes was born, lived and died in his beloved county of Dorset', and (2) habitual past which describes a repeated event, e.g. 'In those days I enjoyed a game of tennis' (Leech, 1989, p. 13).

The simple past tense morphological marking on the English verb usually manifests through the regular past tense form or *-ed* affixation (e.g. 'walk'-*'walked'*) (Dintrans, 2011, p. 40), which corresponds to three possible phonological realizations [t] (e.g. 'helped'), [d] (e.g. 'shrugged'), and [ɪd] or [əd] (e.g. 'wanted') (Aronoff & Fudeman, 2005, p. 155). The other type of simple past tense morphological marking on the English verb is referred to as the irregular past tense form. It is not marked

with an -ed affixation but through suppletion, which can be divided into total suppletion (or strong suppletion) and partial suppletion (or weak suppletion) (Pongpairoj, 2013).

Total suppletion takes place when the syntax requires a form of a lexeme that is not morphologically predictable. In English, for example, the paradigm for the verb 'be' is characterized by suppletion, i.e. 'is', 'am', 'are', 'was', and 'were'. They have completely different phonological shapes, which are not predictable based on the paradigms of other English verbs. Total suppletion is most likely to be found in the paradigms of high-frequency words in English (Aronoff & Fudeman, 2005, p. 168).

In certain cases, partial suppletion is applied to the past tense morphological marking. It can be further subdivided into three types. The first type is ablaut (or apophony), which refers to the vowel changes within a root of a word (e.g. 'sing-sang' or 'drive-drove') (Aronoff & Fudeman, 2005, pp. 165-166). Another type of partial suppletion refers to the case where the initial phoneme or phonemes of the word remain the same, but there is both internal change and change to the end of the word (e.g. 'catch-caught' or 'think-thought') (Aronoff & Fudeman, 2005, pp. 168-169). The last type is the identical form, which is the case where the past tense forms are identical to the present tense forms (e.g. 'cost-cost' or 'bet-bet'). The overt past tense realization of past tense features may be absent from this irregular past tense type. However, the null morpheme of English past tense inflection is involved and there is evidence for related tense features (White, 2003, p. 180).

2.5.2 Pastness in Thai

Pastness in Thai is expressed differently from that in English. An obvious reason is that Thai is an isolating language. Thai verbs do not show inflection whether in the category of gender or tense (Iwasaki & Ingkaphirom, 2009). The Thai language, as a result, does not have past tense inflectional morphology on the verb. Thai pastness, on the other hand, is heavily implied by context and lexical words (e.g. /mûa-waan-nii/ 'yesterday') (Iwasaki & Ingkaphirom, 2009, p. 149).

Despite the absence of overt linguistic realizations in the sentence, pastness in Thai can be inferred through contexts. The overt linguistic realization, however, is

generally present through the use of adverbial phrases or small clauses in the previous sentences or utterances (Koosamit, 1984) as shown in (3):

- (3) Question: *mûawaannii thw paj nǎj*
 yesterday you go where
 ‘Where did you go yesterday?’
- Answer: *paj ronpháyaabaan*
 go hospital
 ‘I went to the hospital.’

Koosamit (1984, p. 58)

Although there is no adverbial phrase /*mûawaannii*/ ‘yesterday’ showing pastness in the answer, the previous sentence shows that the action occurs in the past.

Pastness in Thai, apart from contexts, is shown through lexical words. Higbie and Thinsan (2008, pp. 91-98) indicate that pastness in Thai may be expressed by a time phrase (e.g. /*pii-thîi-léew*/ ‘last year’) or a lexical word e.g. /*léew*/ ‘already’, /*maa-léew*/ or /*paj-léew*/, /*dâj-léew*/, /*mâj-dâj*/ ‘not’ and /*khey*/ ‘used to’, as illustrated respectively in the following examples:

- (4) (a) *mûa pii thîi léew chán pen khruu thîi yá?-laa*
 when year last I be teacher at Yala
 ‘I was a teacher in Yala last year.’
- (b) *kháw paj ùbon léew*
 he/she go Ubon already
 ‘He/she already went to Ubon.’
- (c) *kháw khǎaj paj léew*
 he/she sell go already
 ‘He/She sold it.’

- (d) *chăn dâj phák-phòn tēm-thîi léew*
 I rest complete already
 ‘I rested completely.’
- (e) *chăn mâj dâj go-hòk khun*
 I not lie you
 ‘I did not lie to you.’
- (f) *kháw khey pen khru*
 he/she used to be teacher
 ‘She used to be a teacher.’

Higbie and Thinsan (2008, pp. 91-98)

The word /pii-thîi-léew/ ‘last year’ in 4a suggested that the action /pen/ already happened. In 4b, the word /léew/ ‘already’ indicated that the action /paj/ ‘go’ already happened in the past. In 4c, the words /paj-léew/ showed that the action /khăaj/ ‘sell’ occurred in the past. The words /dâj-léew/ in 4d emphasized that the verb /phák-phòn/ ‘rest’ was done in the past. In 4e, the words /mâj-dâj/ ‘not’ stated that the action /go-hòk/ ‘lie’ did not take place in the past. For the word /khey/ ‘used to’ in 4f showed that the action /pen/ was what the speaker once did in the past.

Pastness in Thai is different from that in English in that Thai expresses pastness through contexts and lexical words while English relies on past tense inflectional morphology on the verb to express pastness.

2.5.3 Pastness in French

French, like English, is a language in the Indo-European language family which has an inflectional system. Inflections in French are used to mark nouns and adjectives for gender and plurality, while verbs are marked with different kinds of inflections in accordance with subjects and tenses (Fagnal, Kibbee, & Jenkins, 2006).

Verbs in French can also be considered as regular and irregular verbs similar to those in English. A regular verb in French refers to a verb whose infinitive form ends with ‘-er’ (e.g. *casser* ‘to break’, *fermer* ‘to close’ or *retrouver* ‘to join’)

whereas an irregular verb in French refer to a verb whose infinitive form ends with other endings, excluding the ‘-er’ ending. Examples are the verbs ‘être’ ‘to be’, avoir ‘to have’, and ‘faire’ ‘to do’ (Fagnal et al., 2006, p. 89). These regular and irregular verbs are similar to their English counterparts in that every regular verb in French is subject to the same rule of conjugation depending on person, number, and tense, while irregular verbs have numerous stems and endings, and are subject to different sets of rules (Fagnal et al., 2006). For example, to form a present tense, the same set of endings is applied to every regular verb whereas there are different sets of endings for irregular verbs. Every verb ending with ‘-er’ uses the endings ‘-e’ for first person and third person singular subjects, ‘-es’ for the second person singular subject ‘tu’, ‘-ons’ for first person plural subjects, ‘-ez’ for the second person singular or plural subject ‘vous’, and ‘-ent’ for third person plural subjects (Batchelor & Chebli-Saadi, 2011, p. 190).

Similar to the English language, pastness in French is expressed through inflections on verbs with or without the combination of auxiliaries, with the occasional usage of time adverbials (Dalila, 2013). There are three types of past tense in French, whose usages overlap with the English simple past tense, namely the passé composé tense, the passé simple tense and the imparfait tense, as illustrated respectively by the following examples:

- (5) a. *Estelle a acheté des livres.*
 Estelle has bought-PERF some books
 ‘Estelle bought books.’
- b. *Sophie acheta des livres.*
 Sophie bought-PERF some books
 ‘Sophie bought books.’
- c. *Marie achetait des livres.*
 Marie bought-IMP some books
 ‘Marie bought books.’

Dalila (2013, p. 5)

Both the *passé composé* tense in (5a) and the *passé simple* tense in (5b) express events and states that happened at a specific time in the past, as well as actions and states that have been completed at the time of speaking or writing. However, the *passé simple* tense is not normally used in conversations but rather in written contexts, such as in literature, children's stories, fairy tales and in historical documents, or when referring to historical events in oral contexts (Chamberlain & Mangiafico, 2006; Dalila, 2013). The *imparfait* tense in (5c) indicates actions and conditions in the past that were ongoing, or actions that occurred over an indefinite period of time.

The *passé composé* tense is formed with the combination of an auxiliary and a past participle form of a verb. The auxiliary is the present form of an appropriate auxiliary verb, either 'avoir' 'to have', or 'être' 'to be'. The choice of an auxiliary depends on the main verb that follows (Stillman & Gordon, 2009, p. 6) as shown in (6):

- (6) *Attila a choisi les meilleures photos.*
 Attila has selected the best photos
 'Attila selected the best photos.'

Dalila (2013, p. 6)

In (6), the verb 'avoir' 'to have' is the auxiliary for the main verb 'choisir' 'to select'. Therefore, the *passé composé* tense in (6) is formed with the combination of 'a' 'has', which is the present form of the auxiliary verb 'avoir' for the third person singular subject, and 'choisi' 'selected', which is the past participle form of the verb 'choisir' 'to select'.

For the *passé simple* tense, a verb is formed with the combination of a verb stem and a set of *passé simple* endings. The *passé simple* stems of most verbs come from the infinitive form of the verb (Chamberlain & Mangiafico, 2006). For example, the *passé simple* stem 'achet-' is from the infinitive form of the verb 'acheter' 'to buy' without the ending '-er'. The *passé simple* endings, except for some irregular verbs, are the same, which are '-ai' for the first person singular subject, '-as' for the

second person singular subject ‘tu’, ‘-a’ for third person singular subjects, ‘-âmes’ for the first person plural subject, ‘-âtes’ for the second person singular or plural subject ‘vous’, and ‘-èrent’ for third person plural subjects (Chamberlain & Mongiaficio, 2006, p. 101) as shown in (7).

- (7) *Sophie acheta des livres.*
 Sophie bought-PERF some books
 ‘Sophie bought books.’

Dalila (2013, p. 5)

In (7), the passé simple tense verb ‘acheta’ is formed with the verb stem ‘achet-’, which is the infinitive from of the verb ‘acheter’ ‘to buy’ without the ending ‘-er’, but with the ending ‘-a’ for the third person singular subject ‘Sophie’.

To form a verb in the imparfait tense, except for the verb ‘être’ ‘to be’, the combination of its stem and imparfait tense ending is used. The verb stem for the imparfait tense is the ‘nous’ ‘we’ form of the present tense verb without the ‘-ous’ ending. For example, for the verb ‘parler’ ‘to speak’, the present form of the verb for the first person plural subject ‘nous’ ‘we’, which is ‘parlons’, is used but without the ending ‘-ons’. Therefore, the verb stem for the imparfait tense of the verb ‘parler’ ‘to speak’ is ‘parl-’ (Stillman & Gordon, 2009, p. 6).

Every French verb has the same set of endings in the imparfait tense, which are ‘-ais’ for the first person singular subject ‘je’ and the second person singular subject ‘tu’, ‘-ait’ for third person singular subjects, ‘-ions’ for the first person plural subject, ‘-iez’ for the second person singular or plural subject ‘vous’, and ‘-aient’ for third person plural subjects (Chamberlain & Mangiaficio, 2006, p. 81) as shown in (8).

- (8) *Attila choisissait les meilleures photos.*
 Attila select-IMP the best photos
 ‘Attila selected the best photos.’

Dalila (2013, p. 6)

In (8), ‘choisissait’ ‘selected’ is the imparfait tense verb form of the infinitive verb ‘choisir’ ‘to select’. ‘choisissait’ is formed with the verb stem ‘choisis-’ and the ending ‘-ait’ for the third person singular subject ‘Attila’.

In summary, past tense inflectional morphology is obligatory in expressing pastness in English and French (Section 2.4.1 and 2.4.3 respectively) while Thai uses context and lexical words to express pastness (Section 2.4.2).



CHAPTER 3 METHODOLOGY

This chapter discusses the methodology of the study. Section 3.1 presents the participants, Section 3.2 discusses the instruments, Section 3.3 shows the data collection and Section 3.4 presents the pilot study.

3.1 Participants

The participants of the study were 30 Thai native speakers and 30 French native speakers selected by using a convenience sampling method. The Thai participants were undergraduate students in a university in Bangkok. The French participants were high school students in a French international school in Bangkok, undergraduate and graduate students in a university in Bangkok, and native French speakers who lived in Thailand. The French international school was a private school situated in Bangkok. The school followed the French national curriculum and the French language was the medium of instruction.

All participants did not have any experience living in an English-speaking country longer than three months and had not studied in an English program or an international school where English was the medium of instruction. Five English native speakers were the control group of the study.

As there were 30 participants in each group of the study, the researcher followed Lipsey (1990, p. 137), in order to attain a power of criterion at .90 and the effect size of .90 at $\alpha = .05$, meaning that the minimum number of participants needed when group comparisons were made was 30 participants in each group.

All the research participants were advanced learners of English based on their scores from the grammar part of the Oxford Placement Test (OPT) (Allan, 1992). The OPT is a test featuring 100 grammatical test items and those scoring above 75 are classified as advanced learners of English. The participants were asked to complete the OPT within 50 minutes. Details of the participants' ages and Oxford Placement Test scores are shown in Table 1.

Table 1 Details of the participants' ages and Oxford Placement Test scores

<i>L1</i>		<i>Age</i>	<i>OPT</i>
<i>Thai</i>	Mean	18.87	75.90
	N	30	30
	Std. Deviation	.776	2.023
<i>French</i>	Mean	17.37	76.90
	N	30	30
	Std. Deviation	2.723	3.263
<i>Total</i>	Mean	18.12	76.40
	N	60	60
	Std. Deviation	2.124	2.738

The average age of the L1 Thai participants was 18.87 years old and that of the L1 French participants was 17.37 years old. The average score for the Oxford Placement Test was 75.90 overall and that of the L1 French participants was 76.90. (See details of the L1 Thai learner participants in Appendix A and details of the L1 French learner participants in Appendix B)

3.2 Instruments

In order to elicit the English past tense, the researcher designed the following tasks:

- 1) The Cloze Test
- 2) The Grammaticality Judgment Test

3.2.1 Cloze test

This test was used to examine the participants' production of the L2 feature under investigation, i.e. English past tense morphemes. The participants were asked to fill the appropriate forms of words in the blanks provided in 30 sentences by using the words given in parentheses. In total, 14 of the sentences were distractors while

the other 16 sentences aimed at eliciting eight regular and eight irregular past tense verbs, which were equally divided between total suppletion, ablaut, internal change, and identical forms (see Section 2.4). Lists of English regular and irregular past tense verbs in the cloze test are shown in Table 2.

Table 2 Lists of the English regular and irregular past tense verbs in the cloze test

Types of verbs	Verbs	
regular verbs	ask, discover, finish, help, serve, show, start, turn	
irregular verbs	total suppletion	be, have
	ablaut	begin, meet
	internal change	leave, write
	identical forms	hurt, set

The targeted verbs were based on the research conducted by the National Institute of Educational Testing Service (2012) and the A1 to B1 level vocabulary lists of the English Vocabulary Profile, which was based on the Common European Framework of Reference (CEFR) (Cambridge University Press, 2015).

The research conducted by the National Institute of Educational Testing Service (2012) collected and quantitatively analyzed English vocabulary appearing in 45 English subject textbooks for Thai students. The study collected data from 15 textbooks used by Grade 6 Thai students, 15 textbooks used by Grade 9 Thai students, and 15 textbooks used by Grade 12 Thai students. All the vocabulary that appeared in these textbooks was listed in the research. All the targeted English simple past tense regular and irregular verbs used in the present study were selected from verbs which were listed as present in the textbooks according to the research.

The lists of English subject textbooks used in the research are presented in Table 3.

Table 3 Lists of English subject textbooks used in the research conducted by the National Institute of Educational Testing Service of Thailand (2012)

	Textbook titles		
	Grade 6	Grade 9	Grade 12
1	Projects: Play & Learn (Student's Book 6)	My World 3 (Student Book)	Global Link 6 (Student Book)
2	Projects: Play & Learn 6 (Activity Book)	My World 3 (Workbook)	Global Link 6 (Workbook)
3	Zoom 6	Postcards 3	Super Goal 6 (Student Book)
4	Zoom 6 (Activity Book)	Postcards 3 (Workbook)	Super Goal 6 (Workbook)
5	Gogo Loves English 6	Expressions 3	World Club 3 (Student's Book)
6	Gogo Loves English 6 (Workbook)	Expressions 3 (Exercise Book)	World Club 3 (Activity Book)
7	Gogo Loves English 6 (Writing Book)	Super Goal 3 (Student Book)	My World 6 (Student Book)
8	Storytellers 6	Super Goal 3 (Workbook)	My World 6 (Workbook)
9	English Land 6	Can Do 3	Concentrate of Critical Reading 6 A
10	Smart Kids 6	Go for it! 3 (Student Book)	Concentrate of Critical Reading 6 B
11	Smart Kids 6 (Activity Book)	Go for it! 3 (Workbook)	Speak Out 3
12	Aha! English	Highlights of Reading & Writing 3	Different 3
13	See Saw (Workbook)	Future Time English (Student Book)	Listen in 3
14	See Saw (Student's	Target Reading 3	Snapshot

	Book)		
15	Express English 6	Listen and Hear	Green Light 6

The English Vocabulary Profile (Cambridge University Press, 2015) contains lists of words which are known and used by learners at each level of the CEFR. The words are based on the Cambridge Learner Corpus (CLC), the Cambridge English Corpus, reference lists relevant to academic English, and other sources related to general English, i.e. examination vocabulary lists, classroom materials and course books, to confirm and reflect which words learners know at each level of the CEFR. All the regular and irregular verbs used for the present study are listed in the A1 to B1 level vocabulary lists of the English Vocabulary Profile as the target CEFR level for English as a foreign language in France is B1 by the end of compulsory education, i.e. upper secondary school (Éduscol, 2017).

For the frequency of the targeted verbs in the cloze test, the Corpus of Contemporary American English (COCA) was employed. The COCA was the only large and balanced corpus of American English with samples of more than 520 million-word (Davies, 2008). In addition, the frequency data of such verbs from the British National Corpus (BNC) (The British National Corpus, 2007) were used. However, since the Oxford University version of the BNC was employed, not the full version, its frequency data were used for supplementarily. Both the COCA and the BNC collected data from written and spoken languages, and from a wide range of sources ranging from general English to academic texts. The frequencies of each verb, as reported in the COCA and the BNC, and the CEFR level of each targeted verb are shown in Table 4.

Table 4 CEFR level of each targeted verb and frequency of the targeted verbs in the cloze test in the Corpus of Contemporary American English (COCA) and the British National Corpus (BNC)

regular verbs	CEFR level	COCA (frequency)	BNC (frequency)	irregular verbs	CEFR level	COCA (frequency)	BNC (frequency)
asked	A1	144646	21247	was	A1	3918034	872524
started	A1	104610	12243	had	A1	1602982	383999
turned	A2	97602	16324	began	A1	130677	22073
showed	A1	55510	10099	left ²	A1	85211	14671
helped	A1	32887	3468	wrote	A1	67509	9513
discovered	B1	21012	3036	met	A1	40877	6452
served	A2	18685	2158	set	B1	29706	5603
finished	A1	15085	2509	hurt	A2	5917	432

The test sentences were a mixture of written and spoken language as the present study did not focus on any genre in particular. There were no adverbials of time indicating pastness in the test items to avoid participants resorting to metalinguistic rules and strategies relating to the presence of the adverbials. Khumdee (2013) investigated the production of English past tense morphemes by L1 Thai speakers and found that the participants performed better when the adverbials of time were present. She concluded that this resulted from the participants' uses of metalinguistic rules and strategies obtained from their L2 learning.

To keep the variables constant, only third person singular subjects were used for all sentences in the cloze test. Therefore, only the verb 'was', which is a past form of the verb 'be', appeared in the test. Distractors in the cloze test were words

² The data showed the frequency of the verb 'left' in its simple past tense form as it was tagged with the 'past tense verb' category in the corpus

from the noun, adjective and adverb categories. There was no verb used as a distractor in this test.

The test was validated by three raters using the “Index of Item-Objective Congruence (IOC)” to ensure the quality of the instrument and check whether it was congruent with the objectives. The test items were also validated to make sure that only the simple past tense verbs were suitable for the contexts provided in the test. The raters were English lecturers at Chulalongkorn University and Thammasat University. The test items required an IOC value of > 0.5 , which is the acceptable rating in terms of item-objective congruency according to this index. (See Item-Objective Congruence (IOC) scores for the cloze test and the grammaticality judgment test in Appendix E)

Each targeted item in the cloze test was worth 1 point. Therefore, the full score was 16. The participants got 1 point if they provided the correct response for the verb being tested.

The data were analyzed twice as there were two criteria for scoring the cloze test: (1) to provide the overall results, and (2) to compare the correct suppliance rates between the English simple past tense regular and irregular morphemes. The difference between the two criteria was in the scoring of the use of an inappropriate regular or irregular morphological form of an English simple past tense, for example, when ‘*meeted’ or ‘*was writed’ was used instead of ‘met’ or ‘wrote’, respectively. These types of responses showed that the participants knew that the simple past tense forms of the verbs were needed in the provided contexts. Therefore, for the overall results, 1 point was given if they provided such forms of verbs. However, 0 points were given when comparing the correct suppliance rates between the English simple past tense regular and irregular morphemes as such responses showed that an inappropriate English simple past tense regular or irregular morphological form has been used.

Criteria for scoring the cloze test to provide overall results are presented in Table 5.

Table 5 Criteria for scoring the cloze test to provide overall results

<i>Scoring</i>	<i>Criteria</i>
1 point	Participants provided a correct response.
0 points	Participants did not provide any answer in the blank.
0 points	Participants provided an incorrect response.

Details of the scoring criteria used to provide the overall results are as follows. A correct response (1 point) was regarded as (1) the use of an appropriate English simple past tense regular or irregular morphological form, (2) the use of the English simple past tense in an inappropriate English simple past tense regular or irregular morphological form, for example, when ‘*meeted’ was used instead of ‘met’, or (3) the use of an appropriate English simple past tense regular or irregular morphological form in the wrong voice, for instance, ‘was helped’ instead of ‘helped’, or ‘was discovered’ instead of ‘discovered’. An incorrect response (0 points) was regarded as one where a wrong tense was used, for example, ‘ask’ or ‘is asking’ instead of ‘asked’, or ‘leave’ or ‘is leaving’ instead of ‘left’.

An example of the test items in the cloze test is shown in (9):

- (9) Oprah Winfrey (begin) _____ her career in radio and television broadcasting in Nashville.

The participants were given 1 point if they provided the correct form of the verb ‘begin’, which was ‘began’, or they used the English simple past tense in the wrong form, the wrong voice or both, e.g. ‘*began’, ‘was begun’ or ‘*was begun’, respectively.

Criteria for scoring regular and irregular past tense morphemes on the cloze test are presented in Table 6.

Table 6 Criteria for scoring regular and irregular past tense morphemes in the cloze test

<i>Scoring</i>	<i>Criteria</i>
1 point	Participants provided a correct response.
0 points	Participants did not provide any answer in the blank.
0 points	Participants provided an incorrect response.

To compare the correct suppliance rates of regular and irregular past tense morphemes, a correct response (1 point) was regarded as (1) the use of an appropriate English simple past tense regular or irregular morphological form, or (2) the use of an appropriate English simple past tense regular or irregular morphological form in the wrong voice, for instance, ‘was helped’ instead of ‘helped’ or ‘was hit’ instead of ‘hit’. An ‘incorrect’ response (0 points) was regarded as (1) a case where the wrong tense was used, for example, ‘asks’ instead of ‘asked’ or ‘begins’ instead of ‘began’, (2) the use of the English simple past tense in an inappropriate English simple past tense regular or irregular morphological form, for example, when ‘*meeted’ was used instead of ‘met’, or (3) the use of an inappropriate English simple past tense regular or irregular morphological form in the wrong voice, for instance, ‘*was writed’ instead of ‘wrote’.

An example of the test items in the cloze test is shown in (10).

(10) Catherine (meet) _____ her husband on an online dating service.

The participants were given 1 point if they provided the correct answer, which was ‘met’ or ‘was met’, in the space given. However, 0 points were given if the response was ‘*meeted’ or ‘*was meeted’ (See Cloze test in Appendix C).

3.2.2 Grammaticality Judgment Test (GJT)

This test was used to examine the participants' underlying knowledge of the L2 feature under investigation, i.e. English past tense morphemes. The test consisted of 30 sentences. In total, 16 sentences were the test for the study, while the other 14 were distractors. The target-featured items included eight regular verbs and eight irregular verbs. The number of sentences tested for irregular verbs was equally divided between total suppletion, ablaut, internal change, and identical forms.

All the 16 regular and irregular verbs chosen for the GJT were same verbs which were employed in the cloze test (See Section 3.2.1). The test items were equally divided into grammatically correct and incorrect forms. To illustrate, four regular past tense verbs and one irregular past tense verb from each of the four categories were in their grammatically correct forms while the others were in their grammatically incorrect forms.

The past tense verbs of the grammatically incorrect items were replaced by either their bare forms (e.g. 'discover', 'finish', 'be') or non-finite forms (e.g. 'serving', 'starting', 'hurting') in equal numbers. To illustrate, four targeted past tense verbs were replaced by their bare forms, while the other four verbs were in their non-finite forms. The non-finite category of English verbs refers to the present participle, the past participle and the to-infinitive verb forms. However, for the present study, only the present participle forms (e.g. 'serving', 'starting', 'hurting') were used to replace the targeted verbs. The past participle and the to-infinitive forms were not used since the former is similar to the regular past tense verbs (e.g. 'discovered-discovered', 'finished-finished') and the latter is obviously incorrect when appearing at the verb position under investigation. (See Grammaticality judgment test in Appendix D)

Similar to the cloze test, all the test sentences were a mixture of written and spoken language. No adverbials of time indicating pastness in the test items were present. To keep the variables constant, only third person singular subjects were used for all sentences in the GJT. Distractors in the GJT consisted of words from five categories, namely the noun, adjective, adverb, conjunction and preposition categories.

The test was validated by three raters who rated the cloze test using the “Index of Item-Objective Congruence (IOC)” to ensure that only the simple past tense verbs were suitable for the contexts provided in each test item. (See Item-Objective Congruence (IOC) scores for the cloze test and the grammaticality judgment test in Appendix E)

Each targeted item of the GJT was worth 1 point. Therefore, the full score was 16. There were two criteria for scoring the GJT: (1) to provide the overall results, and (2) to compare the correct suppliance rates between the English simple past tense regular and irregular morphemes. Therefore, the data were analyzed twice. The difference between the two criteria was in the scoring of a correction of an English simple past tense verb in an inappropriate morphological form, for example, “*hurted” instead of ‘hurt’. For the overall results, the participants were given 1 point for such correction as it showed their knowledge of a simple past tense verb being needed in the provided context. However, to compare the correct suppliance rates of English simple past tense regular and irregular morphemes, 0 points were given as such correction showed that an inappropriate English simple past tense regular or irregular morphological form had been used.

There were no 0.5 points given in this task in the cases where the participants could provide an accurate ✓ or ✗ judgment for an underlined item but failed to provide a grammatically accurate correction. This was because such judgement did not show that they knew that English simple past tense verb forms were needed in such contexts.

Criteria for scoring the GJT to provide overall results are presented in Table 7.

Table 7 Criteria for scoring the GJT to provide overall results

Scoring	Criteria
1 point	A correct judgment on each grammatically correct item.
1 point	A correct judgment on each grammatically incorrect item made with a grammatically accurate correction, or with a simple past tense verb used in the wrong voice or in an inappropriate morphological form
0 points	An incorrect judgment on each grammatically correct item.
0 points	An incorrect judgment on each grammatically incorrect item.
0 points	A correct judgment on each grammatically incorrect item made without a correction or by using the wrong tense for correction.

For the overall results, the participants got 1 point if (1) they put a ✓ mark in front of the grammatically correct sentence, or (2) they put an ✕ mark in the space in front of the sentence and provided a grammatically accurate correction or a simple past tense verb used with a wrong voice or inappropriate morphological form. A score of 0 points was given if (1) the participants put a ✓ mark in front of the grammatically incorrect sentence, (2) they put an ✕ mark in front of the grammatically correct sentence, or (3) they put an ✕ mark in front of the grammatically incorrect sentence, or provided a wrong tense for correction or did not provide any correction.

Criteria for Scoring Regular and Irregular Past Tense Morphemes on the GJT are shown in Table 8.

the underlined word in (1b) is in its grammatically incorrect form. For the overall results, if the participants put an ✕ mark in the space in front of the sentence and provided the grammatically accurate correction which is ‘hurt’ or a simple past tense verb used in the wrong voice or in an inappropriate morphological form, e.g. ‘was hurt’ or ‘*hurted’, 1 point was given. A score of 0 points was given if the participants put a ✓ mark or put an ✕ mark but provided the wrong tense for correction or did not provide any correction. To compare regular and irregular past tense morphemes, the same criteria as for the overall results was used. However, if the correction was an English simple past tense verb in an inappropriate morphological form e.g. ‘*hurted’, 0 points were given.

3.3 Data collection

The participants were asked to individually complete the OPT, the cloze test and the GJT. The OPT was administered on a separate day before the cloze test and the GJT. The cloze test and the GJT were administered on the same day. They had 30 minutes to complete the grammaticality judgment test and another 30 minutes to complete the cloze test with a 10-minute break between the two tasks.

The participants were asked not to go back and change the answers they had already written down in order to elicit responses that were from the participants’ intuition and to prevent them from resorting to grammatical rules as much as possible.

To prevent the order effects, which is where the verb forms which appear in a former task might influence how the participants perform on such verbs in the latter task, a counterbalancing method was used (Kim, 2010). Therefore, 15 advanced Thai learners and 15 advanced French learners completed the grammaticality judgment test first, followed by the cloze test, while the other 15 learners of each group completed the cloze test first followed by the grammaticality judgment test. With this counterbalancing method, the main effect of order was controlled and, as a result, the research design possessed stronger internal validity than a design without counterbalancing (Kim, 2010).

The data obtained were analyzed both quantitatively and qualitatively. A t-test was used to analyze data gathered from the GJT and the Cloze Test to examine the different structures of English past tense produced by Thai and French learners of English of different proficiency.

3.4 Pilot study

The following section presents the pilot study of the GJT and the cloze test which was conducted to test the validity of the instruments.

Section 3.4.1 presents the details of participants, Section 3.4.2 explains the piloted tasks, Section 3.4.3 shows the data, and Section 3.4.3 discusses the results of the pilot study.

3.4.1 Participants

The GJT and the cloze test were pilot tested with 20 undergraduate students from the Faculty of Medicine, Chulalongkorn University from two English proficiency levels, i.e. intermediate and advanced. All participants were L1 Thai learners of English who had never lived in an English-speaking country longer than three months and had never studied in an English program or an international program where English was the medium of instruction. The information about the participants in the pilot study is summarized in Table 9.

Table 9 Information of L1 Thai participants in the pilot study

Groups	Number	Average ages
Intermediate	10	19.8
Advanced	10	19.9

There were 10 participants in both the intermediate group and the advanced group. The average ages of the intermediate and the advanced groups were 19.8 and 19.9 years old, respectively. The participants were classified into each proficiency

level based on their scores from the grammar part of the Oxford Placement Test (Allan, 1992).

Table 10 presents the results of the Oxford Placement Test of both the intermediate and the advanced groups.

Table 10 Oxford Placement Test results in L1 Thai participant groups

Proficiency	Number	Proportion (100)	Percentage	SD
Intermediate	10	66.2	66.2	3.46
Advanced	10	88.1	80.1	4.86

For the Oxford Placement Test, the mean score of the intermediate group was 66.2 ($SD = 3.46$) while the mean score of the advanced group was 80.1 ($SD = 4.864$). (See Details of the L1 Thai learner participants in the pilot study in Appendix F)

3.4.2 The grammaticality judgment test and the cloze test

3.4.2.1 The grammaticality judgment test (GJT)

The test consisted of 50 sentences. A total of 32 sentences were target-feature items, while the other 18 were distractors. The target-feature items consisted of 16 regular verbs and 16 irregular verbs. The target-feature items included 16 regular verbs and 16 irregular verbs. The number of sentences tested for irregular verbs were equally divided between ablaut, suppletion, pseudo-inflection, and identical forms.

Eight English regular simple past tense verbs and eight English irregular simple past tense verbs were in their grammatically correct forms while the others were in their grammatically incorrect forms. In addition, two irregular verbs from each category were in their grammatically correct forms while the other two verbs from

the same category were in their grammatically incorrect forms. (See Grammaticality judgment test for the pilot study in Appendix G)

Lists of English regular and irregular past tense verbs in the GJT are shown in Table 11.

Table 11 Lists of the English regular and irregular past tense verbs in the Grammaticality Judgment Test

Types of verbs	Verbs	
regular verbs	arrive, ask, call, change, carry, cook, cry, decide, discover, enjoy, finish, help, serve, show, start, turn	
irregular verbs	total suppletion	be, do, go, have
	ablaut	begin, give, meet, sing
	internal change	lead, leave, sleep, write
	identical forms	cut, hit, hurt, set

3.4.2.2 The cloze test

The test consisted of 30 sentences. There were 16 target-feature items and 14 distractors. The test items were eight English simple past tense regular verbs and eight English simple past tense irregular verbs. These irregular verbs were equally divided between suppletion, ablaut, internal change and identical forms. All the target-feature items chosen for the cloze test appeared in the GJT. (See Cloze test for the pilot study in Appendix H)

Lists of English simple past tense regular and irregular verbs in the cloze test are shown in Table 12.

Table 12 Lists of English simple past tense regular and irregular verbs in the cloze test

Types of verbs	Verbs	
regular verbs	ask, discover, finish, help, serve, show, start, turn	
irregular verbs	total suppletion	be, have
	ablaut	begin, meet
	internal change	leave, write
	identical forms	hurt, set

3.4.3 Data collection

The participants were asked to individually complete the GJT, followed by the cloze test. The GJT and the cloze test were validated by three raters using the “Index of Item-Objective Congruence (IOC).” All raters were English teachers at Chulalongkorn University Language Institute. All test items used in the study had an IOC value of > 0.5 , which was the acceptable rate in terms of item-objective congruency according to this index. (See Item-Objective Congruence (IOC) scores for the pilot study in Appendix I)

All the data collected was recorded. The data obtained from the two tests were analyzed quantitatively for mean scores, percentages of mean scores and standard deviations by using the IBM SPSS Statistics program version 22.

3.4.4 Results and discussion

Table 13 and Figure 1 present the overall results of the two tests for both groups.

Table 13 Results of the grammaticality judgment test and cloze test on English simple past tense morphemes token by L1 Thai participants

Proficiency	Number	Grammaticality Judgment Test			Cloze Test		
		Proportion (32)	Percentage	SD	Proportion (16)	Percentage	SD
Intermediate	10	16.9	52.81	4.61	10.0	62.50	3.02
Advanced	10	24.2	75.63	5.79	13.2	82.50	3.23

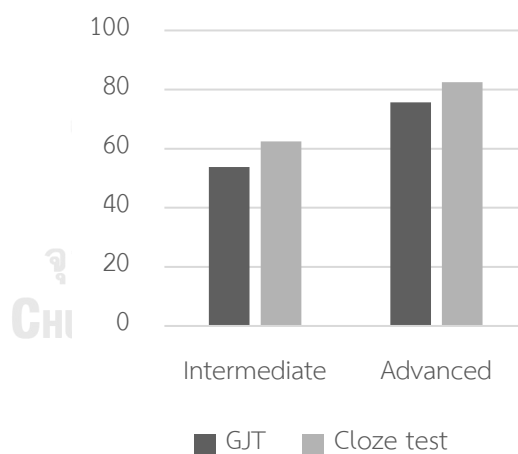


Figure 1 Results of the grammaticality judgment test and cloze test on English simple past tense morphemes token by L1 Thai learners

The data show that the advanced group performed better than the intermediate group in both tests. For the GJT, the average score of the intermediate group (52.81%, $M = 16.9$, $SD = 4.61$) was lower than that of the advanced group (75.63%, $M = 24.2$, $SD = 5.79$). Similarly, the average score of the intermediate group

(62.50%, $M = 10$, $SD = 3.02$) was lower than that of the advanced group in the cloze test (82.50%, $M = 13.2$, $SD = 3.23$).

Table 14 presents the correct supplience rates of English simple past tense regular and irregular morphemes in the GJT.

Table 14 Results of the grammaticality judgment test results on English simple past tense regular and irregular morphemes token by L1 Thai participants

Proficiency	Number	Regular			Irregular		
		Proportion (16)	SD	%	Proportion (16)	SD	%
Intermediate	10	7.3	2.31	45.63	9.60	3.41	60.00
Advanced	10	11.6	3.27	72.50	12.7	2.83	79.38

In the GJT, the intermediate group performed better on the irregular past tense morphemes (60%, $M = 9.6$, $SD = 3.41$) than on the regular ones (45.63%, $M = 7.3$, $SD = 2.31$). Similarly, the advanced group correctly supplied more irregular past tense morphemes (79.38%, $M = 12.7$, $SD = 2.83$) more than regular ones (72.50%, $M = 11.6$, $SD = 3.27$).

Table 15 presents the correct supplience rates of English simple past tense regular and irregular morphemes in the cloze test.

Table 15 Results of the cloze test on English regular and irregular past tense morphology by L1 Thai participants

Proficiency	Number	Regular			Irregular		
		Proportion (8)	%	SD	Proportion (8)	%	SD
Intermediate	10	4.2	52.50	1.62	5.8	72.50	1.69
Advanced	10	6.4	80	2.01	6.8	85	1.32

As in the GJT, in the cloze test, the participants performed better in the cloze test with the irregular past tense morphemes than with the regular morphemes. The intermediate group's mean score on the irregular past tense morphemes was 5.8 (72.5%, $SD = 1.69$) while that on the regular ones was 4.2 (52.5%, $SD = 1.62$). The advanced group also correctly supplied more irregular past tense morphemes (85%, $M = 6.8$, $SD = 1.32$) more correctly than regular ones (80%, $M = 6.4$, $SD = 2.01$).

Table 16, Figure 2 and Figure 3 show the comparison of the results from the GJT and the cloze test.

Table 16 Results of the grammaticality judgment test and cloze test on English regular and irregular past tense morphology token by L1 Thai participants

Proficiency	Number	GJT		Cloze test	
		Regular (%)	Irregular (%)	Regular (%)	Irregular (%)
Intermediate	10	45.63	60.00	52.50	72.50
Advanced	10	72.50	79.38	80.00	85.00

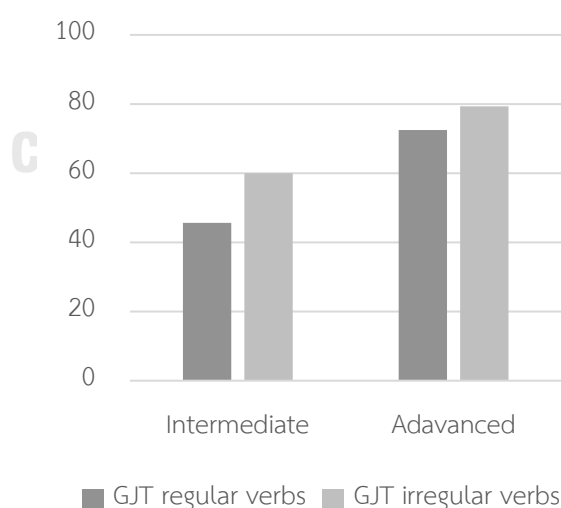


Figure 2 Results of the grammaticality judgment test on English simple past tense regular and irregular morphemes token by L1 Thai participants

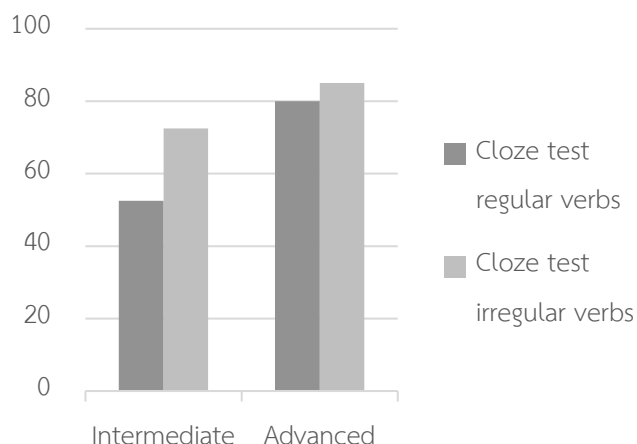


Figure 3 Results of the cloze test on English simple past tense regular and irregular morphemes taken by L1 Thai participants

Data from the pilot study showed that the participants' correct suppliance rates of English simple past tense morphemes in the GJT were lower than those in the cloze test. While the GJT tested the participants' underlying knowledge of English past tense morphemes, the cloze test investigated their production and comprehension of such features. The lower rates of correct suppliance in the GJT supported the FFFH assumption that English past tense morphology was not instantiated in the participants' L2 grammar. If the cause of the variable production had been due to extra-syntactic factors, according to the MSIH, the participants' scores in the GJT would have been higher than those in the cloze test, i.e. the participants' scores on a test on underlying knowledge would have been higher than a production test.

Moreover, the correct suppliance of past tense morphemes was lower than 80% for both groups in the GJT, and for the intermediate group in the cloze test. Only the advanced group's correct suppliance was higher than 80% in the cloze test. Based on the criterion of 80% suppliance in obligatory contexts (Anderson, 1978), the results suggested that the participants had not acquired English past tense morphology, hence supporting the FFFH, not the MSIH.

Furthermore, the suppliance rates of regular and irregular past tense morphemes were different in both tests, in that the participants' correct use of

regular past tense morphemes was lower than that of irregular morphemes, pointing towards the asymmetry between the usages of the two types of morphemes. These asymmetric rates supported the FFFH assumption that the participants' variable production of past tense morphology was due to the lack of syntactic features. If the participants had acquired the features, the suppliance rates of regular and irregular past tense verbs would have been the same, suggesting that they had acquired the usage of both types of verbs.

Proponents of the MSIH have claimed that a cause of low suppliance of regular English morphemes was an extra-syntactic factor, i.e. the lack of consonant clusters in a learner's L1. However, the results from Hawkins and Liszka (2003) did not support the claim. The study compared the use of simple past tense marking by L1 German, Japanese, and Chinese speakers. German and Japanese has a past/non-past distinction while Chinese does not have such feature. However, only German has consonant clusters similar to those in English for regular past tense morphemes. According to the MSIH, the Chinese and the Japanese groups should have performed similarly on the spontaneous production task. However, the findings suggested that L1 Chinese speakers provided significantly lower rates of suppliance of English past tense marking than the L1 German and L1 Japanese speakers. Chinese was the only language in the study which has no past/non-past distinction and no consonant clusters. The results were then problematic for the MSIH claim (See Hawkins and Liszka (2003) in Section 2.2.2.1.1).

The participants' asymmetric rates of suppliance between regular and irregular morphemes, however, could be explained by the dual mechanism model, which posits that the two types of verbs are processed by different mechanisms (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991). A regular past tense verb, according to the model, is computed by the past tense rule, while an irregular past tense verb is stored in and retrieved from lexical memory. Therefore, according to the model, the participants' higher rate of suppliance of irregular verbs could be explained by the fact that they were better in supplying irregular past tense forms as they could retrieve them from their memory rather than applying past tense rules to a regular verb.

The participants' higher scores of the irregular past tense morphemes were also supported by the principle of saliency, which states that the past tense morphemes which are more phonetically different from their non-past counterparts will be more likely to be correctly marked (Wolfram, 1985). The irregular past tense verbs in English involve internal vowel changes (e.g. 'come' / 'came'), final consonant replacements (e.g. 'have' / 'had'), and even whole word replacements (e.g. 'go' / 'went'), whereas the regular verbs require only the adding of the sounds /t/, /d/ or /ɪd/. Therefore, the higher rates of suppliance of irregular past tense verbs could be explained by the fact that they were more likely to be past-marked as their past tense forms were more phonetically different from their present tense counterparts compared to those of regular verbs.

The lower rates of accurate suppliance of English past tense morphemes in the GJT than in the cloze test together with the lower than 80% correct suppliance of such morphemes for both groups in the GJT, and for the intermediate group in the cloze test supported the FFFH assumption that L1 Thai learners' variable production of English past tense morphology was due to the lack of syntactic features. The MSIH, which argued for target-like syntactic representations, was problematic with regard to explaining the results.

Moreover, the asymmetric rates of correct suppliance between regular and irregular past tense morphemes were supported by the FFFH assumption. If the participants had acquired the features according to the MSIH, the suppliance rates of regular and irregular past tense verbs would have been the same, suggesting that they had acquired the usage of both types of verbs. The lower rates of accurate suppliance of regular morphemes of irregular morphemes were claimed by the MSIH to be a result of an extra-syntactic factor, i.e the lack of consonant clusters in a learner's L1. However, the results from Hawkins and Liszka (2003) did not support the MSIH view. The participants' lower rate of suppliance of regular verbs could be explained by the fact that they were better in supplying irregular past tense forms by using the whole word stored in their memory rather than applying past tense rules to a regular verb according to the dual mechanism model (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991). The results also supported the principle of saliency, which

claims that the past tense morphemes which are more phonetically different from their non-past counterparts will be more likely to be correctly marked with past tense morphemes (Wolfram, 1985). Therefore, English irregular past tense verbs are more likely to be past-marked as their past tense forms are more phonetically different from their present tense counterparts compared to those of regular verbs.



CHAPTER 4 RESULTS AND DISCUSSIONS

This chapter presents the results of the study and discusses the findings according to the hypotheses of the study. Section 4.1 discusses the results of the cloze test and the grammaticality judgment test on English past tense morphology taken by the L1 Thai and L1 French participants. Section 4.2 presents the results of the suppliance rates of English regular and irregular past tense morphemes by the L1 Thai and L1 French participants.

4.1 Results of the cloze test and the grammaticality judgment test on English past tense morphology taken by the L1 Thai and L1 French participants

As discussed in Section 2.2, the Failed Functional Features Hypothesis (FFFH) posits that target-like syntactic knowledge of an L2 grammatical feature can be established in learners' L2 after the critical period only if that feature is activated in the learners' L1 (Hawkins & Chan, 1997). Therefore, based on the FFFH, L2 learners whose L1 does not have a similar L2 syntactic feature should have higher rates of variability when they are compared to L2 learners whose L1 background has such a similar feature (Hawkins & Liszka, 2003).

The Missing Surface Inflection Hypothesis (MSIH), however, claims that fully-specified syntactic knowledge of an L2 grammatical feature can be established in learners' L2 despite differences between L1 and L2 grammars or a lack of such an L2 feature in the learners' L1 (Lardiere, 1998a; Prévost & White, 2000a). Therefore, under the assumption of the MSIH, L2 learners from whatever L1 background, i.e. whether or not an L2 feature is instantiated in the learners L1, should be able to acquire such an L2 feature and have approximately the same correct suppliance rates of the L2 feature.

The present study aimed at exploring the variability of English past tense morphology by L1 Thai learners and L1 French learners. Past tense inflectional morphology is obligatory in expressing pastness in English and French, while Thai

uses contexts and lexical words. Hypothesis 1.1 states that, based on the FFFH, the variability of L2 English past tense morphology by L1 Thai learners and L1 French learners is due to non-target-like syntactic representations, not target-like syntactic representations according to the MSIH, and that L1 Thai learners' incorrect supplings of English past tense morphemes are significantly higher than those of L1 French learners in the cloze test and the grammaticality judgment test.

To test the hypothesis, a cloze test and a grammaticality judgment test were conducted. As discussed in Section 3.2, the cloze test was administered to explore the L1 Thai and L1 French participants' production of English past tense morphemes. The grammaticality judgment test was used to examine the participants' underlying knowledge of English past tense morphemes. An independent-samples t-test was conducted to compare correct suppliance rates of English past tense morphemes in the cloze test and the grammaticality judgment test between the L1 Thai learners and L1 French learners.

Results of the cloze test and the grammaticality judgment test taken by the L1 Thai participants, L1 French participants and native English speaker controls are shown in Table 17. Figure 4 presents the correct suppliance percentage of English past tense morphology by the L1 Thai and L1 French participants and native English speaker controls in the cloze test and the grammaticality judgment test.

Table 17 Results of the cloze test and the grammaticality judgment test on English past tense morphology taken by the L1 Thai and L1 French participants and native English speaker controls

Task	Cloze test				Grammaticality judgment test			
	Proportion	%	M	SD	Proportion	%	M	SD
L1								
Thai (N=30)	360/480	75	12	2.51	410/480	85.42	13.67	1.79
French (N=30)	443/480	92.29	14.77	1.30	449/480	93.54	14.97	1.40
English (N=5)	80/80	100	16	0	78/80	97.50	15.6	0.55

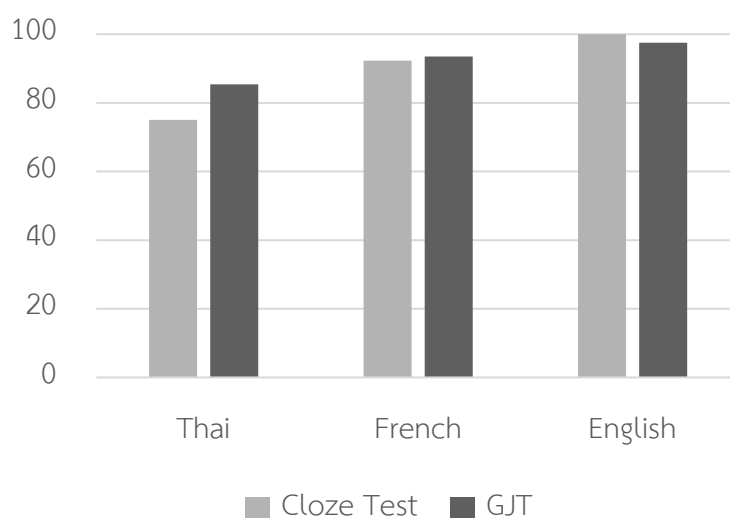


Figure 4 Correct suppliance percentages of English past tense morphology by the L1 Thai and L1 French participants and native English speaker controls in the cloze test and the grammaticality judgment test

The results showed that the L1 French participants scored better than the L1 Thai participants in both the cloze test and the grammaticality judgment test. For the cloze test, the native English speakers ($M = 16$, $SD = .0$) scored the highest, followed by the L1 French participants ($M = 14.77$, $SD = 1.30$) and the L1 Thai participants ($M = 12$, $SD = 2.51$).

In a similar trend, on the grammaticality judgment test, native English speakers³ ($M = 15.6$, $SD = 0.55$) scored the highest, followed by the L1 French

³ Native English speakers' incorrect responses in the grammaticality judgment test were from the answer 'is' as correction for 'be' in '*Grace be in my class in primary school.' and the answer 'starts' as correction for 'starting' in '*She starting her business with only 100 dollars.' The targeted responses were 'was' for the first sentence and 'started' for the second sentence. It is assumed that they might have interpreted the contexts in the two sentences as simple present tense. However, according to the Index of Item-Objective Congruence (IOC), English simple past tense verbs 'was' and 'started' were the most appropriate targeted answers for these two sentences, respectively.

participants ($M = 14.97$, $SD = 1.40$) and the L1 Thai participants ($M = 13.67$, $SD = 1.79$).

Since the study focused on how L2 learners performed on English simple past tense morphology, results from the L1 Thai and L1 French groups were compared and discussed. Results from the English native speaker group were employed as baseline data⁴, and thus they were not included in the discussions.

The results from the independent-samples t-test showed that, for the cloze test, on average, the L1 Thai participants ($M = 12$, $SE = .457$) scored significantly lower than the L1 French participants ($M = 14.77$, $SE = .238$), $t(43.654) = -5.365$, $p < .05$, $r = .63$, representing a large-sized effect. Therefore, the L1 Thai learners' correct suppliance rates of English past tense morphemes were significantly lower than those of the L1 French learners in the cloze test.

In a similar trend, on the grammaticality judgment test, on average, the L1 Thai participants ($M = 13.67$, $SE = .326$) scored significantly lower than the L1 French participants ($M = 14.97$, $SE = .256$), $t(54.876) = -3.135$, $p < .05$, $r = .39$, representing a medium-sized effect. The data suggested that the L1 Thai learners' correct suppliance rates of English past tense morphemes were significantly lower than those of the L1 French learners in the grammaticality judgment test.

Since the L1 Thai group's correct suppliance rates of English past tense morphemes were significantly lower than those of the L1 French group, both in the cloze test and in the grammaticality judgment test, the results confirmed the FFFH assumption.

Thai is an isolating language. Pastness in Thai, therefore, is not expressed through past tense inflectional morphology but is rather implied by contexts and lexical words. From the results, it was then assumed that non-existence of the past

⁴ Baseline data is the data to which other data can be compared. Baseline data from native speakers is important when examining the performance of non-native speakers on a task as researchers cannot simply assume that native speakers would perform perfectly according to their idea of what is correct or normal (C. Richards & Schmidt, 2013).

feature in the Thai learners' L1 led to variable English past tense morphemes as L2 English pastness is unresettable for the L1 Thai learners (See Section 2.4). English and French, however, are languages in the Indo-European language family, which has an inflectional system. Past tense inflectional morphology is obligatory when expressing pastness in these languages, although French is different from English in some aspects concerning the application of past tense inflectional morphemes (See Section 2.4). The significantly higher correct suppliance rates of English simple past tense morphemes by the L1 French learners suggested that their production of English past tense morphemes was possibly based on target-like syntactic representations, supporting the FFFH claim.

The MSIH, which argued for target-like grammatical representations for L2 learners, from whatever L1 background, predicted no significant difference between the participants whose L1 had or did not have an L2 feature. If the syntactic representations of English past tense morphology had been available to the L1 Thai learners, according to the MSIH, the L1 Thai group should have provided approximately the same correct suppliance rates of English past tense morphemes as the L1 French group. However, the data from the present study showed that the L1 Thai group's correct suppliance rates of English past tense morphemes were significantly lower than those of the L1 French group, both in the cloze test and in the grammaticality judgment test. Therefore, the results which showed significantly lower correct suppliance rates of English past tense morphemes by the L1 Thai group than by the L1 French group cannot be accounted for by the MSIH.

Since the L1 Thai group's correct supplings of English past tense morphemes were significantly lower than those of the L1 French group in the cloze test and the grammaticality judgment test, the results confirmed the hypothesis in that, based on the FFFH, variability of L2 English past tense morphology by L1 Thai learners is due to non-target-like syntactic representations, not the target-like syntactic representations according to the MSIH.

The findings were in line with Hawkins and Liszka (2003) and Khumdee (2013). Past tense inflectional morphology is absent in the Chinese and the Thai languages. The L1 Chinese speakers in Hawkins and Liszka (2003) provided lower correct

suppliance rates of English simple past tense morphemes than the Japanese and the German groups, whose native languages have past tense inflectional morphology. L1 Thai speakers in Khumdee (2013) also showed low suppliance rates of English simple past tense morphemes (See Section 2.2.2.1.1).

What was worth observing from the data of the grammaticality judgment test and the cloze test was the difference in the L1 Thai and L1 French groups' correct suppliance rates of English simple past tense morphemes between each task. The French group's scores for the cloze test and the grammaticality judgment test were high and approximately at the same rates. Their correct suppliance rates of English simple past tense morphemes between the grammaticality judgment test and the cloze test were not significantly different, $p < .05$. However, for the Thai group, the difference in correct suppliance rates between the two tasks was larger than that of the French group. The L1 Thai participants performed significantly better in the grammaticality judgment test than in the cloze test, $p < .05$. Factors which possibly led to such a difference in the L1 Thai group were task effects and asymmetries between English simple past tense regular and irregular morphemes.

Different tasks could yield different results (Harley, 2008; Miyamoto & Takata, 1996). Considering the nature of the tasks, the grammaticality judgment test might require less effort from the L2 learners than the cloze test in general. In the grammaticality judgment test, the target feature items were shown in the sentences. The participants were asked to produce only a binary response, i.e. grammatical or ungrammatical, and were asked to correct the items they deemed ungrammatical. They were able to see some of the appropriate morphological verb forms of English simple past tense morphemes. For the cloze test, the participants were asked to complete the sentences by forming a grammatically correct word based on the given word in a parenthesis.

Another factor was the asymmetries between English simple past tense regular and irregular morphemes by the L1 Thai and L1 French participants. This issue will be discussed in the following section.

4.2 Results of the suppliance rates of English regular and irregular past tense morphemes by the L1 Thai and L1 French participants.

The grammaticality judgment test and the cloze test were conducted to examine the L1 Thai and L2 French participants' variability of English regular and irregular past tense morphemes. According to the FFFH, the asymmetry between the usages of the two types of morphemes showed that the participants' variability of L2 past tense morphology was due to the lack of syntactic features in their L2 grammars. If the participants had acquired the features, the suppliance rates of regular and irregular past tense verbs should have been the same rates, suggesting that they had target-like-syntactic representations of the past tense morphemes (Hawkins & Liszka, 2003). Specifically, if both verb forms had been syntactically driven, no matter whether the verbs were in the English simple past tense regular or irregular forms, the participants should have been able to show that they had acquired the features.

Inflectional morphology is obligatory in expressing pastness in English and French, but not in Thai (See Section 2.4). According to hypothesis 1.2, based on the FFFH, the L1 Thai participants' asymmetric rates of correct suppliance between English regular and irregular past tense morphemes should be significantly higher than those of the L1 French participants in the cloze test and the grammaticality judgment test.

Results of the L1 Thai participants' correct suppliance rates of regular and irregular past tense morphemes in the cloze test and the grammaticality judgment test are presented in Table 18. Figure 5 shows the percentages of the L1 Thai participants' correct suppliance rates of regular and irregular past tense morphemes in the cloze test and the grammaticality judgment test.

Table 18 Results of the L1 Thai participants' correct suppliance rates of regular and irregular past tense morphemes in the cloze test and the grammaticality judgment test

Thai (N=30)		Proportion	%	M	SD
CT	Regular	160/240	66.67	5.33	1.75
	Irregular	197/240	82.08	6.57	1.22
GJT	Regular	193/240	80.42	6.43	1.22
	Irregular	209/240	87.08	6.97	0.93

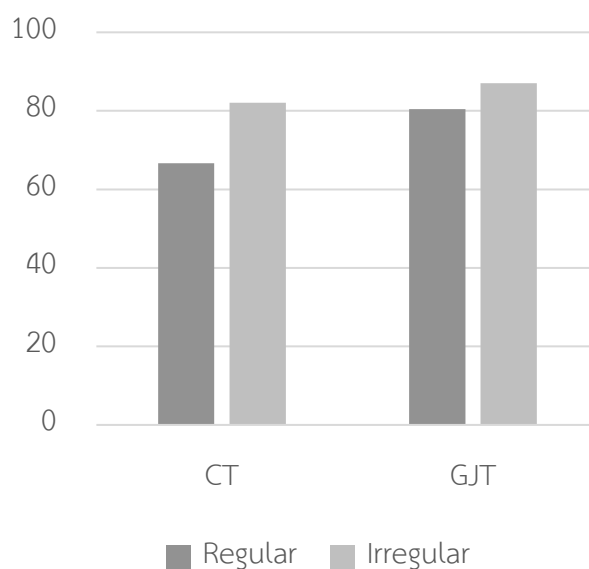


Figure 5 Percentages of the L1 Thai participants' correct suppliance rates of regular and irregular past tense morphemes in the cloze test and the grammaticality judgment test

For the grammaticality judgment test, the L1 Thai participants' correct suppliance rates of English simple past tense regular morphemes ($M = 6.43$, $SD = 1.22$) were lower than those of irregular past tense morphemes ($M = 6.97$, $SD = 0.93$). In a similar trend, for the cloze test, the L1 Thai participants' correct suppliance rates of English simple past tense regular morphemes ($M = 5.33$, $SD = 1.75$) were lower than those of irregular ones ($M = 6.57$, $SD = 1.22$).

To compare the L1 Thai participants' correct suppliance between English simple past tense regular and irregular morphemes in the grammaticality judgment test and the cloze test, a paired-samples t-test was conducted.

For the grammaticality judgment test, on average, L1 Thai participants' correct suppliance rates of English simple past tense irregular morphemes ($M = 6.97$, $SE = .169$) were significantly higher than those of regular ones ($M = 6.43$, $SE = .233$), $t(29) = -4$, $p < .05$, $r = .60$, representing a large-sized effect. The results suggested that the L1 Thai learners' correct suppliance rates of English simple past tense irregular morphemes were significantly higher than those of regular ones in the grammaticality judgment test.

Similarly, for the cloze test, on average, the L1 Thai participants' correct suppliance rates of English simple past tense irregular morphemes ($M = 6.57$, $SE = .22$) were significantly higher than those of regular ones ($M = 5.33$, $SE = .32$), $t(29) = -4.368$, $p < .05$, $r = .63$, representing a large-sized effect. The results showed that the L1 Thai learners' correct suppliance rates of English simple past tense irregular morphemes were significantly higher than those of regular morphemes in the cloze test.

For the L1 French participants, the results of their correct suppliance rates of English simple past tense regular and irregular morphemes in the cloze test and the grammaticality judgment test are shown in Table 19. Figure 6 presents percentages of the L1 French participants' correct suppliance rates of English simple past tense regular and irregular morphemes in the cloze test and the grammaticality judgment test.

Table 19 Results of the L1 French participants' correct suppliance rates of English simple past tense regular and irregular morphemes in the grammaticality judgment test and the cloze test

French (N=30)		Proportion	%	M	SD
CT	Regular	222/240	92.5	7.40	0.93
	Irregular	215/240	89.58	7.17	0.87
GJT	Regular	227/240	94.58	7.57	0.82
	Irregular	218/240	90.83	7.27	0.79

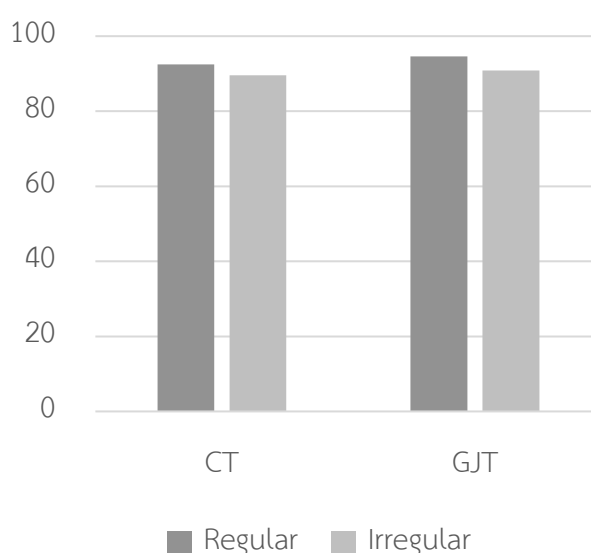


Figure 6 Percentages of the L1 French participants' correct suppliance rates of English simple past tense regular and irregular morphemes in the cloze test and the grammaticality judgment test

On the grammaticality judgment test, the L1 French participants' correct suppliance rates of English simple past tense regular morphemes ($M = 7.57$, $SD = .82$) were better than those of irregular ones ($M = 7.27$, $SD = .79$). Similarly, on the cloze test, the participants' scored higher in English simple past tense regular morphemes ($M = 7.40$, $SD = 0.93$) than in irregular ones ($M = 7.17$, $SD = .87$).

To compare the L1 French participants' correct suppliance rates between English simple past tense regular and irregular morphemes in the two tests, a paired-samples t-test was conducted.

On the grammaticality judgment test, on average, the L1 French participants performed better in English simple past tense regular morphemes ($M = 7.57$, $SE = .149$) than in irregular morphemes ($M = 7.27$, $SE = .143$). This difference, however, was not significant $t(29) = 1.964$, $p > .05$, $r = .34$, representing a medium-sized effect. The results showed that the L1 French learners' correct suppliance rates of English simple past tense regular morphemes were not significantly different from those of irregular past tense morphemes in the grammaticality judgment test.

On the cloze test, on average, the L1 French participants performed better in English simple past tense regular morphemes ($M = 7.40$, $SE = .17$) than in irregular morphemes ($M = 7.17$, $SE = .16$). This difference, however, was not significant $t(29) = 1.022$, $p > .05$, $r = .19$, representing a small-sized effect. Therefore, the L1 French learners' correct suppliance rates of English simple past tense regular morphemes were not significantly different from those of irregular past tense morphemes in the cloze test.

The paired-samples t-test results suggested that the L1 Thai participants' correct suppliance rates of English simple past tense regular morphemes were significantly lower than those of the irregular ones in both the grammaticality judgment test and the cloze test. However, the L1 French participants' correct suppliance rates between the regular and irregular verbs were not significantly different in both tests. The results, therefore, supported the FFFH in that variability of L2 English past tense morphology by L1 Thai learners was due to non-target-like syntactic representations, not target-like syntactic representations according to the MSIH.

If the L1 Thai participants had acquired the English past tense morphology, the asymmetries of correct suppliance rates between the regular and irregular verbs should not have been evidenced. The L1 French participants, on the other hand, showed no significantly different rates of correct supplings between the two types of verbs. Variability of English simple past tense morphology by the L1 Thai group

could then be explained by the lack of such features in the Thai language, following the FFFH claim. If the cause of such variability had been due to extra-syntactic factors as proposed by the MSIH, both the L1 Thai and L1 French groups should have shown approximately the same rates of correct suppliance rates of English simple past tense regular and irregular morphemes as both types of verbs are assumed to have syntactically-driven production or perception. The MSIH was, therefore, problematic in explaining the data.

The findings were in line with Hawkins and Liszka (2003) and Khumdee (2013). Past tense inflectional morphology is absent in the Chinese and the Thai languages. L1 Chinese speakers in the study of Hawkins and Liszka (2003) and L1 Thai speakers in Khumdee (2013) provided lower suppliance rates of English simple past tense regular morphemes than of irregular ones. (See Section 2.2.2.1.1).

The results could then be explained by the retrieval of irregular past tense verb forms as independent lexical items and the dual mechanism model.

Firstly, according to Hawkins and Liszka (2003), an English simple past tense irregular verb is possibly stored and retrieved as an independent lexical item. This is different from an English simple past tense regular verb, which is derived from the application of metalinguistic rules. The L1 Thai participants' lower suppliance rates of English simple past tense regular verbs could then be explained by the fact that they were better in supplying irregular past tense forms by using the whole word stored in their memory rather than applying past tense rules to a regular verb. The data from the L1 French participants, however, showed no asymmetries in correct suppliance rates between English simple past tense regular and irregular morphemes in both tasks. This suggested that the L1 French learners did not rely on lexical memory, and that they computed the past tense rule from syntactically-based processes in supplying English simple past tense morphemes for both regular and irregular verb forms.

In the same vein, the data could be accounted for by the dual mechanism model, which argues that English simple past tense regular and irregular verbs are processed by different mechanisms (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991). A regular past tense verb, according to the model, is computed by the past

tense rule, while an irregular past tense verb is stored in and retrieved from lexical memory (See Section 2.3). According to the model, L2 learners are better in retrieving English simple past tense irregular verbs as lexical items from their memory compared to computing the past tense grammatical rule for the regular verbs.

Basnight-Brown, Chen, Hua, Kostic, and Feldman (2007) explored the processing of English irregular and regular verb forms, including the English simple past tense verbs, by native English speakers, and L1 Serbian and L1 Chinese learners of English by using a cross-modal priming procedure. It was hypothesized that a single mechanism was used if there was significant facilitation between a stem (e.g. 'push') and an inflected verb form (e.g. 'pushed'), whereas a dual mechanism was assumed if the facilitation was minimal. The findings from the native English speakers failed to provide evidence that different mechanisms underlay the processing of regular and irregular types of verbs. Significant facilitation was found for all verb types. The data from the L1 Serbian participants were similar to those of the native English speakers as significant facilitation for both regular and irregular verb forms was observed. The results of the L1 Chinese group differed from those of the other two groups. No significant facilitation for irregular verbs was evidenced, and thus it could be interpreted that they used a dual-route account of morphological processing for English simple past tense regular and irregular verb forms, supporting the dual mechanism model. It was assumed that the linguistic backgrounds of the Serbian and the Chinese participants accounted for the different results. The Serbian language is highly inflected; i.e. many inflected case forms relative to the English language, whereas the Chinese language is not.

The data from the L1 French participants, however, showed no asymmetries in correct suppliance rates between English simple past tense regular and irregular morphemes in both tasks. It was assumed that the L1 French learners computed both types of verbs using the past tense rule from syntactically-based processes according to the single mechanism model (Rumerhart & McClelland, 1986). Based on the model, the L2 French learners produced both regular and irregular past tense verbs using a single system and generated both types of verbs from a stem input which had strong connections with its past tense pair.

Chaengchenkit (2011) investigated the use of English simple past tense morphemes by L1 Thai learners. The results showed that English simple past tense irregular forms and the suppletive form of the auxiliary 'be' were supplied with high frequency both in the oral production tasks and in the gap-filling task, whereas the English simple past tense regular inflection 'ed' was frequently omitted in the oral productions. Chaengchenkit concluded that the relevant morphosyntactic features of English simple past tense forms were present in L1 Thai learners' underlying representation, confirming the MSIH. The omission of the English simple past tense regular morpheme '-ed' was not evidence that the morphosyntactic features of English simple past tense forms were missing. She suggested that communication pressure and the effects of phonological accommodation were possible explanations for the phenomena. The English simple past tense regular '-ed' form was more difficult to access than the irregular ones regarding its phonological features. However, the findings from the present study were not consistent with her conclusion. The findings showed that the L1 Thai learners' correct suppliance rates of English simple past tense irregular morphemes were significantly higher than those of the regular ones in both the cloze test and the grammaticality judgment test. However, for the L1 French learners, the correct suppliance rates of the regular ones were higher than those of the irregular ones but not significantly different in both tasks. If the communication pressure and the phonological accommodation had been the cause of the lower correct suppliance rates of the regular past tense forms, the L1 Thai and L1 French learners should have had approximately the same correct suppliance rates of the two verb forms. The findings of the present study, therefore, supported the FFFH in that the L1 Thai learners' variability of English simple past tense morphemes were due to the non-target-like syntactic representations, not the extra-syntactic factors according to the MSIH.

Table 20 and 21 showed details of incorrect responses in the cloze test by L1 Thai and L1 French participants, respectively.

Table 20 Lists of incorrect responses in the cloze test by L1 Thai participants

Item no.	Target responses	Incorrect responses	Proportions (30)
1	asked	ask	2
		asks	11
3	discovered	discovers	7
		has discovered	1
		had discovered	1
5	finished	finishes	3
		had finished	4
7	helped	help	1
		helps	3
9	served	was served	3
		has served	4
		have served	1
		has been served	2
		had served	2
11	showed	shows	4
13	started	starts	4
		has started	5
15	turned	turns	4
		is turning	1
		was turning	3
		has turn	1
		has turned	2
		had turn	1
		had turned	4
17	hurt	hurts	8
		*hurted	2
		is hurting	2

19	hit	had hit	4
		*has hitted	1
		*hitted	1
21	was	is	5
23	had	has	5
		has had	1
25	began	begins	5
27	wrote	writes	3
		has written	2
		had written	2
29	left	leave	2
		leaves	3
		leaving	1
30	met	has met	2
Total			123/480 (25.63%)

Table 21 Lists of incorrect responses in the cloze test by L1 French participants

Item no.	Target responses	Incorrect responses	Proportions (30)
1	asked	asking	1
3	discovered	discovers	3
5	finished	finishes	1
7	helped	helps	2
9	served	serves	3
11	showed	shows	3
13	started	starts	1
15	turned	turns	1
17	hurt	hurts	4
		*hurted	3
		has hurt	1

19	hit	hits	4
		*hitted	2
21	was	-	-
23	had	has	4
25	began	begin	3
27	wrote	writes	1
29	left	-	-
30	met	meet	2
		*meeted	1
Total			43/480 (8.96%)

The data on the incorrect responses by the L1 Thai and the L1 French participants in the cloze test showed that the L1 Thai participants produced more incorrect responses than the L1 French participants, i.e. 25.63% and 8.96%, respectively. The L1 Thai participants' incorrect answers consisted of four types of tense, whereas those of the L1 French participants consisted of two types of tense. The tenses that the L1 Thai participants used were the present simple (e.g. 'asks'), the present progressive (e.g. 'is turning'), the present perfect (e.g. 'has discovered'), and the past perfect (e.g. 'had served') tenses. For the L1 French participants, their incorrect answers were mostly the present simple tense (e.g. 'finishes'). There was only one occurrence of the present perfect tense, which was 'has hurt'. However, both groups of participants incorrectly used the English regular past tense morpheme '-ed' for the irregular verb forms. The verb forms 'hurted' and 'hitted' were used by the L1 Thai group, and the verb forms 'hurted', 'hitted', and 'meeted' were used by the L1 French group. An incorrect use of the non-finite verb form 'asking' was found with the L1 French group. Such type of response, however, was not found among the L1 Thai participants.

Details of incorrect responses in the grammaticality judgment test by L1 Thai and L1 French participants are shown in Table 22 and 23, respectively.

Table 22 Lists of incorrect responses in the grammaticality judgment test by L1 Thai participants

Item no.	Target responses	Incorrect responses	Proportions (30)
1	asked	-	-
3	served	serve	2
		serves	5
		is served	2
		was served	4
5	showed	show	4
		shows	2
7	turned	turn	2
		turns	2
9	discovered	discover	1
		discovers	4
		has discovered	1
		had discover	1
		had discovered	2
11	finished	finishes	4
13	helped	had help	1
		had helped	3
15	started	start	1
		starts	3
		has started	2
17	hit	hits	1
		*hitted	2
19	hurt	hurts	3
		*hurted	5
		has hurt	2
21	had	-	-

23	was	is	4
25	wrote	has written	2
		had written	1
		*was writed	1
27	met	meet	1
		meets	3
29	left	leaves	2
		has left	1
		had left	1
30	began	begin	1
		begins	2
Total			78/480 (16.25%)

Table 23 Lists of incorrect responses in the grammaticality judgment test by L1 French participants

Item no.	Target responses	Incorrect responses	Proportions (30)
1	asked	-	-
3	served	serving	2
5	showed	-	-
7	turned	-	-
9	discovered	discover	2
		discovers	3
11	finished	finish	2
		finishes	3
13	helped	-	-
15	started	starts	2
17	hit	hits	1
		hitted	1
19	hurt	hurting	2

		hurts	4
		*hurted	3
21	had	-	-
23	was	is	3
		been	1
		has been	1
25	wrote	-	-
27	met	meet	1
29	left	-	-
30	began	begin	3
		begins	1
Total			35/480 (7.29%)

Similar to the cloze test, the rates of L1 Thai participants' incorrect responses were higher than those of the L1 French participants in the grammaticality judgment test, i.e. 16.25% and 7.29%, respectively. The incorrect tenses used by both groups of participants in this task were close to those in the cloze test. The L1 Thai group's incorrect responses were the uses of the present simple (e.g. 'serves'), the present perfect (e.g. 'has started'), and the past perfect (e.g. 'had written') tenses. However, no present progressive tense was found in the grammaticality judgement test. L1 French participants' incorrect answers consisted of two tenses, which were present simple tense (e.g. 'discovers'), and present perfect tense (e.g. 'has been'). Both groups similarly used inappropriate English simple irregular past morphological form, which was the English regular past tense morphemes '-ed' for the irregular verb forms ('hurted' and 'hitted'), similar to those in the cloze test. The incorrect responses of using the non-finite verb form 'serving' were also found in the L1 French group. In line with the cloze test, such type of verb form was not used by the L1 Thai group.

The incorrect responses by the L1 Thai and the L1 French participants in both tasks showed that the L1 Thai group's incorrect responses were more variable than

the L1 French group both in terms of the rates of incorrect supplants of the English simple past tense morphemes and their use of different tenses in the contexts where only the simple past tense was appropriate.



CHAPTER 5 CONCLUSIONS

This chapter is organized as follows. Section 5.1 summarizes the main findings of the study. Section 5.2 presents theoretical and pedagogical implications. Section 5.3 spells out the limitations of the study and provides suggestions for future research.

5.1 Summary of the main findings

The present study aims at investigating the variability of the English past tense morphology by L1 Thai and L1 French learners, and examining whether the variability of English past tense morphology of L1 Thai and L1 French learners is caused by non-target-like syntactic representations according to the Failed Functional Features Hypothesis (FFFH), not the target-like syntactic representations according to the Missing Surface Inflection Hypothesis (MSIH).

Based on the FFFH, two hypotheses were set. Hypothesis 1.1 states that L1 Thai learners' incorrect suppliance of English past tense morphemes are significantly higher than those of L1 French learners in the cloze test and the grammaticality judgment test. Hypothesis 1.2 states that L1 Thai learners' asymmetric rates of correct suppliance between English regular and irregular past tense morphemes are significantly higher than those of L1 French learners in the cloze test and the grammaticality judgment test.

The results showed that the L1 Thai learners' incorrect suppliances of English past tense morphemes were significantly higher than those of the L1 French learners in both the cloze test and the grammaticality judgment test, confirming hypothesis 1.1. Moreover, asymmetries in the L1 Thai learners' correct suppliances of English simple past tense regular and irregular morphemes were also evidenced. The L1 Thai learners' correct suppliance rates significantly differed between English simple past tense regular and irregular morphemes in both tests. However, for the L1 French learners, their correct suppliance rates of English simple past tense regular morphemes were not significantly different from those of irregular past tense

morphemes in the cloze test and the grammaticality judgment test. Hypothesis 1.2 was therefore confirmed.

The findings of the study were in line with the predictions of the explanation assuming non-target-like syntactic representations, i.e. the FFFH, not the explanation assuming target-like syntactic representations, i.e. the MSIH.

According to the FFFH, fully-specified syntactic knowledge of an L2 grammatical feature can only be established in learners' L2 after the critical period only if that feature is activated in the learners' L1. It is impossible for L2 learners to reset parametric values already fixed in their L1. Therefore, it is assumed that L2 learners with an L1 which exhibits an identical L2 functional feature should be able to acquire such an L2 feature, but this assumption cannot be made for L2 learners whose L1 grammar does not possess an identical L2 feature. The data suggested that the L1 Thai learners' correct suppliance rates of English past tense morphemes were significantly lower than those of the L1 French learners in both tests. Moreover, the asymmetries in the L1 Thai learners' correct suppliance rates of English regular and irregular past tense morphemes were evidenced. It is assumed that the non-existence of the past feature in the Thai learners' L1 led to variable English past tense morphemes as well as the asymmetries of regular and irregular past tense morphemes as L2 English pastness cannot be acquired L1 Thai learners. Since the L2 French learners' production of English past tense morphemes was possibly based on target-like syntactic representations, the results therefore confirmed the FFFH.

The MSIH was problematic in explaining the variability of English past tense morphemes and the asymmetries between the correct suppliance rates of English regular and irregular past tense morphemes produced by the L1 Thai learners. According to the MSIH, if the grammatical representations of English past tense morphology had been available to the L1 Thai learners, the L1 Thai group should have provided approximately the same correct suppliance rates of English past tense morphemes as the L1 French group. Moreover, it could be assumed that if the L1 Thai learners had acquired the English past tense morphology, the asymmetries between correct suppliance rates of English regular and irregular past tense verbs

should not have been evidenced as both types of verbs are assumed to have syntactically-driven production and perception.

5.2 Implications of the study

Implications of the study are provided with respect to the theoretical and pedagogical contributions regarding L2 acquisition.

5.2.1 Theoretical implications

From the perspective of principles and parameters of Universal Grammar (UG), two broad perspectives regarding the implications of L2 variability of functional morphology have been proposed.

The first perspective supports the view that L2 learners could establish L2 target-like syntactic representations despite non-existence of an L2 functional feature value in their L1 (Lardiere, 1998a, 1998b, 2000, 2003; Prévost & White, 2000a, 2000b). Access to UG is fully available. Variability of an L2 syntactic feature reflects a processing problem in production. The Missing Surface Inflection Hypothesis (MSIH) proposed by Prévost and White (2000b) and Lardiere (2003) is a hypothesis based on this account.

The second perspective posits that variability of an L2 functional feature is a result of non-target-like syntactic representations in L2 grammars. Access to UG is available for L1 acquisition. However, opinions are divided on whether L2 learners suffer from a “global impairment” (Clahsen & Hong, 1995; Neeleman & Weerman, 1997) or a “local impairment” (Hawkins & Chan, 1997). Global impairment views that access to UG is impaired in adult L2 learners, whereas local impairment maintains that UG is complete but L2 acquisition is available only through L1 parameter settings. A hypothesis favoring local impairment is the Failed Functional Features hypothesis (FFFH) (Hawkins & Chan, 1997).

The results in the present study confirmed the latter perspective, specifically the local impairment view. The L1 Thai learners’ variability of English past tense morphology and asymmetry of English simple past tense regular and irregular

morphemes were evident and could be explained in relation to a non-target-like syntactic representation hypothesis, i.e. the FFFH, but not a target-like syntactic representation hypothesis, i.e. the MSIH. In a similar vein, the L2 French learners' production of English past tense morphemes was possibly based on fully-specified grammatical knowledge, supporting the FFFH.

In terms of UG, it could be possibly assumed that access to UG is partially available to adult L2 learners. UG is accessible only through L1 parameter settings. L2 functional categories which are not selected in the learners' L1 parameter settings are unavailable to the learners after the critical period. This non-existence of a functional feature in learners' L1, therefore, prevents them from acquiring such feature, and thus building a mental grammar like that of a native speaker.

Regarding the issues of mechanisms involved in processing regular and irregular functional morphology, two explanations have been proposed. The first is the dual mechanism model (Clahsen, 1999; Pinker, 1991; Pinker & Prince, 1991) and the second is the single mechanism model (McClelland & Patterson, 2002; Rumelhart & McClelland, 1986). The former model proposes that regular functional morphemes are generated by a grammar system, whereas the irregular ones are from lexical memory. The latter model views that both types of grammatical morphemes are processed by the same memory-based mechanisms. Data from the L1 Thai learners in the present study supported the dual mechanism model. If the learners had retrieved both types of English simple past tense morphemes from their memory, according to the single mechanism model, asymmetry between the two types of verb forms should not have been evident.

5.2.2 Pedagogical implications

The findings of the present study suggest the following pedagogical implications:

Firstly, the data showed that the L1 Thai learners' correct suppliance rates of English simple past tense regular and irregular verbs were significantly lower than those of the L1 French learners in both the cloze test and the grammaticality

judgment test. The findings supported the view that L1 Thai learners do not acquire English simple past tense morphology and have non-target-like grammatical representations of it. Moreover, the L1 Thai learners' correct suppliance rates of English simple past tense irregular verb forms were significantly higher than those of the regular ones. According to Hawkins and Liszka (2003), an English simple past tense irregular verb is possibly stored and retrieved as independent lexical item, whereas a regular verb is derived from syntactically-based processes. Based on this account, it could be assumed that the L1 Thai learners were better in supplying irregular past tense verb forms by using the whole word stored in their memory rather than applying past tense rules to a regular verb. Therefore, the English teachers of L1 Thai learners are suggested to develop teaching and learning materials which increase the students' opportunity to be exposed to both the regular and irregular verb forms of the English simple past tense. In addition, exercises focusing on practicing English simple past tense regular verb forms are recommended to L1 Thai learners to enhance their ability to use such verb forms.

Secondly, the data for the present study were collected through two task types, i.e. the cloze test and the grammaticality judgment test. The cloze test aimed at investigating the participants' production of the English simple past tense morphemes. The grammaticality judgment test focused on examining the participants' perception of such L2 features. The findings showed that the L1 Thai learners' correct suppliance rates of English simple past tense morphemes in the cloze test were significantly lower than those of the grammaticality judgment test. This showed that the learners performed better in a perception test than a production test. Therefore, the English teachers of L1 Thai learners are recommended to design teaching and learning materials which include both types of tasks, namely production and perception exercises. It is also suggested that the learners focus more on using English simple past tense verbs in production tasks, for example, a story-telling task or a narration task focusing on past events, and a speaking task which includes the application of the English simple past tense verbs in context. These tasks would help develop L1 Thai learners' production of the English simple past tense verbs.

5.3 Limitations and suggestions for future research

The present study shows three limitations and recommendations:

Firstly, the data of the present study were collected through the cloze test and the grammaticality judgment test. These two tests were offline and controlled elicitation tasks aiming at target-feature responses, i.e. English simple past tense morphemes. Future research on the issue with an online methodology; i.e. including a natural production task such as an oral narrative task and a self-paced reading task, are recommended as they would provide more insightful data on how L2 learners process and produce English simple past tense morphemes.

Secondly, the study was focused on advanced L1 Thai and L1 French learners. Future research on variability of English simple past tense morphology with data from different levels of L2 learners is suggested. For example, comparison on the use of a grammatical feature between intermediate and advanced L2 learners could give more insight into the developmental processes and variability of English simple past tense morphology.

Thirdly, the present study focused on variability of English simple past tense morphology by L1 Thai and L1 French learners. Further studies on other grammatical features which are absent from the Thai language but exist in English and other languages (e.g. plural morphemes or simple present tense morphemes) are suggested. This would yield more evidence for further understanding of the two perspectives on L2 variability of functional morphology.

Lastly, as the targeted verbs used in the study were mostly frequently used verbs based on the Corpus of Contemporary English and the British National Corpus, future research on the topic with less frequent verbs are recommended as they might give clearer pictures of the phenomena.



Appendix A: Details of the L1 Thai learner participants

Participant	Age	OPT score
1	20	77
2	20	81
3	20	75
4	20	75
5	19	79
6	18	77
7	18	77
8	20	74
9	18	73
10	18	75
11	19	76
12	19	73
13	18	74
14	19	75
15	19	77
16	18	74
17	19	78
18	18	73
19	18	74
20	19	74
21	20	75
22	18	75
23	19	76
24	18	77
25	19	77
26	19	77
27	19	78

28	18	80
29	19	76
30	20	75



Appendix B: Details of the L1 French learner participants

Participant	Age	OPT score
1	16	80
2	16	74
3	16	77
4	18	73
5	16	74
6	17	78
7	16	78
8	16	76
9	16	80
10	16	76
11	16	77
12	16	75
13	16	78
14	16	73
15	16	74
16	24	73
17	16	80
18	16	78
19	16	77
20	16	75
21	17	73
22	17	74
23	16	83
24	16	76
25	18	75
26	20	88
27	24	78

28	26	78
29	16	79
30	20	77



Appendix C: Cloze test

Instruction: Fill in the blanks by using the words given in parentheses in their grammatical form.

Example 1

1. Your pink (sweater) _____ are over there.

Fill in the blank by using the words given in a parenthesis in their grammatical form.

1. Your pink (sweater) sweaters are over there.

You have 30 minutes to complete the task.

DO NOT return to the previous items to change answers.

You can submit the task once you finish.

Warm up:

- i. My new phone is (cheap) _____ than my last phone.
- ii. The (apple) _____ on the table are from Jane's farm.
- iii. My brother ran (quick) _____ to catch the bus.

1. On their way home, William eagerly (ask) _____ questions about Mary's trip with interest.
2. The (child) _____ play together in the backyard.
3. A scientist (discover) _____ penicillin in a very fascinating way.
4. He is (heavy) _____ than his brother.
5. John (finish) _____ his speech after being shot in the chest.
6. It is (awful) _____ cold today.
7. In the last game of the season, he (help) _____ the team win the national championship game by scoring 25 points.
8. The (bag) _____ on the shelves belong to Cara.
9. During her lifetime, Margaret Thatcher (serve) _____ as the Prime Minister of Britain for three terms.

10. Jane speaks French (good) _____ than Spanish.
11. She (show) _____ him how to use a camera on their first date.
12. These photos are all (good) _____ kept in the basement.
13. He (start) _____ his acting career as a child.
14. There are many (worker) _____ in the office today.
15. The woman (turn) _____ her car before crashing into the lorry.
16. The country is full of (beauty) _____ valleys.
17. My dog (hurt) _____ his back leg while running in the field.
18. He (patient) _____ waited for her at the hair salon for three hours.
19. The second plane (hit) _____ the World Trade Center shortly after the first plane.
20. There are a few (student) _____ going on school today.
21. Meg (be) _____ very young when meeting the queen.
22. My (Japan) _____ friend can speak four languages.
23. My father (have) _____ a strange experience in high school.
24. I have a lot of (cat) _____ in my house.
25. Oprah Winfrey (begin) _____ her career in radio and television broadcasting in Nashville.
26. It is (danger) _____ to go out alone at night.
27. Shakespeare (write) _____ several famous plays.
28. She plays tennis (excellent) _____ on Saturday.
29. After receiving a call from Jim, he suddenly (leave) _____ the house.
30. Catherine (meet) _____ her husband on an online dating service.

Appendix D: Grammaticality judgment test

Instructions: Read each sentence. Put a ✓ mark in the blank in front of the sentence that you think the underlined item is grammatical or a ✗ mark in front of the sentence that you think the underlined item is ungrammatical. Please also provide a correction to the ungrammatical item in the space given at the bottom of each sentence.

Example 1

_____ 1. The nurses take good care of the patients in the hospital.

Correction _____

If you think the underlined item is grammatical, put the ✓ mark in the blank in front of the sentence.

_____✓_____ 1. The nurses take good care of the patients in the hospital.

Correction _____

Example 2

_____ 2. John drove the car careful up the hill.

Correction _____

If you think the underlined item is ungrammatical, put the ✗ mark in the blank in front of the sentence and provide a correction.

_____✗_____ 2. John drove the car careful up the hill.

Correction _____ carefully _____

You have 30 minutes to complete the task.

DO NOT return to the previous items to change answers.

You can submit the task once you finish.

Warm up:

_____ i. The women rarely have enough time to eat.

Correction: _____

_____ ii. The boy smiled happy when seeing the birthday cake.

Correction: _____

_____ iii. Henry is staying home today instead to going out.

Correction: _____

_____ 1. She asked the wrong person for advice on how to play chess.

Correction: _____

_____ 2. The man sitting by the window is my colleague.

Correction: _____

_____ 3. The late Theodore Roosevelt serving as the 26th President of the United States.

Correction: _____

_____ 4. One of the most expensive flower is lily of the valley.

Correction: _____

_____ 5. I showed him the pictures of my family.

Correction: _____

_____ 6. Tree are planted in greenhouse in cold climates.

Correction: _____

_____ 7. She nervously turned to her dad for support.

Correction: _____

_____ 8. Judy likes to buy clothes that are colorful, modern and inexpensive.

Correction: _____

_____ 9. James Chadwick discover the neutron while working at the Cavendish Laboratory.

Correction: _____

_____ 10. Going to the cinema and reading novels are my ways to relax.

Correction: _____

_____ 11. He finish the last race in fifth place.

Correction: _____

_____ 12. The steak cooked by your mother is very delicious.

Correction: _____

_____ 13. The police helped Danny out of the car after the accident.

Correction: _____

_____ 14. Carrots are now found in much colors including white, yellow, orange and purple.

Correction: _____

_____ 15. She starting her business with only 100 dollars.

Correction: _____

_____ 16. The girl sang the song loudly at the concert.

Correction: _____

_____ 17. The red car hit my bicycle from behind.

Correction: _____

_____ 18. The new vacuum cleaner works smooth and quietly.

Correction: _____

_____ 19. Michael hurting his ankle during the charity football match.

Correction: _____

_____ 20. We often go out at night.

Correction: _____

_____ 21. She had such a good time at the party.

Correction: _____

_____ 22. Roses are found in an incredibly largely range of sizes and colors.

Correction: _____

_____ 23. Grace be in my class at primary school.

Correction: _____

_____ 24. Both Carrie and Don will join the party.

Correction: _____

_____ 25. Mary wrote several letters during her time abroad.

Correction: _____

_____ 26. Both Sarah or Tim went to the market.

Correction: _____

_____ 27. Dylan accidentally meeting his old friend on the plane to New York.

Correction: _____

_____ 28. We will travel in train.

Correction: _____

_____ 29. My mother left the window open all weekend.

Correction: _____

_____ 30. The space race begin with the launch of the world's first satellite, Sputnik.

Correction: _____



Appendix E: Item-Objective Congruence (IOC) scores for the cloze test and the grammaticality judgment test

Cloze test

Item no.	Expert 1	Expert 2	Expert 3	Average
1	1	1	1	1
3	1	1	1	1
5	1	1	1	1
7	1	1	1	1
9	1	1	1	1
11	1	1	1	1
13	1	1	1	1
15	1	1	1	1
17	1	1	1	1
19	1	1	1	1
21	1	1	1	1
23	1	1	1	1
25	1	1	1	1
27	1	1	1	1
29	1	1	1	1
30	1	1	1	1
Average				1

Grammaticality judgment test

Item no.	Expert 1	Expert 2	Expert 3	Average
1	1	1	1	1
3	1	1	1	1
5	1	1	1	1
7	1	1	1	1
9	1	1	1	1
11	1	1	1	1
13	1	1	1	1
15	1	1	1	1
17	1	1	1	1
19	1	1	1	1
21	1	1	1	1
23	1	1	1	1
25	1	1	1	1
27	1	1	1	1
29	1	1	1	1
30	1	1	1	1
Average				1

Appendix F: Details of L1 Thai learner participants in the pilot study

Participant	Age	Faculty	OPT score	Proficiency
1	19	Medicine	62	Intermediate
2	20	Medicine	62	
3	19	Medicine	63	
4	20	Medicine	64	
5	20	Medicine	65	
6	20	Medicine	67	
7	20	Medicine	68	
8	20	Medicine	70	
9	20	Medicine	70	
10	20	Medicine	71	
11	20	Medicine	74	Advanced
12	20	Medicine	75	
13	20	Medicine	77	
14	19	Medicine	77	
15	20	Medicine	78	
16	20	Medicine	81	
17	20	Medicine	82	
18	20	Medicine	83	
19	20	Medicine	84	
20	20	Medicine	90	

Appendix G: Grammaticality judgment test for the pilot study

Directions: Put a ✓ mark in the blank in front of the sentence that you think the underlined item is grammatical or a ✗ mark in front of the sentence that you think the underlined item is ungrammatical. Please also provide a correction to the ungrammatical item in a space given at the bottom of each sentence.

You have 25 minutes to complete the task.

DO NOT return to the previous items to change answers

_____ 1. He finishing the race in fifth place.

Correction _____

_____ 2. The nurse take good care of the patients in the hospital.

Correction _____

_____ 3. Bill Clinton serving as the 42nd President of the United States.

Correction _____

_____ 4. Tree are planted in the greenhouse in cold climates.

Correction _____

_____ 5. She angrily turning to him after his argument with her dad for support.

Correction _____

_____ 6. Frank start his first day at kindergarten by crying all the way from home to school.

Correction _____

_____ 7. John drove the car very careful up the hill.

Correction _____

_____ 8. She asking the wrong person for advice on how to play chess.

Correction _____

_____ 9. We live in the room who has no window.

Correction _____

_____ 10. James Chadwick discover the neutron while working at the Cavendish Laboratory.

Correction _____

_____ 11. Carrots are now found in much colors including white, yellow, orange and purple.

Correction _____

_____ 12. I show him the pictures of my family and I.

Correction _____

_____ 13. Every student have their own tablet.

Correction _____

_____ 14. Danny help him lift the fallen girl into a sitting position.

Correction _____

_____ 15. Cara arrive at the prom without any makeup.

Correction _____

_____ 16. One of the most expensive flower is lily of the valley.

Correction _____

_____ 17. Susan call repeatedly without leaving any message.

Correction _____

_____ 18. The computer in that room are broken.

Correction _____

_____ 19. He carry a small bucket full of carrots on his visit to Joe's house.

Correction _____

_____ 20. Gillian change her name after reading the novel.

Correction _____

_____ 21. I am exciting about the next performance.

Correction _____

_____ 22. She deciding to take a long bath after a 10-hour delayed flight.

Correction _____

_____ 23. The girl really enjoy the surprises.

Correction _____

_____ 24. Paris is the city whose I love the most.

Correction _____

_____ 25. He cooking perfectly grilled steak and delicious mashed potatoes for our dinner.

Correction _____

_____ 26. The steak cooking by your mother is very delicious.

Correction _____

_____ 27. Cynthia cry harder after hearing about the second car crash.

Correction _____

_____ 28. Tom begin writing his first novel at the age of 40.

Correction _____

_____ 29. She give her a doll for her birthday.

Correction _____

_____ 30. Judy likes to buy clothes that are colorful, modernity and inexpensive.

Correction _____

_____ 31. Susan sung the national anthem beautifully at the football game.

Correction _____

_____ 32. Dylan accidentally meet his primary school teacher on the plane on his way to New York.

Correction _____

_____ 33. I enjoy talk to her about her experience abroad.

Correction _____

_____ 34. My mom leaving the windows open all weekend during the rain storm.

Correction _____

_____ 35. Going to the cinema and read novels are my ways to relax.

Correction _____

_____ 36. Brian sleeping so soundly until dawn.

Correction _____

_____ 37. She leading the team to victory at the annual volleyball match.

Correction _____

_____ 38. Roses are found in an incredibly range of sizes and colors.

Correction _____

_____ 39. Grace is in my class at primary school.

Correction _____

_____ 40. She have such a good time at the party.

Correction _____

_____ 41. The new vacuum cleaner works smooth and quietly.

Correction _____

_____ 42. Eva go home right away after the disastrous dinner with the Johnson's.

Correction _____

_____ 43. The firefighter doing their best to rescue the baby.

Correction _____

_____ 44. Both Carrie or Don will join the party.

Correction _____

_____ 45. She set the formal dinner table beautifully with the dinnerware from China.

Correction _____

_____ 46. Michael hurting his ankle during the charity football match.

Correction _____

_____ 47. I will visit my aunts at January.

Correction _____

_____ 48. Mary write several letters during her time abroad.

Correction _____

_____ 49. My grandmother hitting her head on the floor while walking into the bathroom.

Correction _____

_____ 50. Tom cutting himself while preparing breakfast for John.

Correction _____

Appendix H: Cloze test for the pilot study

Directions: Fill in the blank by using the word given in a parenthesis in its grammatical form.

You have 15 minutes to complete the task.

DO NOT return to the previous items to change answers.

1. President Roosevelt (finish) _____ his speech after being shot in the chest.
2. (coffee) _____ in this cup is too sweet.
3. After Alex's retirement party, Caroline (start) _____ washing all the dishes by hand.
4. (sports) _____ which John likes most are football and swimming.
5. After her return, William (ask) _____ questions about Mary's trip with genuine interest.
6. He is (heavy) _____ than his brother.
7. Margaret Thatcher (serve) _____ as the Prime Minister of Britain for three terms.
8. Jane speaks French (good) _____ than Spanish.
9. Alexander Fleming (discover) _____ penicillin in a very fascinating way.
10. The (child) _____ play together in the backyard.
11. Lionel Messi (show) _____ a natural talent for football at an early age.
12. I am (please) _____ by the classical music we heard at the theatre.
Nashville.
13. He (help) _____ the team win the national championship game by scoring 25 points.
14. These photos are all (good) _____ kept in the basement.
15. The woman (turn) _____ her car around to head the wrong way before crashing into the lorry.
16. Oprah Winfrey (begin) _____ her career in radio and television broadcasting in Nashville.

17. The (bag) _____ on the shelves belong to Cara.
18. He (patient) _____ wait for her at the hair salon for three hours.
19. Shakespeare (write) _____ several famous plays.
20. There are many (worker) _____ in the office today.
21. My dog (hurt) _____ his back leg while running in the field.
22. Catherine (meet) _____ her husband on an online dating service.
23. There are a few (student) _____ going to school today.
24. I am (interest) _____ in studying about German history.
25. He suddenly (leave) _____ the house after the phone call from Jim.
26. After placing the order online, Peter (be) _____ at home all day waiting for the package to arrive.
27. I have a lot of (cat) _____ in my house.
28. My father (have) _____ a strange experience in high school.
29. It is (awful) _____ cold today.
30. Usain Bolt (set) _____ a new world record of 9.69 seconds for 100 meter running at the Olympics.

Appendix I: Item-Objective Congruence (IOC) scores for the grammaticality judgment test and the cloze test for the pilot study

Grammaticality Judgment Test

Item no.	Expert 1	Expert 2	Expert 3	Average
1	1	1	1	1
3	1	1	1	1
5	1	1	1	1
6	1	1	0	0.67
8	1	1	1	1
10	1	1	1	1
12	1	1	1	1
14	1	1	1	1
15	1	1	1	1
17	1	1	1	1
19	1	1	1	1
20	1	1	1	1
22	1	1	1	1
23	1	1	1	1
25	1	1	1	1
27	1	0	1	0.67
28	1	1	1	1
29	1	1	1	1
31	1	0	1	0.67
32	1	0	1	0.67
34	1	1	1	1
36	1	1	1	1
37	1	1	1	1
39	1	1	1	1

40	1	1	1	1
42	1	1	1	1
43	1	0	1	0.67
45	1	0	1	0.67
46	1	1	1	1
48	1	1	1	1
49	1	1	1	1
50	1	1	1	1
Average				0.94

Cloze Test

Item no.	Expert 1	Expert 2	Expert 3	Average
1	1	1	1	1
3	0	1	1	0.67
5	0	1	1	0.67
7	1	1	1	1
9	1	1	1	1
11	1	1	1	1
13	1	1	1	1
15	1	1	1	1
16	1	1	1	1
19	1	1	1	1
21	1	1	1	1
22	1	1	1	1
25	1	1	1	1
26	0	1	1	0.67
28	1	1	1	1
30	1	1	1	1
Average				0.94

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