การรับอาร์กิวเมนต์แบบไม่อรูปในภาษาอังกฤษเป็นภาษาที่สองโดยผู้เรียนชาวไทยที่ใช้ภาษาไทยเป็นภาษาแรก

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THE ACQUISITION OF L2 ENGLISH NON-NULL ARGUMENTS BY L1 THAI LEARNERS

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A Thesis Submitted in Partial Fulfillment of the Requirements

for the Degree of Master of Arts Program in English

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อิสรา นามตาปี : การรับอาร์กิวเมนต์แบบไม่อรูปในภาษาอังกฤษเป็นภาษาที่สองโดยผู้เรียนชาวไทยที่ใช้ภาษาไทยเป็นภาษาแรก (THE ACQUISITION OF L2 ENGLISH NON-NULL ARGUMENTS BY L1 THAI LEARNERS) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: รศ. ดร. ณัฐมา พงศ์ไพโรจน์, 205 หน้า.

งานวิจัยนี้ศึกษาการรับอาร์กิวเมนต์แบบไม่อรูปในภาษาอังกฤษเป็นภาษาที่สองโดยผู้เรียนชาวไทยที่ใช้ภาษาไทยเป็นภาษาแรก กล่าวคือ พวกเขาสามารถตระหนักรู้และแก้ไขประโยคที่มีอาร์กิวเมนต์แบบอรูปและแต่งประโยคที่มีอาร์กิวเมนต์แบบปรากฏรูปได้หรือไม่ อาร์กิวเมนต์แบบอรูปในภาษาไทยสามารถปรากฏได้แทบทุกตำแหน่งในประโยค อีกทั้งการใช้อาร์กิวเมนต์แบบอรูปเป็นที่นิยมกว่าแบบไม่อรูปในภาษาไทย ทว่าอาร์กิวเมนต์ในทำเนียบภาษาอังกฤษมาตรฐานไม่สามารถละได้เลย ด้วยเหตุนี้ งานวิจัยนี้จึงสำรวจว่าผู้เรียนชาวไทยที่เรียนภาษาอังกฤษเป็นภาษาที่สองสามารถปฏิเสธประโยคที่มีอาร์กิวเมนต์แบบอรูปและเติมอาร์กิวเมนต์แบบปรากฏรูปในประโยคที่ผิดไวยากรณ์ลักษณะดังกล่าวได้หรือไม่ สืบเนื่องจากสมมติฐานความแตกต่างเชิงแปลกเด่น (MDH) ผู้วิจัยตั้งสมมติฐานว่าผู้เรียนชาวไทยมีอุปสรรคในการรับอาร์กิวเมนต์แบบไม่อรูปในภาษาอังกฤษเป็นภาษาที่สองเนื่องจากการละอาร์กิวเมนต์มีความแปลกเด่นน้อยกว่าในขณะที่การคงรูปอาร์กิวเมนต์มีความแปลกเด่นมากกว่า งานวิจัยใช้ตัวแปรสามประเภทที่คาดว่าจะส่งผลต่อการรับอาร์กิวเมนต์แบบไม่อรูป คือ ความมีชีวิตของสรรพนาม ประเภทของอนุพากย์ และบุพบทวลี ผู้วิจัยให้นักศึกษารับดับปริญญาตรีที่มีสมิทธิภาพภาษาอังกฤษระดับกลาง 31 คน และระดับสูง 31 คน ทำแบบทดสอบตัดสินความถูกต้องทางไวยากรณ์และแบบทดสอบแปลบทสนทนาไทย-อังกฤษ ผลการวิจัยจากแบบทดสอบตัดสินความถูกต้องทางไวยากรณ์บ่งชี้ว่าความสามารถในการตระหนักรู้อาร์กิวเมนต์แบบอรูปสอดคล้องกับสมิทธิภาพทางภาษาอังกฤษที่เพิ่มขึ้น ส่วนผลการวิจัยจากแบบทดสอบแปลบทสนทนาไทย-อังกฤษบ่งชี้ว่าผู้เรียนทั้งสองกลุ่มผ่านเกณฑ์การรับภาษา 80 เปอร์เซ็นต์ การทดสอบความแตกต่างของค่ากลางของสองประชากรแบบไม่อิสระถูกนำมาใช้เพื่อพิจารณาว่าตัวแปรทั้งสามชนิดส่งผลต่อการรับอาร์กิวเมนต์แบบไม่อรูปหรือไม่ ผู้วิจัยพบว่าประเภทของอนุพากย์และบุพบทวลีส่งผลต่อการตัดสินความถูกต้องทางไวยากรณ์ของผู้เรียนที่มีความรู้ภาษาอังกฤษระดับกลาง ในขณะที่ความมีชีวิตของสรรพนามส่งผลต่อการแปลประโยคในแบบทดสอบแปลบทสนทนาไทย-อังกฤษ ซึ่งเป็นไปตามลำดับความมีชีวิตของสรรพนามสากลและลำดับการลดรูป ผู้วิจัยเสนอว่าความเด่นด้านการรับรู้เป็นปัจจัยทำให้ผู้ทดลองกลุ่มนี้ตระหนักรู้ประธานในอนุพากย์หลักได้ดีกว่าในอนุพากย์ซ้อน และการขาดความรู้ด้านอาร์กิวเมนต์และส่วนขยายรวมส่งผลให้พวกเขายอมรับกรรมอรูปที่ตามด้วยบุพบทวลีมากกว่าที่ไม่มีบุพบทวลีตามหลัง ในส่วนของผู้ทดลองที่มีสมิทธิภาพภาษาอังกฤษระดับสูง ผู้วิจัยพบว่าประเภทของอนุพากย์ส่งผลต่อการตัดสินความถูกต้องทางไวยากรณ์ของพวกเขา ผู้วิจัยเสนอว่าการสื่อสารแบบไม่เป็นทางการส่งผลให้พวกเขาละประธานในอนุพากย์หลัก ผู้วิจัยยังพบว่าประเภทสถานการณ์ของกริยาส่งผลต่อการตระหนักรู้ประโยคที่มีการละกรรมของผู้ทดลองกลุ่มนี้อีกด้วย กล่าวคือ พวกเขามีแนวโน้มที่จะละกรรมของกริยาแสดงสภาวะมากกว่ากรรมของกริยาแสดงอาการ ซึ่งอาจเป็นเพราะอาร์กิวเมนต์ของกริยาแสดงอาการมีความเด่นกว่าอาร์กิวเมนต์ของกริยาแสดงสภาวะ นอกจากนี้ ผู้วิจัยยังเสนอว่ารูปแบบอสมมาตรระหว่างภาวะการรับรู้และการผลิตอาร์กิวเมนต์แบบไม่อรูปอาจเกิดจากการถ่ายโอนจากการเรียน

ภาควิชา ภาษาอังกฤษ ลายมือชื่อนิสิต .....

สาขาวิชา ภาษาอังกฤษ ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

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ITSARA NAMTAPI: THE ACQUISITION OF L2 ENGLISH NON-NULL ARGUMENTS BY L1 THAI LEARNERS. ADVISOR: ASSOC. PROF. NATTAMA PONGPAIROJ, Ph.D., 205 pp.

The study explored the acquisition of L2 English non-null arguments by L1 Thai learners, i.e. whether they were able to recognize sentences with null arguments and produce sentences with non-null arguments. Null arguments in Thai can appear in almost any sentential positions and the use of null pronouns in Thai are more preferable than the use of their overt counterparts, while arguments in the English formal register are not allowed to be omitted at all. It is therefore worthwhile investigating whether L1 Thai learners of L2 English can reject English sentences with null arguments and supply overt arguments in the ungrammatical sentences. Based on Markedness Differential Hypothesis (MDH), it is hypothesized that Thai learners have difficulty acquiring L2 English non-null arguments since argument dropping is unmarked while argument retention is marked. The study employed three variables which presumably affected the acquisition, namely animacy, clause types, and prepositional phrases (PPs). A grammaticality judgment task (GJT) and a Thai-English dialogue translation task (DTT) were administered to 31 intermediate and 31 advanced undergraduate L1 Thai students. The results from the GJT suggested that sensitivity to recognize null arguments increased with higher proficiency, whereas those from the DTT showed that both groups met the acquisition criterion of 80%. Paired-samples *t*-tests were performed to determine whether the three variables affected the acquisition. As for the intermediate group, it was found that clause types and PPs affected their judgments in the GJT, while animacy influenced their production in the DTT, adhering to an alignment of the universal animacy hierarchy and a reduction scale. It is proposed that perceptual saliency could account for the intermediate participants' preference for null embedded subjects over null matrix subjects and that the lack of argument/adjunct knowledge could account for the intermediate participants' preference for null object sentences followed by a PP over null object sentences without a PP following. As for the advanced group, it was found that clause types affected their judgments in the GJT. It is proposed that informal styles of communication influenced the advanced participants' preference for null matrix subjects. It was also found that situation types of verbs affected the advanced group's judgment on null object sentences. That is, they tended to omit objects of stative verbs more frequently than those of dynamic verbs, which was probably due to the fact that arguments of a dynamic verb are more salient than those of a stative one. In addition, the asymmetrical pattern of recognition and production can probably be accounted for by transfer of training.

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Student's Signature .....
Advisor's Signature .....

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Introduction

1.1 Background of the study

Second language acquisition (SLA) is simply defined as the way in which one learns a language aside from his/her native language during late childhood, adolescence, or adulthood after he/she has acquired his/her mother tongue (Ellis, 1997; Ortega, 2009). It is generally acknowledged to have its starting point, as a systematic and scientific discipline, in the mid twentieth century (Thomas, 2013). English as a lingua franca is undeniably studied as a second language worldwide and is spoken with a greater dispersion than any other languages (Crystal, 2012). In the world of academia, more and more textbooks used and lectures delivered in universities throughout the world are in English.

It has long been debated, however, whether L2 learners whose mother tongue is similar to the target language (TL) have less difficulty acquiring the L2 compared to those whose native language is different from the TL. This being the case, Chinese, Korean, and Japanese learners, for example, will possibly have problems acquiring English because they are starkly different, ranging from their alphabet systems to verb conjugation.

Among many linguistic differences between the aforementioned Asian languages and English, one drastic difference is that Chinese, Korean, and Japanese allow arguments to drop and to recover their antecedents from contexts (Huang, 1984).

They are thus referred to as null argument languages (Lillo-Martin, 1991). By contrast, English basically requires overt arguments, so it is referred to as a non-null argument language (Lillo-Martin, 1991).

It is well-documented that learners whose mother-tongues are null argument languages have problems in the acquisition of non-null arguments in L2 English. For example, L2 learners of L1 Chinese (Xiaolu, 1994; Yuan, 1997; Kong, 2001, 2005, 2007; Hsieh, 2008), L1 Korean (Kim, 2007), and L1 Japanese (Wakabayashi & Negishi, 2003) have been witnessed in the literature to have difficulty acquiring argument retention in English.

As is the case for Chinese, Japanese, and Korean, Thai is considered as a null argument language (Kobsiriphat, 1988; Hoonchamlong, 1991; Phimswat, 2011). Sentential subjects and objects can freely be dropped in Thai provided that their referents can be retrieved from context, while those in English must be overt, as exemplified below:

(1) A: tʰɤ̀ː tɕ àːi kʰâːtʰɔ̀ːm jaŋ
you pay tuition fees yet

"Have you paid the tuition fees yet?"

B: Ø tɕ àːi Ø lǽːw
Ø pay Ø already

"(I) have paid (them) already."

(2) A: Where did Somsri buy this straw hat?

B: She bought it from Pattaya.

C: *Bought it from Pattaya.

D: *She bought from Pattaya.

In Thai, arguments can be omitted with almost no restriction (cf. Phimswat (2011)) as shown in (1) where the null subject and object in B's response are coindexed with "you" and "tuition fees", respectively, in A's question. Neither the subject nor the object has to be overt, and the presence of the referential pronoun "them" even causes unnaturalness to B's response due to discourse redundancy. In English, by contrast, arguments must be overt as shown in C's and D's responses to A's question in (2). Since "buy" is a two-place predicate that takes two obligatory arguments, the absence of referential pronouns "she" and "it" in C's and D's responses, respectively, causes the ungrammaticality of the sentences.

Given the typological difference between Thai and English, it is interesting to find out what will happen when L1 Thai learners acquire argument retention in L2 English. To the best of my knowledge, however, there has been only one research in the acquisition of L2 English non-null arguments by L1 Thai learners (Meechanyakul & Singhapreecha, 2013), which investigated their perception of null and non-null arguments in L2 English by using clause types as a variable. For this reason, this thesis will fill in the gap by exploring problems in the acquisition of L2 English non-null arguments on both perception and production by L1 Thai learners. On top of that, two

more variables, i.e. animacy and the presence/absence of a prepositional phrase, will be employed to see whether they affect the acquisition.

Furthermore, it is worth noting that most of the previous research has been undertaken within the principles-and-parameters model and centered on the issue of parameter resetting. Put it more generally, it seeks to find out whether the resetting from the [+ null argument] to the [- null argument] value can take place and what positive evidence in the L2 input that triggers the acquisition. By contrast, this thesis considers the difficulty in the acquisition from a marked/unmarked perspective. Eckman's (1977) Markedness Differential Hypothesis (MDH) is employed to predict the relative degree of difficulty L1 Thai learners probably encounter during the process of language acquisition. More specifically, the typological-universal-based hypothesis predicts that L1 Thai learners have problems acquiring non-null arguments, given that argument retention is marked, while argument dropping is unmarked in the world's languages.

1.2 Objectives

The objectives of this thesis were:

1) To see whether L1 Thai learners have difficulty perceiving and producing non-null arguments in L2 English

2) To examine the effect of clause types, the presence/absence of prepositional phrases, and animacy on the acquisition of non-null arguments in L2 English

1.3 Hypotheses

The hypotheses of this thesis were:

1) L1 Thai learners have problems in the acquisition of non-null arguments in L2 English.

2) Asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to variables of animacy, prepositional phrases, and clause types.

This thesis is organized as follows. Chapter 2 covers related concepts and theories, namely Contrastive Analysis (CA), Error Analysis (EA), Interlanguage (IL), Markedness Theory (MT), and saliency. It also reviews some major pioneering research on null subjects, followed by a thorough review of studies exploring the null argument phenomenon among learners whose L1s allow both null subjects and objects. Chapter 3 discusses arguments, null arguments, and related concepts. It also thoroughly reviews the status of non-null arguments in English and null arguments in Thai. Chapter 4 details the methodology utilized in the present study, including participants, research instruments, data collection, and data analysis. Chapter 5 presents the results obtained from the experiment and provides possible explanations relevant to each aspect of the study. Chapter 6 concludes the major findings, provides some pedagogical implications, reveals several limitations, and gives suggestions to future research.

Chapter 2
Literature Review

This chapter is organized as follows. 2.1 introduces theories and concepts that are related to the current study. 2.2 reviews previous studies on the null argument phenomenon among L2 English learners.

2.1 Related theories and concepts

This section presents theories and concepts on second language acquisition that are related to the study, namely Contrastive Analysis (2.1.1), Error Analysis (2.1.2), Interlanguage (2.1.3), Markedness Theory (2.1.4), and saliency (2.1.5).

2.1.1 Contrastive Analysis (CA)

> "In the heyday of structural linguistics and the pattern practice language teaching methodology which derived insights and justification from such an approach to linguistic description, nothing seemed of greater potential value to language teachers and learners than a comparative and contrastive description of the learner's mother tongue and the target language"
>
> (Candlin 1980, i)

Lado (1957), following the viewpoint made by Fries, was considered an early CA proponent who proposed the Contrastive Analysis Hypothesis (CAH), which enabled one to predict L2 learners' errors by identifying the linguistic differences and similarities between L1 and L2 (Ellis, 1994). Subsequently, this theory was widely employed and supported by a large number of linguists. In fact, CA had both a psychological aspect

based on a behaviorist learning theory and a linguistic aspect based on structuralist linguistics (Ellis, 1985). The psychological perspective takes the form of CAH. Wardhaugh (1970) proposed the terms "the strong version" to the predictive use of CA and "the weak version" to the explanatory counterpart, whereas Schachter (1974), having employed the terminological distinction "a priori versus a posteriori" proposed by Gradman (1971), applied the terms "CA a priori" and "CA a posteriori" to the predictive and explanatory application of CA, respectively. Indeed, the strong version is what CA primarily based upon; however, this version had been proved to be impractical and too powerful in that it required a linguist a large and comprehensive body of linguistic knowledge between the two languages to predict learners' errors (Wardhaugh, 1970). On top of that, overpredicted and underpredicted problems, which occurred when CA a priori failed to predict some errors and when it predicted some errors that failed to occur, respectively, also resulted in the inadequacy of this strong version of CA (Dulay & Burt, 1974). The linguistic perspective, on the other hand, involves the application of several different models of grammar to compare and contrast two languages (Ellis, 1985). For example, Prator (1967) proposed a "hierarchy of difficulty" to order aspects of two languages from zero to greatest difficulty. As Ellis (1985) exemplified, the contracted form "J'ai" in French is equivalent to the contracted form "I've" in English. Therefore, L1 French speakers probably have no difficulty using this contraction. "Divergent phenomena" (one item in the L1 becomes two items in the L2), by contrast, is said to be the most difficult category; for instance,

English “the” diverges into French “le” and “la” (Ellis, 1985). L1 English speakers might thus have great difficulty using these two articles in French since the distinction is not made in English. The linguistic aspect of CA was, however, soon proved to be flawed as subsequent research has revealed that the degree of linguistic difference may not correspond to the degree of learning difficulty. As Ellis (1985, p. 31) exemplified, “It may be possible to argue that the absence in the TL of a different word order rule for main and subordinate clauses constitutes a smaller degree of difference than a totally distinctive rule for negatives”. There is no basis to claim that the former is easier than the latter, however.

In the early 1970s, CA received a great deal of criticism which can be divided, according to Ellis (1985), into three major types. First, there were doubts regarding the ability of CA to predict errors. That is, empirical research has revealed radically different percentage of errors resulting from mother-tongue interference. For example, Lott (1983) investigated L2 English grammar production of L1 Italian speakers and found that as high as 50 percent of errors resulting from interference. On the other hand, Dulay and Burt (1973) collected speech data of Spanish-speaking children learning English and found that merely 3 percent of errors were traceable to the L1. Indeed, Dulay and Burt’s (1974) research generated a powerful attack on CAH in that if as little as three percent of learners’ errors were the result of interference, then the comparison between the L1 and L2 explained nothing much about the process of SLA; CAH was thus proved to be inapplicable. The second problem is concerned with the

theoretical framework of CA. One major criticism was given by Chomsky's (1959) review of Skinner's "Verbal Behavior". He argued against Skinner's studies of animal behavior that they showed nothing about how humans learn language in natural conditions (Ellis, 1985). The behaviorists' notion "stimulus-response" was therefore dismissed since, according to Ellis (1985, p. 30), "it was not possible to tell what constituted the stimulus for a given speaker response". Moreover, Skinner's concept of "analogy" holding that language users create new sentences by imitating other people's utterances has proved to be wrong since children can produce utterances from their own competence and need not receive stimulus to learn new habits (Ellis, 1985). These criticisms of the behaviorist learning theory, initially associated with L1 acquisition, soon spread to SLA. As Ellis (1985, p. 30) put it, "If language learning could not be explained in terms of habit-formation, then clearly the central notion of interference was bound to be challenged". One critical question that posed a challenge to CA is therefore "what exactly interference consisted of if it did not involve habit transfer (Ellis, 1985, p. 30)". The third set of criticisms involves the practical and pedagogical aspects of CA. As explained earlier, the majority of learners' errors as witnessed in empirical research mentioned previously did not stem from interference, so it turned out that a comparison between two languages to predict learners' errors which primarily aimed to seek possible instances of L1 interference is of limited value.

2.1.2 Error Analysis (EA)

Errors committed by second language (L2) learners had been regarded as traces of mother-tongue interference until 1960s when Error Analysis (EA) overshadowed Contrastive Analysis (CA), especially the strong version. A gradual decline of popularity in CA a priori gave rise to CA a posteriori, i.e. the explanatory and less demanding application of CA which requires a linguist to explain learners' errors from their output and to use CA on the basis of interference when applicable. This weak version of CA is in fact similar to EA in that it aims to account for observed data as EA does, but the two approaches differ in how they account for the data observed. As pointed out by Schumann and Stenson (1974), the weak version of CA attempts to explain errors in terms of interference when possible, while EA treats errors by means of learners' formulation of the TL. To differentiate CA a posteriori from EA, they suggest "Contrastive Analysis in its weak form should be considered just one aspect of the larger area of error analysis (Schumann and Stenson, 1974, p. 4)."

EA supplanted CA in the late 1960s as Corder's "The Significance of Learners' Errors" was published in 1967, being generally regarded to mark the birth of Error Analysis (Thomas, 2004). Having completely discarded the predictive power of CA a priori and noticed that the standard work on the teaching of modern languages overlooked learners' errors and their corrections, Corder (1967) proposed three ways in which errors could be significant: (1) They told the teacher how far the learner had progressed; (2) They provided evidence for the researcher to discover how language

was learned or acquired; (3) They served as a device for the learner to master the rules of the TL.

Corder (1967) was also the first person to put up the issue of mistake-error distinction for a modern debate. Having adopted Chomsky's (1965) view of competence and performance, he claimed that errors result from failures in the former, whereas mistakes are associated with the latter. Furthermore, he also put forward the idea that what causes learners' errors is the evidence of their strategies of learning, rather than interference from L1 to L2 and that teachers should explore what their student's built-in syllabus is, and adapt it to their teaching methods to maximize the effectiveness of second language teaching. Several years later, Corder (1974, as cited in Ellis, 1994) suggested the following steps in conducting EA research, i.e. (1) collection of a sample of learner language, (2) identification of errors, (3) description of errors, (4) explanation of errors, and (5) evaluation of errors.

Though a large amount of subsequent research has followed his procedure, many studies do not include the final step, i.e. evaluation of errors, for it is commonly handled as an isolated issue (Ellis, 1994). James (1998) suggested the two most significant publications on EA belonging to George (1972) and Burt and Kiparsky (1972). George's (1972) offered a comprehensive account of major causes and types of learners' errors and suggested various ways to avoid or improve errors. Burt and Kiparsky (1972) also prioritized learners' errors and viewed mother-tongue transfer as of little significance on the grounds that they had not found that "the majority of the

syntactical goofs[1] are due to the native language syntax of the learner (Burt & Kiparsky, 1972, p. 3)".

As for sources of errors, Richards (1974) distinguished three sources of psycholinguistic errors, namely interference, intralingual, and developmental. He was also considered as the very first researcher to distribute four different types of intralingual errors as shown below:

(3) (a) Overgeneralization: This involves the creation of a deviant structure in place of two common structures. Richards (1974) claimed that overgeneralization is concerned with redundancy reduction in that L2 learners need to minimize their linguistic burden. For example, since the –ed marker carries no meaning and pastness is lexically indicated in story-telling, L2 learners may produce a sentence like "*Yesterday I go to the university and I meet my new professor" (Richard 1974).

(b) Ignorance of rule restriction: This includes instances when L2 learners apply rules to contexts where they are not needed (Richards 1974). For instance, "*The man who I saw him" is ungrammatical since English does not allow resumptive pronouns.

(c) Incomplete application of rules: This involves a failure to produce a fully-developed structure (Richards 1974). For example, L2 learners, perhaps

[1] "Goofs" refer to L2 learners' errors.

focusing only at communication, may form a question like "*How long it takes?" instead of "How long does it take?" since they may not have learned the rules of do-support and subject-auxiliary inversion required in English question formation (Richards 1974).

(d) False concept hypothesized: This sometimes results from, according to Richards (1974), faulty explanations from teaching materials. For instance, "was" may be regarded as a past-tense marker and "is" may be interpreted as the present-tense counterpart, so resulting in sentences like "One day it was happened" and "He is speaks Italian" (Richards 1974).

Richards (1974) excluded "interference" from his discussion and touched upon the issue of "developmental errors" which he defined as errors stemming from the attempts of L2 learners to set hypotheses about English from their limited experience of it in the classroom or textbook. His primary concern centered on "intralingual errors" as illustrated above.

Interlingual and developmental errors are, however, often recognized as the same category. For instance, Dulay and Burt (1974) treated the two sources as the same. In a similar vein, Schachter and Celce-Murcia (1977) found the distinction between the two sources invalid. From which source errors actually stem has been a disputed issue over a long period of time. According to Ellis (1994), most researchers only make a distinction between transfer errors and intralingual errors, though one more type, i.e. induced errors is regarded by a few linguists as another source of errors.

Nancy (1974, p. 256), for example, elaborated the issue of induced errors which she described as “some types of errors in a language classroom that result more from the classroom situation than from either the student’s incomplete competence in English grammar or first language interference”. Dulay and Burt (1974) also proposed “unique errors”, i.e. those errors that are neither developmental nor interference, as the third category.

It has long been debated whether one source of errors play a greater role over the others. Ellis (1985, as cited in Mitchell & Myles, 1998) indicated wide variation in SLA research findings, ranging from three to 51 percent of errors attributed to mother-tongue interference, with a majority of studies showing that L1 interference resulted in approximately one-third of errors. For example, Dulay and Burt (1974) investigated errors produced by Spanish children acquiring L2 English and found that interference attributed to less than five percent of overall errors, whereas as much as 51 percent of errors committed by adult Chinese learners of English was traceable to the L1 (Tran-Chi-Chau, 1975).

A growing number of criticisms attacking EA piled up in the mid 70s as its limitations in scope became more prominent. Ellis (1994) listed at least three limitations regarding EA. First, it failed to provide an overall picture of learners’ language. That is to say, EA practitioners focused only on the errors at a single point in time. Second, most of the studies employing EA methods were cross-sectional. Very few studies extracted learners’ errors from different stages of development. As a result,

EA was not very effective in providing insight into how L2 learners develop their language over time. Third, EA could not tackle an issue of the avoidance phenomena. Schachter (1974), for instance, challenged the validity of EA by examining the relative clauses (RCs) produced by adult L2 English learners from different language backgrounds. She employed both CA a priori and a posteriori in her analysis. From the a priori dimension, Persian and Arabic learners would have less difficulty than Japanese and Chinese learners in producing English RCs, for English RCs are very similar to those in Arabic and Persian in that they occur to the right of the head noun phrase (NP), but RCs in Chinese and Japanese occur to the left. The results on the surface showed that Persian and Arabic learners committed errors in producing relative clauses at a higher rate than Japanese and Chinese learners, leading one to simply assume that the structure was more problematic to the former groups; the a priori thus unquestioningly failed to predict these errors. From the a posteriori dimension, on the other hand, Japanese and Chinese learners had much less difficulty in the acquisition of relative clauses since they made only 8 and 12 percent of errors, while Persian and Arabic learners committed errors as much as 25 and 20 percent. Schachter (1974), however, argued that to conclude that Japanese and Chinese learners had less difficulty in producing relative clauses since they made fewer errors than Persian and Arabic learners was absolutely erroneous since although they committed more errors, they produced a greater number of relative clauses than Japanese and Chinese learners did (131, 123, 67, and 58 respectively). She concluded that a phenomenon of avoidance,

i.e. learners' attempts to avoid producing difficult or unfamiliar L2 structures that do not exist in their L1 might explain why Japanese and Chinese learners committed fewer errors in producing relative clauses, guaranteeing the validity of CA a priori and attacking the validity of CA a posteriori and EA at the same time. Schachter (1974) was the very first researcher to notice a loophole in EA and her later research entitled "Some Reservations Concerning Error Analysis (1977)," which she co-wrote with Marianne Celce-Murcia, also stressed the invalidity of EA in terms of avoidance phenomena which EA could not account for.

A gradual decline in popularity of EA resulted mainly from the fact that learners' errors were treated as, in George's (1972) view for instance, unwanted forms which instructors do not want to see, rather than being regarded as part of a linguistic system. As Ellis (1994, p. 70) put it, "The very concept of "error" came to be challenged on the grounds that learners act systematically in accordance with the mental grammars they have constructed and their utterances are well-formed in terms of these grammars". Corder (1971) was the very first linguist to view learners' errors as systematic since he considered learners' language as a dialect, followed by masterpiece research of Selinker (1972), who provided a comprehensive account of L2 learners' language which gave rise to a new approach to SLA, i.e. interlanguage.

2.1.3 Interlanguage (IL)

The term "interlanguage" was coined by Selinker (1972) to represent a separate linguistic system activated when L2 learners attempt to produce the TL at any stage

of development. Simply put, interlanguage is the language of L2 learners who are in the process of mastering the TL. In Ellis's (1985, p. 50) view, Selinker's (1972) "Interlanguage" is seminal since it provided "the theoretical framework for interpreting SLA as a mentalistic process and for the empirical investigation of language-learner language." Several phenomena similar to interlanguage, however, were introduced prior to Selinker's (1972) postulation. Coder (1967) was considered as the first linguist to posit the notion similar to interlanguage called "transitional competence", which he referred to as L2 learners' knowledge of the language being learned in the current state. His notion of transitional competence was subsequently developed into "idiosyncratic dialect" (Corder, 1971). Another alternative term for interlanguage is "approximative systems" which Nemser (1971) hypothesized as a continuing development of L2 learners' language through systematic stages.

Selinker (1972) proposed a number of principles regarding interlanguage. First, having employed Lenneberg's (1967) concept of "latent language structure" described as a formulated structure in the brain which will be converted to the realized structure of grammar when an infant reaching maturational stages acquires her native language and will also be reactivated when one attempts to learn an L2, Selinker (1972) followed Lenneberg's notion holding that there existed a formulated arrangement, but made some changes to latent language structure and developed into what he called "latent psychological structure", which may not be activated at all no matter how hard one attempts to achieve the TL. Selinker (1972) further argued that only

approximately five percent of L2 learners may carry through the native speaker competence.

Another major mechanism shaping interlanguage that Selinker (1972) put forward is “fossilization”. When L2 learners stop making any progress to the language they are learning, fossilization was claimed by Selinker (1972) to account for this phenomenon. There have been some revisions and modifications to this phenomenon since 1972. For example, fossilization can be viewed, according to Macaro, Vanderplank, and Murphy (2010), from two perspectives that refer to either incorrect linguistic forms that are persistent in L2 learners’ interlanguage or an inability of L2 learners to attain a native-like competence since their learning process comes to a halt. Another related term to fossilization is “backslide”, which was also first used by Selinker (1972) to refer to the reemergence of L2 learners’ errors that were once thought to be eliminated especially when they concentrate on a difficult subject matter.

Subsequent research has focused on the following three major characteristics regarding learners’ language raised by Selinker (1972). First, interlanguage is permeable in the sense that rules set by L2 learners at any stages of development are not fixed. Second, interlanguage is dynamic since it is regularly changing. Third, interlanguage is systematic, for L2 learners do not arbitrarily draw upon their existing rules. Rather, their strategies are predictable. Selinker (1972) also suggested five principal processes central to second language learning as follows:

(4) (a) Language transfer: This process is sometimes called L1 or mother-tongue interference which Contrastive Analysis is based upon. It should be noted that language transfer covers both negative and positive carry-over from L2 learners' mother tongue. Later on, some linguists, Kellerman (1986) for example, noticed that the terms "language transfer" and "L1 interference" are theory-inadequate. He therefore proposed the alternative term "cross-linguistic influence", for it is theory-neutral and encompasses a wide range of phenomena such as transfer, interference, avoidance, borrowing and other related issues arising from mother-tongue influence. For instance, Thai learners of English may produce a sentence like "*Peter he came by my office yesterday", evidencing the use of resumptive pronouns which is allowed in Thai but results in ungrammaticality in English.

(b) Transfer of training: This process occurs when L2 learners apply rules from textbooks and other learning materials. Similar notions to this process are "induced errors" and "unique errors", which were proposed by two EA proponents, i.e. Nancy (1974) and Dulay and Burt (1974), respectively. Selinker (1972) cited a case of Serbo-Croatian speakers at all levels of English proficiency of how they had difficulty making a he/she distinction. It turned out that their teachers and textbooks almost always offered practice lessons with only "he", so the students produced "he" for both "he" and "she" in every situation.

(c) Strategies of second-language learning: This process involves, according to Selinker (1972, p. 37), “an identifiable approach by the learner to the material to be learned.” For example, L2 learners may use flash cards to memorize new vocabulary (Tarone, 2006).

(d) Strategies of second-language communication: Selinker (1972) cited Coulter’s (1968) “communication strategy”, which, to a large extent, resembles this process in that L2 learners may avoid some grammatical formatives in order to reduce their linguistic burden. For instance, L2 learners may use the present tense to narrate a story since past tense verbs carry no meaning except signifying the past time.

(e) Overgeneralization of TL linguistic material: A similar idea to this process has emerged since the rise of EA and is well-known to language instructors (Selinker, 1972). One classic example relating to this process is the use of the past tense marker –ed for every verb. L2 learners, for instance, may produce a sentence like “*I drinked a glass of milk and haved some toast this morning”, for they have not yet mastered the forms of English irregular verbs.

These five central cognitive processes provide the ways for L2 learners to internalize the TL system and also help them reduce the linguistic burden to manageable proportions (Ellis, 1985). Widdowson (1975, as cited in Ellis, 1985) argued that such five processes can be subsumed under the same process, i.e. “simplification”

since L2 learners have limited processing capacity, so they employ various strategies to internalize the L2 system in a controllable way.

There have been some revisions and expansions to the notion of interlanguage since it was first proposed by Selinker in 1972. First, the original interlanguage hypothesis was only associated with L2 adult learners. Later on, evidence showed that children in language immersion programs such as the French in Canada also produced interlanguage in the sense that fossilized linguistic systems with a strong influence from L1 transfer were evident in their language (Tarone, 2006). The second extension to the notion of interlanguage results in a long debate on whether it is considered a natural language. The original interlanguage hypothesis initiated by Selinker (1972) rejected such view asserting that interlanguage is not a natural language and is a product of latent psychological structures. Adjemian (1976) took the opposite view regarding interlanguage as a natural language and a product of language acquisition device that produces native language. The third modification of the original interlanguage hypothesis is concerned with variability in interlanguage production. A growing amount of research has shown that the development of interlanguage depends upon different social contexts and discourse domains (Tarone, 2006). For example, L2 learners may be more fluent in one topic than in another since they are more familiar with it. Fourth, there has been an ongoing debate on whether fossilization is an inevitable process. Selinker (1972) argued in support of his early interlanguage hypothesis that adult learners can never speak L2 languages in a way that native speakers do. Some

researchers, according to Tarone (2006), opposed Selinker's view insisting that L2 learners can achieve the native-like competence if their needs to master the TL are great enough.

In short, the IL Hypothesis has still been proved to be workable so far and continues to exercise much influence on the development of SLA theory due to the fact that research on IL has continuingly expanded its scope to cover larger areas of studies including phonology, morphology, syntax, lexis, sociolinguistics, pragmatics, and so on (Tarone, 2006).

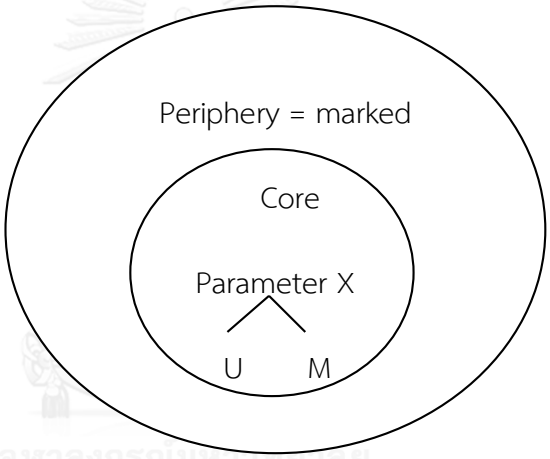
2.1.4 Markedness Theory (MT)

It is generally assumed that the notion of markedness in linguistics arose from the Prague School of linguistic theory, where the concept of marked and unmarked features of a category was initially established for phonological systems by Trubetzkoy (1931, as cited in Croft, 2003). Jacobson (1932, as cited in Croft, 2003) later applied it to morphosyntactic categories and semantics. Since then, markedness has been mainly adopted by typological approaches and generative approaches to linguistic theories. Unmarked structures in the former are those that are common in the world's languages, while those in the latter are regulated by Universal Grammar (UG), thereby requiring only minimal evidence of input for language acquisition (Ellis, 2003).

Chomsky (1981), who firstly introduced the markedness theory into generative grammar, divided properties of a language into core grammar and peripheral grammar. The core or unmarked grammar of a particular language consists of a set of grammatical

properties determined by principles and parameters[2]. Outside of core grammar lies a set of peripheral or marked grammar being "idiosyncratic, language specific, and exceptional", which varies cross-linguistically (White, 1989, p. 118). Though a straightforward claim that core grammar, which is made up from principles and parameters, is easier to acquire than peripheral phenomena can be made, White (1989, p. 119) argued that certain parameters have both an unmarked (U) and a marked (M) setting, as illustrated in (5):

(5)



Chomskyan accounts make a further distinction (within the core grammar) between universal principles, which exist across common languages, and parameters, which have to be set in acquired languages. As outlined above, White (1989, p. 119) argued that certain parameters have "a preset initial, or unmarked, value". In other words, L2 learners may set the unmarked value before the marked one. For this reason,

[2] Principles (e.g. the Projection Principle, Binding Principles, and Structure dependency) and parameters (e.g. the Prodrop Parameter, the Head Parameter, and Bounding Parameters) are largely developed within the Government and Binding (GB) theory where the former characterizes all (or nearly all) natural languages but the latter varies cross-linguistically (Chomsky, 1981).

the unmarked setting is acquired with little effort, whereas positive evidence is needed to acquire the marked one. Take the case of pronoun omission as an example. According to Field (2004), observational evidence (cf. Hyams and Wexler (1993)) reveals that pronoun omission is the unmarked setting in non-prodrop languages like English since infants often omit subject pronouns during the early stages of acquiring English, reflecting the unmarked-to-marked direction of first language acquisition.

As regards SLA, Mazurkewich (1988) adopted the core/periphery distinction as in (5), where unmarked values are identified with core grammar and marked values with peripheral grammar to predict the acquisition sequence of English infinitive and gerund complements by L1 Inuktitut[3] learners whose mother tongue makes no distinction between infinitive and gerund as English does. L1 transfer could thus be singled out. Following Chomsky (1981), she assumed that infinitives and tensed clauses (e.g. "Philip likes to buy Inuit prints") are unmarked given that they have the same clausal structure and can appear with a lexical or null complementizer, while gerund complements (e.g. "Philip likes buying Inuit prints") are marked since it lacks a comlementizer position (cf. Mazurkewish (1988)). The findings showed that the acquisition progressed in the unmarked-to-marked direction as predicted by the theory of markedness.

[3] Inuktitut refers to the languages of the Inuit in Canada and Greenland and is one of the three largest aboriginal languages in Canada with a mother-tongue population of about 33,000 recorded in 2006 (Moseley & Nicolas, 2010).

Having followed Chomskyan parameterized model of the core grammar and seen that most of the previous prodrop research focused only on the acquisition of English by L1 Spanish speakers, Phinney (1987) looked at the Prodrop Parameter from both perspectives and included a group of English learners of Spanish, allowing her to predict directional differences between learners whose L1s are [+ prodrop] and [- prodrop] acquiring L2s which are [- prodrop] and [+ prodrop], respectively. Her directionality assumption was that [+ prodrop] is unmarked, while [- prodrop] is marked. More specifically, English learners of Spanish would reset the parameter to the Spanish value more easily or sooner than Spanish learners of English would reset to the English value. The findings, based on written production data, confirmed her prediction. The native Spanish speakers were unable to supply pleonastic pronouns "it" and "there" in their written compositions while native English speakers successfully used null subjects in impersonal constructions.

Language universals developed by Greenberg (1966), who examined word order and morphology in 30 languages and identified 45 universals, were considered an influential and primary application of markedness to typological linguistics[4]. His monograph enumerating exhaustive summary and discussion of linguistic properties related to language universals both in phonology and morphosyntax is regarded as the

[4] Typological linguistics or typology is "The classification of languages or components of languages based on shared formal characteristics", which aims to "identify cross-linguistic patterns and correlations between those patterns" (Whaley, 1997, p. 7).

first of its kind to establish criteria for markedness. His primary focus was on the frequency of categories, i.e. those with higher frequencies are less marked, and those with lesser frequencies are more marked. For example, he found that most languages follow one of the three word orders: SOV (Subject-Object-Verb), SVO, and VSO. Other patterns such as VOS and OVS are rare. According to Field (2004), this suggests a universal reluctance to place objects before subjects and reflects the need of listeners when undergoing syntactic parsing[5] of a sentence.

Various criteria such as frequency, lack of inflection, regularity, neutral meaning etc. have been applied to determine whether one form is more or less marked than the other. Seeing that Greenberg's (1966) 13 criteria for markedness comprising five phonological and eight morphosyntactic categories clustered together, Croft (1990) argued that they should be narrowed down to four broad criteria as listed below:

(6) Structure: the marked value of a grammatical category will be expressed by at least as many morphemes as is the unmarked value of that category. (p.73)

(7) Behavior

(a) Inflectional: if the marked value has a certain number of distinct forms in an inflectional paradigm, then the unmarked value will have at least as many distinct forms in the same paradigm. (p.79)

[5] Syntactic parsing traditionally refers to a stage in analyzing natural languages at which a syntactic structure is built up from a string of words (Field, 2004).

(b) Distributional: if the marked value occurs in a certain number of distinct grammatical contexts (construction types), then the unmarked value will also occur in at least those contexts that the marked value occurs in. (p.82)

(c) Cross-linguistic: if the marked value occurs in a certain number of distinct language types (represented by some orthogonal typology), then the unmarked value will occur in at least the language types that the unmarked value occurs in. (p.83)

(8) Frequency

(a) Textual: if a marked value occurs a certain number of times in frequency in a given text sample, then the unmarked value will occur at least as many times in a comparable text sample. (p.85)

(b) Cross-linguistic: if a marked value occurs in a certain number of languages in a given language sample, then the unmarked value will occur in at least as many languages in a comparable language sample. (p.85)

(9) Neutral value: in neutralized contexts, only one of two possible feature values [the unmarked] is realized. (p.89)

Furthermore, markedness in typological linguistics adds the idea of hierarchy. That is, those categories on a scale that are higher (i.e. further left) are less marked than those lower (i.e. further right), as exemplified by Aissen's (1998) person/animacy hierarchy shown below:

(10) 1st/2nd Person > Proper Noun 3rd > Human 3rd > Animate 3rd > Inanimate 3rd

A number of hierarchies have been set up to account for different phenomena in various languages. Take the universal person/animacy (or simply animacy) hierarchy as an example. Morolong and Hyman (1977) employed the hierarchy to determine the object status of arguments in Sesotho, a Bantu language mainly spoken in South Africa. Artstein (1999) used it to account for licensing of null subjects in Hebrew. It should be noted, however, that not all hierarchies are considered universal. For example, Whaley (1997) claimed that the animacy hierarchy meets at least two requirements for universal status. That is, each division on the hierarchy has been found in multiple languages and its observed effects arise not only from a single language family but from a number of language families not restricted to any single geographic area. In other words, in many languages there are first, second, and third person, as well as human, animate, and inanimate pronouns. These elements also have an effect on different language phenomena not only in languages from the same family (e.g. Indo-European languages) but also in languages from different families (e.g. Niger-Congo, Tai-Kadai, and Austroasiatic languages).

Typological markedness has also made a key contribution to second language acquisition. Take, for example, non-implicational and implicational universals whose logical forms are shown below (Eckman, 1984, p. 79):

(11) (a) In all languages, Y

(b) In all languages, if X then Y

Examples of these types of statements are shown in (8).

(12) (a) Non-implicational universal

In all languages, there are relative clauses.

(b) Implicational universal

In all languages, if a language can relativize an NP out of a given position on the Accessibility Hierarchy (AH) (Keenan & Comrie, 1977), it can, using the same relative clause formation strategy, relativize an NP from all higher positions on the AH, but not necessarily all lower positions, where the AH is

Subject (SU) > Direct Object (DO) > Indirect Object (IO) > Oblique (OPREP) > Possessive (GEN) > Object of a Comparative Particle (OCOMP)

One of the most widely discussed implicational universals involves relative clause (RC) formation, which is known as the Accessibility Hierarchy (AH). Two claims can be made from (11) and (12). First, all languages have RCs. Second, if a language has an RC of the type X, it will also have any RC types higher or to the left on the hierarchy. In other words, if, for example, a language has OPREP relatives (e.g. “That’s the woman about whom I told you”), there are also SU, DO, and IO relatives in this language, but not necessarily GEN and OCOMP ones. To test the AH whether it was applicable to second language acquisition, Gass (1979) presented data from L2 learners of English from a wide range of L1 backgrounds (Italian, Arabic, Portuguese, Persian, French, Thai, Chinese, Korean, and Japanese). She argued that the production of RCs, based on data from (1) free compositions, (2) sentences combining, and (3) grammaticality judgments, by these L2 learners could be predicted on the basis of the

AH (with the only one exception of GEN) in that the learners produced OCOMP RCs the least and SU RCs the most. In addition, Romance-, Chinese-, Japanese-, and Korean-speaking learners did not produce OCOMP RCs at all, suggesting that this type of RCs, which is the rightmost one on the hierarchy, is the most difficult to produce. The hierarchy thus successfully reflected the ease of relativization showing that not only natural languages but also interlanguages appealed to the AH.

Focusing on typological universals and implicational universals, Eckman's (1977) Markedness Differential Hypothesis (MDH) is one of the seminal applications of typological markedness to SLA. The MDH makes three predictions as follows (Eckman, 1977, p. 321).

(13) (a) Those areas of the target language which differ from the native language and are more marked than the native language will be difficult.

(b) The relative degree of difficulty of the areas of the target language which are more marked than the native language will correspond to the relative degree of markedness.

(c) Those areas of the target language which are different from the native language, but are more marked than the native language will not be difficult.

The proposal centers around typological markedness and implicational relations. As a consequence, the notion of "degree of difficulty" corresponds to the notion of "typologically marked" (Eckman, 1977, 320). Given that the CAH can only predict the areas of difficulty for L2 learners, Eckman (1977) thus incorporated

typological markedness in order for the hypothesis to predict the relative degree of difficulty as well. To apply the MDH, take pronoun omission as an example. A typological investigation by Siewierska and Bakker (1996) reveals that the majority of the world's languages are prodrop. With regard to Croft's (1990) definition of cross-linguistic frequency, this suggests that null pronouns are more common or less marked than overt pronouns. According to Field (2004), English speakers have little difficulty omitting pronouns when they acquire prodrop languages like Spanish. When Spanish speakers acquire non-prodrop languages like English, however, they tend to have trouble producing overt pronouns in English. This obviously appeals to the MDH in that prodrop languages are less marked and easier to be acquired than non-prodrop counterparts.

Closely related to the MDH is the Universalist Hypothesis (UH) that also bolsters the CAH and is first brought into SLA by Celce-Murcia (1972b). Initiated and primarily tested by Greenberg (1962, 1966), the hypothesis suggests that there is a finite number of ways in which languages may express comparison and that there are certain constraints with regard to these constructions that all languages must follow. Drawing data from Celce-Murcia (1972a), Celce-Murcia (1972b, p. 296-297) indicated that there are three different types of comparative constructions found in the world's languages as listed below:

(14) The degree comparative: This type is exemplified in English and other Indo-European languages which utilizes morphemes of degree such as “more/-er” or “less”, e.g. “John is taller than Mary”.

(15) The limited universe comparative: This type is found in languages such as Mandarin Chinese and Japanese which make use of uninflected relative adjectives equivalent to tall, short, pretty, etc, e.g. “John compared to Mary is tall (English paraphrase of the Mandarin Chinese sentence “John bi Mary gao”)”.

(16) The surpass comparative: This type is found in languages such as Igbo, a Niger-Congo language of West Africa and in most Bantu languages of East and South Africa, e.g. “John surpasses Mary (in) height (English paraphrase of the Igbo sentence “John ka Mary ogologo”)”.

Celce-Murcia further pointed out that measurable properties of objects such as age, height, and length are essential to most expressions of comparison. In English, the properties are likely to be expressed in terms of adjectives that build up pairs of oppositions such as “old/young”, “tall/short”, and “large/small”. These oppositions also show marked/unmarked forms; With respect to age, for example, “old” is the unmarked member of the pair, as it is more common to say “Peter is ten years old”, than “Peter is ten years young”. In Igbo and Bantu, on the other hand, there is a neutralization of the “old/young” opposition. When speakers of these African languages learn English, they definitely need drills that emphasize marked and unmarked comparative constructions. The use of adjective oppositions in English,

according to Celce-Murcia, is ignored in most reference textbooks. Therefore, it is recommended that instructors understand the ways in which different languages of the world express the given construction before they perform a contrastive analysis in a pair of languages or design effective teaching materials for L2 learners.

As Eckman (1988) noted, both typological and generative markedness have made many of the same fundamental assumptions about the nature of interlanguage data. For example, the typological approach hypothesizes that implicational universals which hold true for first language acquisition will also be true for interlanguage data. In a similar fashion, the UG approach hypothesizes that interlanguage data will adhere to the principles of markedness and parametric variation relevant to UG. But what totally distinguishes them from each other is that the former uses down-to-earth, theory-independent constructs such as phonetic segment, lexical category, linear order, etc., while the latter uses abstract, theory-driven concepts such as parameters, X-bar theory, and so on to explain interlanguage phenomena.

The present study employs the animacy variable to see whether it influences the use of null/overt arguments by L1 Thai learners. However, the reason behind the application is totally different from that offered by previous research done with L1 Chinese learners. Yuan (1997) first applied this variable in his study on the grounds that there is a distinction between the behaviors of animate and inanimate object pronouns in Chinese. Thus, L1 Chinese learners may transfer this property to their L2 English grammar. By contrast, this study puts the issue of L1 transfer aside, given that the

behaviors are not present in Thai. Rather, the study considers this variable from a universal perspective. That is, an alignment of the aforementioned universal animacy hierarchy and the reduction scale shown below is adopted to test whether and how they affect the acquisition of English non-null arguments.

(17) The person/animacy hierarchy (Aissen, 1998)

1st/2nd Person > Proper Noun 3rd > Human 3rd > Animate 3rd > Inanimate 3rd

(18) The reduction scale (Bresnan, 1998)

Null > Overt

The alignment of the hierarchy and the scale is adopted from Artstein (1999), who applied several hierarchies including (17) and (18) to explain why Hebrew allows null subjects only when they are first or second person. What ties (17) and (18) together is that, as suggested by Artstein (1999, p. 2-3), (17) and (18) "reflect the likelihood of an argument being a topic", so "the participants of a conversation are more likely to be the topic of that conversation than other humans, or animals, or objects" and the reduction scale shows "the tendency to phonologically reduce topics and other anaphoric elements". Since the present study only focuses on animate/inanimate pronouns, (17) is simplified as shown below:

(19) The animacy hierarchy

Animate > Inanimate

It should be noted that a hierarchy of person and animacy has been proposed by various researchers to account for different grammatical phenomena in L1A, as explained above. However, only a few studies have introduced the hierarchy into L2A (cf. Zhang, 2015). To the best my knowledge, the present study is the first to employ the alignment of (18) and (19) to test whether animate arguments will be omitted more frequently than inanimate arguments.

Furthermore, the MDH is also introduced in the present study to predict the difficulty L2 learners would encounter when they acquire an L2, which is more marked than their L1. As mentioned above, a typological investigation suggests that the majority of world's languages are prodrop, which implies that null pronouns are more common or less marked than overt pronouns.

2.1.5 Saliency

Saliency is a concept discussed in various fields such as linguistics and psychology. If a particular item or feature is said to be salient, it tends to attract or catch an observer's attention (Delort, 2009). The concept also plays a crucial role in L2A. In this section, saliency that results from input frequency and L1 norms will be discussed as they are related to the present study.

As far as input is concerned, saliency generally refers to "the ease with which learners are able to perceive grammatical features in input" (Ellis, 2001, p. 67). Entities that are salient will be attended to and possibly acquired more easily than those that are not. For instance, "no" tends to be more salient than "not" in input as the former

can be used by itself, while the latter cannot. According to Ellis (2001), this may explain why most L2 learners acquire “no” sooner than “not”. Another example of salient items in input that trigger L2 acquisition comes from Bardovi-Harlig (1987) who examined the order of acquisition between (20) and (21) below:

(20) Who did John give the book to?

(21) To whom did John give the book?

Preposition stranding exemplified in (20) is typologically marked, whereas preposition pied-piping in (21) is unmarked. Bardovi-Harlig’s data collected from ESL learners from various L1 backgrounds, however, did not lend support to such typological markedness, given that her subjects clearly acquired the marked construction, preposition stranding, before its marked counterpart, preposition pied-piping. She hypothesized that input saliency might override markedness, thereby being able to predict acquisition order in L2A.

Input saliency often interacts and is inextricably linked with other factors such as frequency. Linguistic items that frequently occur in input are said to be more salient than those that do not. Ellis (2002) divides frequency into two types: type and token. Type frequency refers to “the number of distinct lexical items that can be substituted in a given slot in a construction”, while token frequency is “how often particular words or specific phrases appear in the input” (Ellis, 2002, p. 154). Examples of type frequency include the regular English past tense *-ed* which has a very high type frequency, given that it applies to thousands of different verbs, whereas the vowel change such as

"flew" and "sang" has much lower type frequency. Examples of the token frequency are irregular forms (e.g. "went") and high-frequency idioms (e.g. "read between the lines"), which leads L2 learners to remember them in chunks and acquire them with ease (cf. Ellis (2002)). Indeed both frequency types make linguistic items more salient, thereby being acquired more easily than lower-frequency and less salient ones.

According to Ellis (2001), however, there are certain circumstances when highly frequent linguistic items turn out to be non-salient as well. Take, for example, the acquisition of definite and indefinite articles in English. Articles "a" and "the" are highly frequent in input, yet L2 learners often have difficulty mastering them, given that they are semantically complex (Ellis, 2001).

Apart from input frequency, L1 norms may result in saliency of a particular feature as well. Take, for example, a study on the interaction between age and aptitude by DeKeyser (2000). He examined whether age was a significant predictor of proficiency for Hungarian immigrants to the United States. Collecting data through a Grammaticality Judgment Task and a Language Learning Aptitude Test, DeKeyser found that very few adult immigrants scored as well as the child arrivals did, confirming age effects in SLA. However, there were certain structures on which both the late and the early arrivals performed equally well regardless of age of arrival. Among several others was word order, as exemplified below (DeKeyser, 2000, p. 516):

(22) *Bites the dog.

(23) *The girl the movie likes.

(24) *The student to the movies went.

(25) *The woman the police man asked a question.

Sentences that begin with a verb as in (22), end with a verb as in (23) and (24), or begin with two consecutive noun phrases as in (25) deviate from the L1 basic word order norm and thus are so perceptually salient to the participants regardless of age of arrival that they could easily reject them. DeKeyser (2000) argued that "In all three cases [(22) - (25)] a salient position (sentence initial or sentence final) is occupied by a syntactic constituent that can never occupy the position in English [(22) - (24)] or it is occupied twice [(25)]" (p.516).

2.2 Previous Studies

This section reviews previous SLA studies on the null argument phenomenon among L2 learners. 2.2.1 discusses some major pioneering research on null subjects conducted especially with Spanish-speaking learners. 2.2.2 reviews studies investigating the acquisition of non-null subjects and objects in English by Asian learners whose L1s (i.e. Chinese, Japanese, Korean, and Thai) allow argument dropping.

2.2.1 Early SLA studies on null subjects

Most of the early research (White, 1985; Hilles, 1986; Phinney, 1987; Tsimpli & Roussou, 1991), whose participants were mainly L1 Spanish-speaking learners of L2 English, submitted theoretical parametric accounts to empirical testing of the Prodrop or Null Subject Parameter (Chomsky, 1981; Jaeggli, 1982; Rizzi, 1982) and extended the L1 acquisition work of Hyams (1983) to an L2 context. White (1985), considered the

first to explore the acquisition of the cluster of properties with regard to pro-drop, explored whether Spanish learners of English transferred the L1 value of the Prodrop Parameter to the L2. Her experimental group consisted of 73 adults learning ESL at McGill University. Of these, 54 were native speakers of Spanish, a [+ prodrop] language, acting as an experimental group and the other 19 were native speakers of French, a [- prodrop] language, constituting the control group. Both groups were given a grammaticality judgment task comprising 28 sentences, 16 of which were target ungrammatical sentences representing three of the properties associated with the prodrop parameter, namely null subjects (26a), subject-verb inversion (26b), and *that*-trace effects (26c) as exemplified below:

(26) a. John is Greedy. *Eats like a pig.

b. *Slept the baby for three hours.

c. *Which movie do you think that will be on television this evening?

In (26a), the personal pronoun “he” is required in order to make the sentence grammatical, while this structure is acceptable in Spanish. Subject-verb inversion in (26b) is ungrammatical in English, while free inversion of subject in Spanish is possible. The presence of the complementizer “that” in (26c) causes the sentence to be ungrammatical since English does not allow wh-extraction out of a clause containing a complementizer, whereas in Spanish subject extraction out of an embedded clause requires the presence of “that”. The results showed that the Spanish learners had more difficulty than the French participants in rejecting sentences containing null

subjects. Both groups performed well on sentences testing subject-verb inversion and poorly on those related to *that*-trace. White concluded that Spanish speakers showed improvement with increasing levels of proficiency. She also suggested that the loss of subject-verb inversion might mean that this property is not part of the prodrop parameter. That is to say, the nonoccurrence of subject-verb inversion among her subjects should have resulted in the loss of the other two properties related to the parameter, i.e. *that*-trace effects and null subjects. However, her participants still performed poorly on the two properties, which implies that subject-verb inversion is not part of the prodrop parameter.

Hilles (1986) collected longitudinal data from a 12-year-old Spanish-speaking boy named Jorge, who had no formal exposure to English, over a period of 10 months. Following Hyam's (1986) later hypothesis claiming that the presence of auxiliary verbs, rather than expletives (Hyams, 1983), supplies the triggering data for resetting the pro-drop parameter. The results from a mixture of elicited and spontaneous data revealed that the subject omitted required subject referential pronouns in his speech in early weeks as much as 80%, suggesting that the L1 [+prodrop] value was transferred. Jorge's use of null subjects declined over the period of investigation, constituting evidence for parameter resetting. There was also a relationship between the emergence of modals and the decline in the use of null subjects, which implies that L2 acquisition proceeds in that same way as L1 acquisition does (Hyams, 1986). Hilles assumed that presence of the expletive "it" also triggered resetting from the [+prodrop] to the [-prodrop]

value since this pronoun, which has no meaning or pragmatic function, only fulfills the need for grammatical subjects in English. The subject could not use expletives for any other reasons. Hilles concluded that both expletive pronouns and modals might work together as triggers for parameter resetting.

Beginning with Hyams' (1983) hypothesis, Phinney (1987) looked at the operation of the prodrop parameter in both directions, i.e. L1 Spanish to L2 English (ESL groups) and L1 Spanish to L2 English (SSL groups). Phinney specifically considered two properties: the presence/absence of subject pronouns and the agreement system. There were two ESL groups comprising students at the University of Puerto Rico and two SSL groups consisting of students at the University of Massachusetts at Amherst. The participants were asked to write free compositions, which were analyzed for the presence/absence of subject pronouns and the use of agreement morphology. It was found that all the groups performed well with regard to verbal agreement. However, while both ESL groups omitted referential pronouns at a high rate in L2 English, both SSL groups correctly omitted this type of pronouns in L2 Spanish. The ESL participants also appeared to follow Spanish discourse rules in that they often omitted referential pronouns in subordinate or conjoined clauses, where reference was salient from context, but not in the sentence-initial position. As for expletive pronouns that are not allowed in Spanish but required in English, both SSL groups had no difficulty omitting the pronouns, while the beginner and intermediate ESL groups still omitted the pronouns to a large extent (56 % and 76% of omission, respectively). The results clearly

indicated that native speakers of Spanish transferred the L1 [+prodrop] value to the L2 [-prodrop]. On the other hand, native speakers of English had no difficulty omitting both types of pronouns, suggesting that they could reset the parameter to the L2 value. Phinney (1987) also supported her results by a theory of markedness and claimed that [+prodrop] was the unmarked setting of the prodrop parameter since it was harder to change the parameter from an unmarked setting to a marked setting than vice versa.

Tsimpli and Roussou (1991), testing the three properties as employed in White's (1985) study, investigated the acquisition of non-null subjects in English by 13 adult speakers of Greek. Six of them had had one year of intensive English training and seven subjects had finished two years of intensive training. There were two parts in the test: a GJT and a Greek-English translation task. As opposed to White (1985), they rejected the parameter-resetting model of L2 acquisition and claimed that post-puberty L2 learners cannot reset parameters associated with functional categories whose values differ between the L1 and the L2. The results showed that both the intermediate and post-intermediate subjects performed well on the referential subject part, but almost 80 % of them allowed null expletives. As for English sentences involving *that*-trace effects, more than 95 % of the participants considered the ungrammatical sentences, where "that" must be omitted, grammatical. 95 % of them, however, also accepted grammatical sentences with null complementizers. According to Tsimpli and Roussou, this implied that Greek learners assumed "that" to be optional in English, while in

Greek, the complementizer is obligatory. Regarding VS orders, the subjects correctly translated Greek sentences in VS orders into English counterparts in SV orders. Tsimpli and Roussou concluded that the success their subjects had on supplying referential pronouns and producing SV orders resulted from the fact that Greek learners treated English subject pronoun as agreement markers. In other words, they misanalyzed English syntactic and morphological properties to fit them for the Greek setting of the pro-drop parameter (cf. Hawkins (2001)). The results thus confirmed their hypothesis positing that beyond a certain age, parameter-resetting was impossible for L2 learners.

2.2.2 Subsequent SLA studies on null subjects and objects

More recent research has shifted its attention from null subjects to null arguments (both subjects and objects) and applied several factors which are likely to influence the acquisition of non-null arguments in English by learners whose L1s are discourse-oriented languages (Xiaolu, 1994; Yuan, 1997; Wakabayashi & Negishi, 2003; Kong, 2001, 2005, 2007; Kim, 2007; Hsieh, 2008; Meechanyakul & Singhapreecha, 2013). Focusing on the null-argument parameters proposed by Lillo-Martin (1991), Xiaolu (1994) was among the first scholars to investigate the null argument phenomenon in the ILs of adult L2 learners[6]. She tested whether the relation between English inflection, expletives, and the tensed embedded clause provided the triggering

[6] Note that the first L2A research on the null-argument phenomenon can be traced back to the early 90's when Wang, Lillo-Martin, Best, and Levitt (1992) conducted a study on the acquisition of non-null subjects and objects by L2 English and Chinese speakers. However, this pioneering study will not be reviewed since it focuses on child L2 acquisition (aged 2-6), but adult L2 acquisition is of the present study's concern.

experience for Chinese learners to acquire non-null arguments in English as suggested for L1 acquisition. Subjects were 119 adult Chinese learners of English; 60 were middle school students and 59 were college students. Apart from these 119 subjects who were experimental groups, 18 native English speakers participated as a control group. All the subjects were asked to complete three written tasks, i.e. a timed grammaticality judgment task, a grammaticality judgment task with correction, and a short passage error correction task. Ten subjects from each experimental group also participated in an oral task. There were four categories being investigated, i.e. null subjects, null objects, missing expletives, and inflection. Except for the sentences involving inflection, a distinction was made between matrix and embedded clauses. Overall results suggested the possibility of parameter-resetting. That is, the participants used null arguments at the initial stages of the L2 grammar development, and the use of null arguments decreased as the level of proficiency improved. This, according to Xiaolu, lent support to the indirect-access-to-UG hypothesis: the initial setting in L2 acquisition is the L1 setting and parameter-resetting is possible. The data also showed that only the acquisition of English expletives, and neither inflection nor the tensed embedded clause, were closely related to the resetting of the null argument parameters. That is to say, the acquisition of expletives accompanied the decreasing use of null arguments. In addition, there seemed to be an asymmetry between the ability to detect null subjects and objects, given the lower proficiency groups accepted the latter more frequently than the former. Xiaolu pointed out that among 19 test items of object

drop, nine of them were those of *it*-drop. This was probably due to L1 transfer given that in Chinese, the third person singular pronoun “ta” (equivalent to “it” in English) is often avoided. Another factor presumably contributing to difficulty in rejecting null objects was the transitivity of English verbs.

Yuan (1997) reported on an empirical study investigating the null-argument phenomenon by L1 Chinese learners of L2 English. Divided into 7 groups of different proficiency by a placement test, the participants were 159 Chinese-speaking learners of English, along with 16 native English speakers as a control group. In the experiment, the subjects were asked to do an acceptability judgment task on sentences testing the knowledge of non-null subjects and objects. There were nine sentence structures eliciting the participants’ knowledge of non-null subjects and objects: (1) sentences with null subjects in matrix sentences, (2) sentences with null subjects in embedded sentences, (3) absence of the expletives in weather-predicate sentences, (4) absence of the expletives in raising-predicate sentences, (5) inanimate null objects in matrix sentences, (6) inanimate null objects in embedded sentences, (7) inanimate null objects coindexed with arguments in adjuncts, (8) animate null objects in matrix sentences, (9) animate null objects in embedded sentences. Each contained three control sentences and three experimental sentences.

The results showed that the participants had mastered the sentence structures testing null subjects. As the subject’s proficiency increased, as witnessed in Groups 4, 5, and 7, the acceptability of ungrammatical sentences became lower. In addition,

except Groups 1-3, there was no significant difference in judging weather-predicate sentences without expletives (e.g. Rained a lot in Shanghai) between the experimental groups and the control group. Sentence types also played no role in the judgments on the experimental sentences. This suggested that awareness of null subjects and null expletives, which are impossible in English, improved as levels of proficiency increased. On the other hand, it was found that all the groups of participants had difficulties detecting the ungrammaticality of the English sentences with null objects. Furthermore, animacy seemed not to affect the judgments on sentences with null objects[7]. Yuan proposed that a clear mastery of non-null subjects by L1 Chinese learners of L2 English was triggered by the presence/absence of subject-verb agreement in overt and null subjects. More specifically, the verbal inflections for tense and agreement, use of copulas and auxiliaries, *do*-support, etc. helped Chinese learners to abandon null subjects in their L2 English. As for null objects, however, there was no positive evidence to help the participants recognize sentences with null objects. Most importantly, the transfer of L1 topic-comment structure, as Yuan argued, blocked them from rejecting null objects. Though not explicitly mentioned, the access-to-UG or parameter-resetting model of L2 acquisition was supported by Yuan, given that functional features associated with subject verb agreement in English were

[7] It should be noted that, according to Yuan (1997), there is a distinction between the behaviors of animate and inanimate object pronouns in Chinese, so he applied this variable in his experimental sentences to see whether it would affect Chinese learners' judgments of sentences with null objects.

acquired by Chinese learners. Yuan concluded that L1 transfer played an important role in L2 acquisition and L1 setting of parameters needed to be reset in L2 acquisition.

Kong (2001) extended his initial pilot study (1998) on null arguments questioning Yuan's (1997) claim that subject-verb agreement is a trigger factor for the acquisition of obligatory subjects by Chinese learners. Having seen that there was an asymmetry between his subjects' performance on matrix and embedded subjects in his 1998 study, Kong further investigated whether L1 Chinese speakers showed the subject-object asymmetry in embedded subject and object positions in this follow-up study. Kong also doubled the number of participants and provided a more balanced distribution of null pronouns to take a step further from his 1998 pilot study. The participants were 11 adult Chinese speakers as an experimental group and three native English speakers as a control group. All of them were given a short passage comprising a set of grammatical errors such as missing pronouns in matrix and embedded clauses and incorrect subject-verb agreements. They were also asked to make corrections on any sentences considered ungrammatical. The experimental group appeared to have no difficulty supplying overt matrix subjects with a correct rate of 75 %, while their score on supplying obligatory embedded subjects was only 44%.The participants also performed poorly on detecting null expletives. As far as subject-verb agreement is concerned, they successfully corrected grammatical errors on the passage with a correct rate of 74%. Although the rate of object suppliance was low, there seemed to

be no matrix/embedded object asymmetry, with the correct rates being 48% and 51%, respectively.

Although the findings evident in Kong (2001) supported Yuan's (1997) in that null subjects were easier for Chinese speakers to detect than null objects, asymmetries not found by Yuan were those between matrix and embedded subjects, and those between referential subjects and expletive subjects. The participants performed better on detecting matrix and referential subjects than embedded and expletive subjects. The reason why null expletives were more difficult for the Chinese participants to detect than null referential subjects, as Kong argued, is that the expletive "it" does not have a thematic role in Chinese and is likely to be omitted in the participants' data due to L1 transfer. Furthermore, Kong argued against Yuan's assumption in that the acquisition of non-null subjects is not triggered by a mastery of subject-verb agreement, given that his participants failed to detect null embedded subjects despite a good performance on amending mismatched subject-verb agreements. Rather, he argued that his participants applied a discourse parameter when acquiring English. Simply put, if a sentence topic is overtly indicated at the very initial position of a sentence, it needs not be restated elsewhere, thereby resulting in null embedded subjects (e.g. "He said Ø thought that Ø made…", where "he" is needed in both omitted positions).

Wakabayashi and Negishi (2003) conducted a study on the acquisition of non-null arguments by L1 Japanese learners of L2 English. Like Chinese, Japanese permits

subjects and objects to drop when they are obvious from the context. Therefore, Wakabayashi and Negishi assumed that there should be no asymmetry in the acquisition of obligatory subjects and objects. The participants in this study were 34 Japanese learners of English. All of them were university students majoring in English language teaching or English literature and started learning English around the age of 12. There were also nine native English speakers participating as a control group. Both the experimental and the control groups were asked to do a grammaticality judgment task , which consisted of eight types of sentences: (1) subject drop in main clauses, (2) subject drop in embedded clauses, (3) subject drop where the subject is co-indexed with a preceding noun phrase, (4) subject drop in weather-predicate sentences, (5) subject drop in raising-predicate sentences, (6) object drop in main clauses, (7) object drop in embedded clauses, and (8) object drop where the object is co-indexed with a preceding noun phrase. Each sentence type had three tokens of ungrammatical sentences and three tokens for grammatical counterparts. If a sentence was considered ungrammatical, they were also asked to correct it. Similar to Yuan (1997), Wakabayashi and Negishi applied some variables to their test sentences, except for animacy[8].

It was found that there was no significant difference among null subject sentences (i.e. types 1-5) and among null object sentences (i.e. types 6-8), suggesting

[8] It is possible that Wakabayashi and Negishi (2003) did not apply the animacy variable since Japanese makes no distinction between the behaviors of animate and inanimate objects as Chinese does.

that variables such as sentence types played no role in the acquisition. However, overall results indicated that Japanese participants had less difficulty in acquiring non-null subjects than acquiring non-null objects. This asymmetry could not be fully accounted for by L1 transfer, given that the L1 allows both null subjects and objects, suggesting that there should be no asymmetry in the acquisition. Wakabayashi and Negishi offered three factors attributable to the asymmetry between subjects and objects in Japanese learners' interlanguage. First, there is an inconsistency between subjects and objects in L2 input. That is, subjects are always phonetically realized in every English sentence, while objects are not, which depends on whether the verb is transitive or intransitive. The existence of sentences without overt objects in L2 input facilitates L1 transfer of the L2 grammar that allows null arguments into Japanese learners' interlanguage. Wakabayashi and Negishi explicitly argued against Yuan (1997) that, rather than the presence/absence of subject-verb agreement, what triggers the acquisition of non-null subjects is consistency of L2 input. Second, the transitivity of English verbs, which is lexically determined, probably causes the difficulty in supplying overt objects. For instance, although the verbs "eat", "dine", and "devour" share a similar semantic property, "eat" is used as both transitive and intransitive, "dine" only as intransitive, and "devour" only as transitive. Third, the difficulty in the acquisition of obligatoriness of English objects can be accounted for by a lack of morphological evidence. That is, the transitivity of verbs in English is not morphologically marked, while it is the case in Japanese. For example, the verb "open" in English remains

morphologically the same when used either as transitive or intransitive. The Japanese equivalent, however, has morphologically different forms for transitive (“akeru”) and transitive (“aku”). Though Japanese learners know objects may not be omitted in English, they may be unable to indicate whether a verb is transitive or intransitive, thereby failing to supply obligatory objects in L2 English.

Kong (2005) tested the claim made by Yuan (1997) that once Chinese learners acquire subject-verb agreement features in English, they will reject null subjects but continue to accept null objects since there is insufficient evidence in the input data to abandon topic drop, which is possible in their L1. Kong argued that if agreement systems in English trigger the acquisition of non-null subjects, then his participants should perform equally well no matter whether subjects are in matrix or embedded clauses, or whether they are referential or expletive. The study comprised three experimental groups and one control group, involving 75 Chinese speakers learning L2 English and ten English native speakers. There were two main tasks: an error detection task (Task 1a, 1b) and a cloze test (Task 2). Both tasks included null subjects in matrix and embedded clauses, null expletives in matrix and embedded clauses, null objects in matrix and embedded clauses, and subject-verb agreement. There were also two additional tasks, i.e. a listen-and-repeat test (Task 3) and a reading-and-discussion test (Task 4).

It was found that Chinese learners of English had less difficulty detecting the need for overt subjects and expletives in matrix clauses than overt subject in

embedded clauses. There were also no significant differences between the three experimental groups in detecting subject-verb agreement errors in all the tasks. Kong pointed out that his results further weakened Yuan's hypothesis in that despite acquiring subject-verb agreement features, his Chinese participants still unlearned null matrix subjects faster than null embedded subjects. Put differently, if Yuan's account had been true, then Chinese learners should have performed well equally on detecting null subjects in every position. In addition, the participants also performed significantly better on null matrix objects than on null embedded objects in Task 1b and 2. The overall results suggested that the three structural positions, i.e. the matrix subject, the embedded subject, and the embedded object were judged differently by Chinese participants. Though the most advanced group of participants became more native-like in their performance on detecting the ungrammaticality of null matrix subjects, null matrix objects, and null embedded expletives, they failed to recognize other null elements in embedded clauses (i.e. null embedded referential subjects, null subjects in embedded topic phrases, and null subjects and objects in adjunct clauses). Kong suggested that the reason why Chinese speakers could reject null elements in matrix clauses was that they transferred their L1 parameter value (+ topic-drop) to the L2 (- topic-drop). That is, they made a small adjustment to the use of topic chains: "One topic at the head of every sentence must be overt" (Kong, 2005, p. 256). His argument also supports the No Parameter Resetting Hypothesis (Hawkins and Chan, 1997), given that the participants' ability to detect null elements in matrix

clauses came from “strategies”. That is, rather than mastering the knowledge of functional properties of agreement and tense features in English, the participants noticed that matrix objects are typically overt and that verbs are typically inflected for tense and agreement. Yuan’s (1997) claim that difficulty in obtaining sufficient and appropriate L2 input for parameter-resetting is therefore completely dismissed by Kong whose evidence from L1 Chinese learners of L2 English suggested that adult learners fail to attain native-like syntactic representations.

Kong (2007) also conducted a pilot study to test the proposals made by Yuan (1997) and Kong (2005) regarding the issue of parameter resetting in the acquisition of non-null arguments by L1 Chinese learners of L2 English. More specifically, he wanted to test the claim made by Yuan in that the recognition of subject-verb agreement initiated the acquisition of non-null subjects in the L2 English grammar of L1 Chinese learners. The study also aimed to strengthen the claim made by Kong (2005) in that what looks like the parameter resetting in relation to the acquisition of non-null subjects by L1 Chinese learners of L2 English is actually a small adjustment to the use

of topic-chains[9]. That is, so long as the head of a sentence is overt, other positions are allowed to be covert. There were six Chinese speakers learning L2 English in this study, five of whom were postgraduate students at a UK university and one of whom was completing a bridging course at the same university. The participants were given a short passage containing various kinds of grammatical errors with a lot of tokens on null pronouns in matrix and embedded clauses and incorrect subject-verb agreements. They were also asked to make corrections on any errors they considered ungrammatical.

It was found that the participants had no difficulty accepting overt subjects and the subject-verb agreement. They also detected the ungrammaticality of null subjects and null expletives in matrix clauses and corrected them at the same accuracy rate of 83%. As for the sentences with mismatched verb agreements, the participants corrected errors at an accuracy rate of 70%. The average score on supplying overt subjects in matrix and embedded clauses seemed to be asymmetric, given that the

[9] Tsao (1977) suggested that discourse-oriented languages have a rule of "Topic NP Deletion", which "operates across discourse to delete the topic in a preceding sentence" (Huang 1984: 178). The result of this deleting process refers to a "topic chain", as exemplified below (Huang, 1984, p. 178):

[Zhongguo,	defang	hen	da.]	[*e*,	renkou	hen	duo.]	[*e*,	tudi	hen	feiwo.]
China	place	very	big	population	very	many	land	very	fertile		
[*e*,	qihou	ye	hen	hao.]	[*e*,	women	dou	hen	xihuan.]		
climate	too	very	good	we	all	very	like				

The topic in the above discourse is "Zhongguo", which has been deleted and is represented by *e* (null or zero topics) when it is mentioned for the second, third, and fourth times. "Zhongguo" and *e* therefore form a topic chain. It is also worth noting that as well as subjects and objects, topics themselves can be null if their antecedent can be found somewhere in the discourse or context of utterance (Hawkins, 2001).

success rate of amending null embedded subjects was only 52%, compared to 83% correct rate on overt matrix subjects. Furthermore, there was also a clear asymmetry between null subjects and objects. That is, the participants accepted null objects to a much greater extent, with only 33% and 34% of correct rates on matrix and embedded positions. Overall results showed an asymmetry on the acceptance of overt matrix and embedded subjects as well as an asymmetry on the acceptance of null matrix subjects and objects. Kong partially supported Yuan in that null objects were more difficult to unlearn than null subjects due to a lack of positive evidence in L2 input. In terms of the matrix-embedded subject asymmetry, however, Kong (2007) argued for Kong's (2005) claim that Chinese learners of English transfer the parameter settings of Chinese with a small adjustment to the use of topic chains, which allows arguments to be omitted as long as the head of every sentence is overt. This probably explains why the participants in this study successfully supplied overt subjects in matrix clauses, but performed poorly in other positions.

Kim (2007) replicated Yuan's (1997) methodology to test whether there was a similar asymmetry in the acquisition between non-null subjects and objects among L1 Korean learners of L2 English, as existed among Chinese speakers. Korean as well as Chinese is considered a discourse-oriented language, thereby allowing arguments to drop when their referents are salient in the discourse (Huang, 1984). The participants were 22 Korean ESL students at a high school in the U.S. They were further divided into three different proficiency groups: low, intermediate, and advanced experimental

groups. There were also 10 native English speakers serving as a control group. Kim used Yuan's questionnaire and modified a few sentences to fit American English usage. The experimental sentences comprised nine pairs: four pairs of null and overt subject sentences and five pairs of null and overt object sentences.

Overall results suggested that most participants were successful in detecting the ungrammaticality of null subject sentences. As for the null object sentences, it was found that, with the exception of the advanced group, the participants' scores were significantly different from those of the native participants. This suggested that null objects were more difficult to detect than null subjects. The results showed the asymmetric learning pattern as observed in Yuan's (1997), but Kim offered a different theoretical explanation for the subject-object asymmetry. That is, the acquisition of non-null subjects is associated with "the learners' utilization of the L1 grammar option, that is, L1 conceptualization of topics for subjects in their interlanguage" (Kim, 2007, p. 78). Put differently, subject topics must be overt in Korean, and this helps facilitate the Korean learners' interlanguage grammar to reject null subjects in English sentences, not because they have mastered the knowledge of subject-verb agreement as Yuan claims. As regards null objects, Kim claimed that there is an L2 input inconsistency among many transitive verbs in English that allow object deletion, e.g. "eat" and "read". He further explained that there seems to be no clear-cut rules that can be taught in an English classroom to unlearn null objects. Kim also cited an example given by Alberton (1975, as cited in Kim, 2007), who distinguished contextual deletion from

indefinite deletion. Indefinite deletion occurs when the content is not of interest, as exemplified by the "eat" and "read" type verbs. On the other hand, contextual deletion occurs when the content is contextually specified, as exemplified by the verbs "follow", "interrupt", "look at", "pull", and "watch". For instance, one can say "I see you've got today's 'Guardian.' -- May I look?", but one cannot say "*May I read?". This is because the deleted object has a definite entity and the contextual deletion verb "look" can be used, whereas the indefinite deletion verb "read" cannot. In spite of these features, the advanced learners in this study showed near native competence on the null object sentences, contra to Yuan's advanced participants whose competence on null object sentences was significantly different from that of native controls. Kim concluded that learners from discourse-oriented L1s can unlearn null objects, as their English proficiency improves.

Hsieh (2008) investigated the null pronoun phenomenon in the acquisition of English by Taiwanese EFL learners to see whether the Chinese-speaking participants were influenced by their mother-tongue or UG and whether they could reset the L1 value of the null argument parameter. 147 students at National Sun Yat-sen University participated in the study. Of these 147, 15 native English speakers were included as a control group. The experimental group consisting of 111 freshman and sophomore non-major English students and 21 sophomore English major students were divided into high and low levels according to the Subject Competence Test. There were three tasks adopted in this study: (1) Grammaticality Judgment Task (GJT), (2) Paragraph

Translation Task (PT), and (3) Story Telling Task (ST). In the first task, various kinds of knowledge associated with the pro-drop phenomenon were tested such as null subjects, null expletives, null objects, subject-verb inversion, and *that*-trace effect. Three variables were also employed: (1) animate/inanimate null arguments, (2) matrix/embedded clauses, and (3) with/without a preposition after the null arguments. As for the second task, six pro-drop structures were used to see how the participants translated Chinese paragraphs to the English counterparts. The test structures involved (1) missing nouns and pronouns in the clause-initial position, (2) missing expletives in the clause initial position, (3) missing non-subject topics in the clause initial position, (4) missing objects, (5) subject-verb inversion, and (6) *that*-trace effect. The third task required the participants to tell the fairy tale "Cinderella" in approximately ten minutes. The data were transcribed to examine the use of null arguments and two clustered properties, which are subject-verb inversion and *that*-trace effect.

There were five main findings in this study. First, there was an asymmetry of null subjects and null objects in the GJT and PT tasks. That is, both of the experimental groups performed worse on sentences with null objects than those with null subjects. Though the higher level group showed a native-like performance on the sentences with null subjects, their performance on the sentences with null objects was as poor as the lower level group. Also, there was no significant difference between both groups' judgment on sentences with null objects with and without a prepositional phrase. Second, there were different judgments on between matrix subjects and

expletives and embedded subjects and expletives in the GJT. Null matrix subjects were easier to be detected than null embedded subjects by both groups. They also performed better on null expletives in matrix clauses than those in embedded clauses. Third, there was an occurrence of non-subject topics (e.g. "*Taipei rained a lot last year" and "*Here cannot swim") across the three tasks. Fourth, there seemed to be the different unlearning pattern of expletives it and there in the GJT and PT tasks. That is, both groups performed better on sentences with "there" than with *it*-time and *it*-raising in the PT task. Similarly, the high level participants had fewer problems detecting the ungrammaticality of sentences with null expletive "there" than null expletive "it". Fifth, it was found that both groups had difficulty rejecting sentences with *that*-trace effects. This suggested that the participants had difficulty in unlearning ungrammatical sentences with the presence of "that" in *wh*-clauses.

To account for the five main findings mentioned above, Hsieh (2008) relied heavily on L1 transfer-based explanations. That is, Chinese learners are influenced by the topic constructions in their L1, which allows them to adjust their use of topic chains to be aware that a topic at the head of every sentence must be overt. This is why the participants in this study showed an asymmetric pattern in the unlearning of null subjects/expletives in matrix/embedded clauses in that they performed much better on those in matrix clauses than those in embedded clauses. In addition, although non-subject topics are common in Chinese, they are ungrammatical in English. Hsieh claimed that her participants misanalyzed a topic as a subject, resulting

in the ungrammatical sentences like "*Taipei rained a lot last year" and "*Kaohsiung rained cats and dogs in the afternoon" (Hsieh, 2008, p. 75). As for sentences with *that*-trace effects, Hsieh did not give conclusive explanations as to why the participants had difficulty rejecting *wh*-clauses with the presence of "that" and why there was an asymmetric pattern of the acquisition of expletives "it" and "there". Due to evidence of the L1 effects on the participants' performance and the difficulty to acquire some properties regarding the pro-drop parameter, Hsieh concluded that the parameter resetting of pro-drop cannot take place, in support with the Partial Access to UG.

Meechanyakul and Singhapreecha (2013) examined Thai learners' ability to detect the ungrammaticality of English sentences with null arguments. As well as Chinese, Japanese, and Korean, Thai is a discourse-oriented language, thereby allowing arguments to drop when their referents can be recovered from contexts. The researchers specifically considered the specific issue of subject/object asymmetry whether their participants would accept more null objects than null subjects. Moreover, they aimed to test whether Thai learners would accept null arguments in embedded clauses at a higher rate than they would accept null arguments in single clauses. 100 EFL students from two institutions participated in the study. They were further divided into four different proficiency groups. The participants were asked to complete a grammaticality judgment task (GJT) (with correction) which consisted of 58 items. Of these 58, there were 12 sentences with null subjects in single and embedded clauses, 12 null objects in single and embedded clauses, six null expletive sentences,

18 grammatical counterparts, and ten fillers. All the test sentences were contextualized in simple past tense.

It was found that the participants across the four proficiency levels performed better on detecting null subjects and expletives than null objects. In addition, they detected null subjects and objects in single clauses more than in embedded clauses. The researchers supported the notion of input inconsistency argued by Wakabayashi and Negishi (2003) in that sentential subjects are constantly supplied in the input, while objects are not. As for the asymmetric pattern of null arguments in single/embedded clauses, the researchers supported Kong's (2001) discourse information account in that the participants relied on identification available via the overt matrix subject, thereby allowing null embedded subjects. Simply put, since matrix subjects were present in the initial positions of sentences, learners might have assumed that it was unnecessary to restate them elsewhere.

To the best of my knowledge, since there has been only one research done in this area where the participants' L1 is Thai, and their L2 is English (Meechanyakul & Singhapreecha, 2013), this study aims to extend the body of existing knowledge of the null argument phenomenon in the L2 context. As Meechanyakul and Singhapreecha investigated L1 Thai learners' perception of null and non-null arguments in L2 English by using clause types as a variable, this study will fill in the gap by exploring problems in the acquisition of L2 English non-null-arguments on both perception and production by L1 Thai learners.

In addition, the effect of clause types will also be employed to see whether there exists an asymmetry between the L1 Thai learners' recognition of null matrix and embedded subjects as witnessed in the literature (Kong, 2001, 2005, 2007; Meechanyakul & Singhapreecha, 2013). The effect of the presence of prepositional phrases in place of null objects, which seems to play no role in previous research (Yuan, 1997; Wakabayashi & Negishi, 2003; Hseih, 2008), will be re-examined in this study as well. Finally, inspired by Yuan's (1997) study, the variable of animacy will be re-tested from a language universal perspective. In particular, an alignment of the universal animacy hierarchy (Hawkinson & Hyman, 1974; Gass, 1984; Croft, 2003; among others) and the reduction scale (Bresnan, 1998) adapted from Artstein (1999) is adopted to predict that animate arguments will be omitted more frequently than inanimate counterparts.

Last but not least, Eckman's (1977) Markedness Differential Hypothesis (MDH) is employed to predict the relative degree of difficulty L1 Thai learners probably encounter during the process of language acquisition. A typological investigation by Siewierska and Bakker (1996) reveals that the majority of the world's languages allow argument omission. With regard to Croft's (1990) definition of cross-linguistic frequency, this suggests that null pronouns are less marked than overt pronouns. Therefore, the typological-universal-based hypothesis predicts that L1 Thai learners have problems acquiring non-null arguments, given that argument retention is marked, while argument omission is unmarked.

Chapter 3
The Status of (Null) Arguments in English and Thai

In this chapter, arguments, null arguments, and related concepts will be briefly discussed in 3.1. A thorough review of the status of non-null arguments in English and null arguments in Thai will be followed in 3.2. In particular, I will focus on when arguments can or cannot be omitted in both Thai and English.

3.1 Defining arguments, null arguments, and related concepts

Arguments are entities of a clause which bear a direct relationship to their predicate (Kroeger, 2005). Simply put, they are participants which must be involved due to the relation or activity specified by the predicate, and without which the clause cannot provide a complete thought. In English, for example, a verb or verbal predicate requires at least one obligatory argument and can take up to four. Consider the following examples (Aarts, 1997, p. 85):

(27) (a) Henry smiled.

(b) The police investigated the allegation.

(c) Sara gave Pete a parcel.

(d) Melany bet Brian a pound that he would lose the game of squash.

(27a) contains a predicate “smile” that takes only one argument and is referred to as a one-place predicate. The verb “investigate” in (27b) takes two arguments, “the police” and “the allegation”, thereby being called a two-place predicate. In (27c), the verb “give” takes three arguments, the subject “Sara”, the direct object “parcel”, and

the indirect object “Pete”, and is referred to as a three place predicate. The verb “bet” in (27d) takes four arguments: the three noun arguments “Melany”, “Brian”, “a pound”, and the clausal argument “that he would lose the game of squash”. This type of verbs is called a four-place predicate, which is very rare in English.

Different verbal predicates take different numbers of arguments. In Transformational Generative Grammar, the semantic relations between predicates and their arguments are marked in terms of semantic roles (also known as thematic roles or theta roles), which were initially proposed by Chomsky (1981). For many decades, linguists have made an attempt to devise a universal typology of the semantic roles played by arguments in relation to their predicates; some widely accepted thematic roles are shown below (Aarts, 1997; Radford, 2009):

(28) (a) Agent: The doer of the action (“Jack” in “Jack kicks the ball”)

(b) Patient: The undergoer of the action (“John” in “Bale knocked John down”)

(c) Theme: The entity that is moved by the action (“Flowers” in “I gave flowers to Susan”)

(d) Experiencer: The living entity that experiences the action (“Mary” in “Mary loves Phil”)

(e) Goal: The location or entity in the direction of which something moves (“Anna” in “Anna received an urgent e-mail”)

(e) Benefactive (also called beneficiary): The entity that benefits from the action (“You” in “I bought a piece of cake for you”)

(f) Source: The location or entity from which something moves (“Bangkok” in “I have just returned from Bangkok”)

(g) Instrument: The medium by which the action is carried out (“Knife” in “Laura cuts the bread with a knife”)

(h) Locative: The specification of the place where the action is situated (“Tokyo” in “Lucy stayed in Tokyo for two nights”)

It is worth noting that arguments include only elements that are necessary for completing the meaning of the predicate. Other elements such as determiner phrases (DPs) or prepositional phrases (PPs), which are called adjuncts, can be omitted (Carnie, 2011). Consider the following examples:

(29) (a) Graduate students must submit their dissertations in electronic format.

(b) Professor Helen will arrange a makeup class this week.

In (29a), the PP “in electronic format” can be left out without causing the sentence to be ungrammatical or confusing. It simply gives additional information about how graduate students should submit their dissertations. Similarly, the DP “this week” in (29b) can be omitted without creating any sense of incompleteness; it only gives a description of time.

An argument of a predicate in some languages can be omitted, but is in some way recoverable, thereby being called a null argument. Frequently occurring null arguments are null subjects and objects. In pro-drop languages like Italian and Spanish, subjects are dropped but can be recovered or identified through rich inflections

(Taraldsen, 1978; Jaeggli, 1982). More specifically, they can be identified through verbal inflections for person and number. Consider the Italian sentence below (Hawkins, 2001, p.198):

(30) Ø creo que Ø habla inglés
(I) believe that (she) speaks English

In (4), the verb "creo" is inflected for the first person singular pronoun, allowing the subject to be dropped. Similarly, the verb "habla" is inflected for the third person singular pronoun, eliminating the presence of the overt subject.

In radical pro-drop languages like Chinese, Japanese, Korean, and Thai, an argument may also be omitted without causing the sentence to be ungrammatical especially when its antecedent can be retrieved from context (Holmberg & Roberts, 2013). These languages are sometimes called null-argument languages (Lillo-Martin, 1991). Consider the Chinese discourse below where the speaker B's responses are all acceptable (Huang, 1984, p. 162):

(31) Speaker A: Zhangsan kanjian Lisi le ma?
Zhangsan see Lisi LE Q

"Did Zhangsan see Lisi?"

Spealer B: (a) ta kanjian ta le.
he see he LE

"He saw him."

(b) Ø kanjian ta le.

"[He] saw him."

(c) ta kanjian Ø le.

"He saw [him]."

(d) Ø kanjian Ø le.

"[He] saw [him]"

(e) wo cai [Ø kanjian Ø le].
I guess see LE

"I guess [he] saw [him]"

(f) Zhangsan shuo [Ø kanjian Ø le].
Zhangsan say see LE

"Zhangsan said that [he] saw [him]."

As seen above, the subject and the object in (31a) are overt, either or both of which is left out in (31b) to (31f). In (31b), the subject pronoun is omitted and is coindexed with "Zhangsan" in Speaker A's question. Similarly, the object pronoun in (31c) is omitted and is coindexed with "Lisi" in Speaker A's question. Both subject and object are dropped in (31d), where "Zhangsan" and "Lisi" serve as antecedents for the omitted subject and object, respectively. As for (31e), the subject and the object, coindexed with "Zhangsan" and "Lisi", respectively, are omitted in the embedded clause. In (31f), the omitted embedded subject is coindexed with the overt matrix subject "Zhangsan", while the omitted object is coindexed with "Lisi" in the Speaker A's question.

3.2 Non-null arguments in English and null arguments in Thai

3.2.1 Non-null arguments in English

English does not allow obligatory arguments to be omitted, thereby being referred to as a non-null argument language (also called non-prodrop, sentence-oriented, or subject-prominent language) (Chomsky, 1981; Lillo-Martin, 1991). Neither subjects nor objects can be dropped and retrieved their antecedents from contexts, as opposed to those in null argument languages (Huang, 1984). As aforementioned in 3.1, a predicate in English takes at least one argument (i.e. subject) if it is an intransitive verb. Some verbs take as many as three arguments, and without which the clause will be ungrammatical as exemplified in (32a):

(32) (a) *I give flowers.

(b) I give my sister flowers.

Since “give” requires three obligatory arguments (i.e. an agent, a theme, and a recipient), the absence of a theme causes (32a) to be ungrammatical and the presence of the theme “flowers” in (32b) is vice versa. However, there are certain exceptional cases that arguments may be dropped without causing sentences to be ungrammatical. Recall that different arguments play different semantic roles in relation to their predicates (see 3.1). It is important to note that arguments in English can also be optional, which are sometimes called non-obligatory arguments (Hawkins, 2001). More specifically, many transitive verbs allow optional beneficiary arguments (33a),

and most transitive verbs of the agent-patient type allow optional instrument arguments (33b).

(33) (a) John baked a cake (for Mary).

(b) Bill cut the fish (with a pocket knife).

(Kroeger, 2005, p. 59)

Neither the beneficiary "Mary" being baked the cake for in (33a) or the instrument "a pocket knife" employed in the cutting in (33b) are core elements in those events, thereby being allowed to be grammatically omitted.

Since omission of core sentential elements, i.e. subjects and objects, is of the present study's concern, non-obligatory arguments lie outside the scope of this study. Although tensed clauses in English require that subjects be phonetically realized, it is worth noting that they can be omitted without causing sentences to be ungrammatical in certain cases. As is known, English allows null subjects in imperative sentences and are intrinsically second person, as in "Don't lose your nerve!" where the pronoun "you" is almost always omitted[10] (Radford, 2009, p. 82). Another instance of subject omission can be found in colloquial spoken English, which includes both personal subjects and expletives "it" and "there" (Zwicky & Pullum, 1983; Quirk et al., 1985). Examples of subject pronoun deletion are shown below (Weir, 2012, p. 107):

(34) (a) [I] won't be in the office tomorrow.

[10] An overt pronoun in an imperative is also, though rare, possible. It is used for emphatic purposes, as in "Don't you come any closer!".

(b) A: Why didn't you and your flatmates go to the party?

B: [We] didn't fancy it.

(c) A: Am I invited to the party?

B: [You] must be, surely.

(d) A: Why didn't [he/she/they] come to the party?

B: [He/She/They] didn't fancy it, I suppose.

Expletive subjects "it" and "there" can also be omitted as exemplified below (Quirk, 1985, p. 896-897):

(35) (a) [It] looks like rain.

(b) [It] must be hot in Panama.

(c) [There] must be somebody waiting for you.

(d) [There] appears to be a big crowd in the hall.

In certain registers of written English that tend to use abbreviated writing such as diaries or note-takings, subjects can also be dropped (Haegeman, 2007; Weir, 2012). Examples of subject omission from diary writing are shown below (Haegeman, 2007, p. 95):

(36) (a) [I] felt I'd been watching or participating in a Greek play.

(b) [I] hope I can work for some weekly in London.

(c) [I] dreamt that I picked up a New Yorker.

Weir (2012) noted that sentence-initial subjects can be omitted both in informal spoken language and in diary writing. Null embedded subjects, however, are not

allowed in the spoken language although they rarely occur in the written language. With regard to personal pronouns, Teddiman and Newman (2007) examined matrix subject omission data in a diary corpus constructed from online weblogs and found that “I” and “it” were the most frequently omitted subjects.

As well as subjects, objects of English verbs can be omitted in certain registers. In recipe context, for example, obligatory objects can be dropped as exemplified below (Massam & Roberge, 1989, p. 135):

(37) Take the cake mix, 1 cup of water, and 3 eggs. Mix Ø well and beat Ø for 5 minutes. Pour Ø into a well-greased cake pan and bake Ø for 20 minutes. Remove Ø from oven and cool Ø.

Obligatory objects can also be deleted in instructional language on product labels, manuals, and warning signs, as exemplified below (Liu, 2008, p. 304):

(38) (a) Bake for 45 minutes … (instruction on a cake mix box)

(b) Shake well before use. (instruction on a medicine bottle)

(c) Don’t touch! (a sign near a newly painted area)

(d) Handle with care. (instruction on a shipping box)

It is worth stating that constraints on object omission are quite relaxed in both recipes and instructions, given that objects in these two registers can almost freely be dropped, as opposed to Standard English where obligatory objects cannot generally be omitted (Cote, 1996).

Despite being a non-null argument language that does not generally allow object deletion with a few exceptions in certain registers mentioned above, some English verbs do allow null objects that are recoverable from discourse context in spoken language, which Liu (2008) refers to as object-deleting verbs[11]. These verbs should not be confused with verbs that are transitive by nature but are sometimes used without objects, such as "eat", "drink", "play", "read", and "sing", which Liu (2008) refers to as transitive-converted intransitive verbs whose sole argument always plays the thematic role of agent[12] (e.g. "Susan ate", "Mary sings beautifully", and "I don't drink"). Enhancing his analysis with spoken language data from British National Corpus (BNC), Liu (2008) claims that there are two types of context in which object-deleting verbs can drop their objects: (1) discourse context, and (2) situational context. The verbs warranted by discourse context include "ask", "deliver", "explain", "paint", "decline", "understand", "know", and "forget", as exemplified below:

(39) Each time we met she invited me, and each time I declined Ø.

(BNC)

[11] It should be noted that this recoverability of null objects in English is similar to that in null argument languages.

[12] Based on Liu's (2008) analysis, transitive-converted intransitive verbs should not be included in the object-deleting category for at least three reasons, one of which is that they focus on the activity, not the object. For example, "John drinks heavily" puts an emphasis on the activity of drinking alcohol, not the kind or amount of alcohol John drinks. While object-deleting verbs have specific deleted objects, transitive-converted intransitive verbs do not. Thus, Liu argues that transitive-converted intransitive verbs do not involve object deletion at all since there is no specific object being deleted.

(40) The facility receives “Green” Falcon10 and 20 aircraft direct from France, and installs interiors and avionics, and also paints Ø and delivers Ø direct to the corporate customer.

(Bieber et al., 1999, p. 347)

From the discourse context, it is obvious that the deleted object of “decline” in (39) is the invitation and the deleted object of “paint” and “deliver” in (40) is “Falcon” aircraft.

Object-deleting verbs warranted by situational context are found in instructional language exemplified in (38). Furthermore, they may appear in pairs in face-to-face interactions, as in “You lead and I follow” and “You wash and I dry (when talking about washing dishes)” (Liu, 2008, p. 304).

In short, although English is a non-null arguments language, obligatory arguments (i.e. subjects and objects) in tensed clauses are allowed to be omitted in spoken language and in certain registers. Subjects may be omitted in colloquial spoken language and in diaries or note-takings. Objects of some verbs can also be omitted and are recoverable from discourse in everyday spoken language and in recipes or instructions. However, it should be made clear that obligatory subjects and objects in English are normally not omitted, as opposed to those in null argument languages that allow arguments to drop freely, unless they appear in the aforementioned registers.

3.2.2 Null arguments in Thai

Thai is a null argument language (also called radical pro-drop, rampant pro-drop, discourse pro-drop, discourse-oriented, or topic-prominent language) that allows pronominal arguments to drop in sentential contexts (Kobsiriphat, 1988; Hoonchamlong, 1991; Phimswat, 2011). There is almost no restriction on the environments in which a null argument can occur. That is to say, it can serve as a subject of a matrix clause, a subject of an embedded clause, an object of a matrix clause, an object of an embedded clause, but not as a complement of a preposition (Phimswat, 2011). Furthermore, an omitted subject or object may have its antecedent in the next clause up (i.e. the matrix clause) or can be coindexed with a discourse antecedent, which may be either in the preceding sentence or elsewhere in the discourse (Pingkarawat, 1989, as cited in Na Ranong & Leung, 2009; Hoonchamlong, 1991). Pronominal null subjects and objects occurring in different environments are exemplified below[13]:

(41) (a) Null matrix subject coindexed with an antecedent in the preceding sentence

A: tʰɔ̀ːi	tɕ àːi	kʰâːtʰɔ̀ːm	jaŋ
you	pay	tuition fees	yet

"Have you$_i$ paid the tuition fees yet?"

[13] Abbreviations and symbols used in (41) are as follows: Ø = null argument, COMP = complementizer, CL=classifier, and FUT = future tense marker.

B: $Ø_i$ tɕ àːi Ø lǽːw
Ø pay Ø already

"Yes, $Ø_i$ have paid Ø already."

(b) Null embedded subject coindexed with an antecedent in the matrix clause

A: kʰun ŋuâaŋ nɔːn jaŋ
You sleepy yet

"Are you sleepy?"

B: jaŋ pʰǒm$_i$ kʰɪt waˆ $Ø_i$ tɕàʔ tʰam ŋaːn tɔ̀ ʔìːk nɔ̀i
no I think COMP Ø FUT work a little longer

"*Not yet, I_i think $Ø_i$ will be working for a little longer."

(c) Null embedded subject coindexed with an antecedent in the preceding sentence

A: tɕʰǎn kʰuan sɯ́ːˇ rót$_i$ kʰan nán mǎi
I should buy car CL that QP

"Should I buy that car_i?"

B: maîˆ tɕʰǎn kɪ́t waˆːˇ $Ø_i$ pʰæŋ kɤːn
No, I think COMP Ø expensive too

"*No, I think $Ø_i$ is too expensive"

(d) Null matrix object coindexed with an antecedent in the preceding sentence

A: tʰɔ̀ː tɕ àːi kʰâːtʰɔ̀ːm$_i$ jaŋ
you pay tuition fees yet

"Have you paid the tuition fees yet?"

B: Ø tɕ àːi Ø$_i$ lǽːw
Ø pay Ø already

"Yes, I have paid Ø$_i$ already."

(e) Null embedded object coindexed with an antecedent in the matrix clause[14]

nít$_i$ bɔ̀ːk wâː nuan hěn Ø$_i$
Nit say COMP Nuan see Ø

"Nit$_i$ said that Nuan saw Ø$_i$"

(Cole, 1987, p. 603)

(f) Null embedded object coindexed with an antecedent in the preceding sentence

năŋ$_i$ rûaŋ níː sàʔ nùk mâːk nɔ́i tɔ̂ŋ tɕʰɔ̂p Ø$_i$ nâː
movie CL this fun much Noi must like Ø surely

"This movie$_i$ was so fun. I think Noi must like Ø$_i$ for sure"

[14] Huang (1984) claims that discourse-oriented languages such as Chinese, Korean, and Japanese do not allow null objects to coindex with subjects in matrix clauses. However, Pingkarawat (1989, as cited in Na Ranong & Leung, 2009) argues against Huang (1984) in that there is no syntactic restriction that disallows null objects in Thai to coindex with matrix subjects, as shown in (41e).

To answer a question such as (41a) and (41d), neither a subject nor an object has to be overt. The null subject in B's answer in (41a) is coindexed with the subject in A's preceding question. Similarly, the null object in B's answer in (41d) is coindexed with the object in A's preceding question. In (41b), the first person pronoun in the matrix clause is coindexed with the null embedded subject. In (41c), the null embedded subject in B's answer is coindexed with the object in A's preceding question. In (41e), the null embedded object is coindexed with the matrix subject. In (41f), the null embedded object is coindexed with the subject in the preceding sentence.

Although pronominal arguments in Thai can be omitted quite freely, there are certain environments in which null pronouns cannot occur. Phimsawat (2011, p. 30) argues for at least three positions in which pronouns cannot be null at all, as exemplified below:

(42) tɕɔː̀n jùː̀ kàp *(tɕʰán) tàʔ lɔ̀ːt wɛː̀ laː̀
John stay with I all the time

"John stays with me all the time."

(43) nók bɔ̀k waː̂ː̀ pʰim hɛ̌n tʰáŋ *(kaw̌) lǽʔ tɕɛːˈn
Nok say COMP Pim see both s(he) and Jane

"Nok said that Pim saw both him/her and Jane."

(44) nǔ: kít wâ: *(nǔ:) kàp nɔ́:ŋ sǎu tɕàʔ pai hɔ̂:ŋ sàʔ mùt
I think COMP I and younger sister FUT go library

"I think that I and my younger sister will go to the library."

(42) exemplifies a case of a prepositional complement which is not allowed to be omitted. Moreover, when a pronoun, being either a subject (43) or an object (44), is part of a conjoined noun phrase, it is not allowed to be omitted.

Given that null arguments in Thai can appear in almost any positions in sentences and that the use of null pronouns in Thai are more preferable than the use of overt counterparts (cf. Phimsawat (2011)), while arguments in the English formal register are not allowed to be omitted at all, it is worthwhile investigating whether L1 Thai learners of L2 English can reject English sentences with null arguments and supply overt arguments in the ungrammatical sentences.

Chapter 4
Methodology

This chapter details the methodology utilized in the present study and is divided into four sections: (4.1) participants, (4.2) research instruments, (4.3) data collection, and (4.4) data analysis.

4.1 Participants

120 undergraduate students from three faculties at Chulalongkorn University and one faculty from Silpakorn University took part in the experiment. Neither of them were bilinguals, had come from international schools where language of instruction is English, and had been in English-speaking countries for more than one year. They were thus regarded as L1 Thai learners of L2 English, which was one of the criteria for selecting participants in this study.

The Oxford Quick Placement Test (OQPT), Version 2 (2001), consisting of 60 items assessing reading, vocabulary, and grammar, which are in the multiple-choice format, was utilized to divide participants into two groups. The reason behind choosing OQPT as a placement test was that it includes a reasonable number of test items that can be done in a short period of time. With respect to the cut-off ranges, those who scored from 30-47 were categorized as intermediate and above 47 as advanced. In fact, those who scored from 30-47 could have been further divided into two groups: lower-intermediate (30-39) and upper-intermediate (40-47). However, a pilot study conducted prior to the present study revealed that lower-intermediate and upper-

intermediate participants' performance on rejecting null arguments in English were almost the same, so the two score ranges were aligned and grouped as intermediate. With these criteria, 31 participants were grouped as intermediate and 31 participants as advanced. The average ages of the intermediate and advanced groups were 20.16 and 20.87, respectively.

It is worth noting that five native speakers were also included as a control group. They were all university lecturers with a bachelor's degree or higher.

Biographical details of the three groups including their age and score ranges, average ages and scores, and standard deviations are illustrated in Table 1 (See Appendix A on detailed biographical data of each participant).

Table 1: The numbers of participants and native controls, the ranges, the means, and the standard deviations of the participants' ages and scores

Groups	Numbers	Ages			OQPT Score		
		range	mean	SD	range	mean	SD
Intermediate	31 (19 from Archaeology, 6 from Allied Health Sciences, 6 from Science)	19-21	20.16	0.73	31-42	35.98	2.97

Groups	Numbers	Ages			OQPT Score		
		range	mean	SD	range	mean	SD
Advanced	31 (17 from Arts, 13 from Archaeology, 1 from Science)	19-21	20.87	0.43	48-58	49.98	2.55
Native Control	5	24-57	44.6	15.45	-	-	-

4.2 Research instruments

4.2.1 The tasks

4.2.1.1 Grammaticality Judgment Task (GJT)

Eight sentence structures were employed in the present study. For each sentence structure, there were two experimental sentences illustrated in (45a) – (52a) and two control sentences exemplified in (45b) – (52b). One semantic and two syntactic variables, i.e. (1) animate/inanimate null arguments, (2) matrix/embedded clauses, and (3) with/without a prepositional phrase after null arguments, respectively, were used to elicit the participants' acceptability of null arguments in this task. The variable of animacy was employed to elicit both null subjects and objects, whereas the factors of clause type and the presence/absence of a prepositional phrase after null arguments were used to elicit null subjects and objects, respectively. 32 control

and experimental sentences were mixed with 18 distracters containing different types of grammatical errors, which constituted 50 test items in total. Also, it should be noted that pragmatic factors were outside the scope of this study.

In addition, it is worth noting that every test item was presented in the past tense in order to keep the variable of tenses constant. It should also be noted that null animate arguments only referred to humans and null inanimate arguments only referred to non-living things.

With regard to positions of the null arguments' antecedents, null subjects and objects were conindexed with their referents either in the matrix clauses or in the preceding sentences. It should also be noted that the structural types of null arguments and their antecedents were pronouns and nouns, respectively.

There was also a particular criterion in selecting the verbs in the null object sentences in order to make sure that the absence of objects results in sentence ungrammaticality. That is, all the verbs are or are used as transitive verbs which do not permit object deletion, based on Liu's (2008) classification of verbs used without an object, illustrated in Table 2 below:

Table 2: Classification of verbs used without an object (adapted from Liu, 2008, p. 305)

Category	Example	Syntactic, Semantic, and Discourse Characteristics
1. Pure Intransitive	arrive, come, cry, jog, jump, lie, like, sleep, sit, wait	They are inherently transitive and are almost never used transitively.
2. Ergative Intransitive (including Pseudo Intransitive)	break, change, close, continue, decrease, increase, melt, move, open, stop, turn (pseudo: reads smoothly, scares easily, sells well,)	When used intransitively, the subject of such a verb is the same as the object when the verb is used transitively.
3. Transitive-Converted (Intransitive Verbs of Activity)	eat, drink, hunt. knit, read, teach, write	These verbs can function this way without a discourse or situational context and there is usually no specific deleted object.

Category	Example	Syntactic, Semantic, and Discourse Characteristics
4. Object Deleting (both discourse and situational context warranted)	Discourse Context: accept, ask, clean, continue, deliver, find out, forget, hear, help, know, promise, realize, see, understand Situational Context: bake, freeze, heat, keep off, shake	These verbs cannot be used this way without a clear discourse or situational context and there is a specific deleted object.

There were eight different verbs, namely “find”, “fix”, “forgive”, “make”, “pick”, “punch”, “punish”, and “see”, used in the experimental sentences with null objects, neither of which included those presented in Table 2, except for “see”[15]. It is worth noting, however, that although “see” can be used either as an intransitive verb with no specific deleted object as in “John can’t see clearly” or as an object deleted verb as in “‘Mary hit John on the temple!” “Yes, I saw” (Dixon, 2005 as cited in Liu, 2008, p. 303) whose deleted object may be the noun “the hitting”, the clause “that Mary hit John on the temple”, or the noun plus infinitive complement “Mary hit John

[15] “See” may be used either in an epistemic sense (i.e. to understand) or in a sensory sense (i.e. to have the faculty of sight/vision), but the one used in the experimental sentence means the latter.

on the temple", its deleted object does not normally refer to a proper noun like a person as used in (51a) (Liu, 2008).

The eight sentence structures employed in the present study are exemplified below:

(45) Sentence with animate null subject in matrix clause (A/S/M)

(a) The police noticed an escaping robber. Ø Approached him as quietly as possible.

(b) I met Lisa's boyfriend the other day. He was as good-looking as George Clooney.

(46) Sentence with inanimate null subject in matrix clause (I/S/M)

(a) Bill could not stand his seven-year-old laptop anymore. Ø Kept hanging and restarting itself.

(b) I bought this pink umbrella in Japan last year. It was 70% off.

(47) Sentence with animate null subject in embedded clause (A/S/E)

(a) My uncle fell down the stairs. The doctor said Ø needed at least 6 months to recover.

(b) Susan broke up with her boyfriend last month. She said he was very cruel, so she dumped him.

(48) Sentence with inanimate null subject in embedded clause (I/S/E)

(a) The old DVD player was very smart. At first I thought Ø could only read certain file formats.

(b) Last night a burglar broke into my house and stole my mother's necklace. Fortunately, she told me it was imitation gold.

(49) Sentence with animate null object followed by a prepositional phrase (A/O/PP)

(a) An airline passenger said something very rude to my sister, so I punched Ø in the face.

(b) Thomas was one of the greatest chefs in town. I first met him at an international food fair.

(50) Sentence with inanimate null object followed by a prepositional phrase (I/O/PP)

(a) Some of the apples on the tree were ripe, so Anna went out to pick Ø with her children.

(b) Having finished reading all these novels, Bill sold them to a second-hand bookstore.

(51) Sentence with animate null object without a prepositional phrase following (A/O)

(a) The teacher told me that Ben came to school yesterday, but I did not see Ø.

(b) Although The Bee Gees were a famous band in the UK, a lot of people in Asia did not know them.

(52) Sentence with inanimate null object without a prepositional phrase following (I/O)

(a) When I lived in Italy, I ate lasagna almost every day. Still, I did not know how to make Ø.

(b) I lost my car key, so I asked my mother to help me find it.

With respect to scoring, the participants were given one point if they marked the control sentences, which were grammatical, as correct and made no correction to them. Provided that their corrections did not result in the ungrammaticality of the sentences, they would also receive one point. Take, for example, verbs that can be used with or without "to". Among many others is "help", which can be followed by either a bare infinitive or by a *to*-infinitive. Therefore, if the test sentence in (53) is corrected by adding the infinitive "to" after the verb "help", the correction is acceptable, as exemplified below:

(53) I lost my car key, so I asked my mother to help me find it.

Possible correction: I lost my car key, so I asked my mother to help me <u>to</u> find it.

As for the experimental sentences, not only could the participants identify them as incorrect, but they also had to make a right correction in order to receive one point.

The participants were given 60 minutes to finish this task. They were given clear instructions and were asked if any part of the task needed to be further clarified. The vocabulary was also kept as simple as possible, given that they were not allowed to use a dictionary.

4.2.1.2 Dialogue Translation Task (DTT)

The eight sentence structures, exemplified in (54) - (61), were also employed in this task in order to elicit the participants' production of null arguments

through Thai-English translation. Two experimental sentences from each test structure as used in the GJT were randomly distributed in 11 Thai dialogues. Rather than having the participants translate Thai sentences into English, a dialogue translation task was used on the basis of contextual factor consideration. Again, the animacy variable was employed to elicit both null subjects and objects, while the variables of clause types and presence/absence of prepositional phrases after arguments were used to elicit null subjects and objects, respectively. As is the case for the GJT, pragmatic factors were not taken into consideration.

It is worth noting that null animate arguments only referred to humans and null inanimate arguments only referred to non-living things, as is the case for the GJT.

As for the positions of the null arguments' antecedents, null subjects and objects were coindexed with their referents either in the preceding sentences or in the following sentences. In addition, the structural types of null arguments and their antecedents are pronoun and noun, respectively.

All the verbs in the DTT are or are used as transitive verbs, based on Liu's (2008) classification of verbs used without an object, as is the case for those in the GJT. There were six different Thai verbs, neither of which included those listed in Table 2, with eight meanings in the experimental sentences: "tʰam tʰô̯ːt" (punish),

“tʰɛai˘” (use), “tʰam tòk” (drop), “waːŋ” (put), “tɛɤː” (meet), and “haː˘” (find, visit, and come to see)[16].

(54) Sentence with animate null subject in matrix clause (A/S/M)

Teacher: (A/S/M) maː rian sai˘ ʔiːk lɛ́ːw wan níː
Ø came study late again today

(You) came late again today.

Student: pʰom˘ pai haː˘ mɔ̌ː maː kʰráp pʰom˘ wian hua˘ tɛ̀ː
I went see doctor ADV PAR I dizzy but

mɔ̌ː bɔːk waː Ø mai pen ʔà rai maːk
doctor told COMP Ø not COP anything much

I went to see a doctor. I was dizzy, but the doctor told me I was fine.

(55) Sentence with inanimate null subject in matrix clause (I/S/M)

Customer: rom kʰan níː raː kʰaː tʰau rài jiː hɔ̂ː níː kan
umbrella CL DET cost how much brand DET protect

raŋ siː˘ juː wiː duai ruː˘ plàːu
ray UV also Q PAR

How much is this umbrella? Is it UV protective?

[16] Abbreviations and symbols used in (54) - (62) are as follows: Ø = null argument, ADV = adverb, AUX = auxiliary, COMP = complementizer, CONJ = conjunction, COP = copula, DET = determiner, PAR = particle, Q PAR = question particle.

Sales clerk: rôm raː kʰaː 500 bàːt (I/S/M) kan raŋ sîː juː wiː
umbrella cost 500 baht Ø protect ray UV

99% kʰráp
99% PAR

The umbrella is 500 baht. (It) is 99% UV protective.

(56) Sentence with animate null subject in embedded clause (A/S/E)

Teacher: Ø maː rian sǎi ʔìːk lɛ́ːw wan níː
Ø came study late again today

You came late again today.

Student: pʰǒm pai hǎː mɔ̌ː maː kʰráp pʰǒm wian hŭa tɛ̀ː
I went see doctor ADV PAR I dizzy but

mɔ̌ː bɔ̀ːk wâː (A/S/E) mâi pen ʔà rai mâːk
doctor told COMP Ø not COP anyting much

I went to see a doctor. I was dizzy, but the doctor told me (I) was fine.

(57) Sentence with inanimate null subject in embedded clause (I/S/E)

Jib: tʰɤː pʰɤ̂ŋ sɯ́ː iPhone6 maː tʰɛ̂ai mǎi man pen ŋai bâːŋ
you just bought iPhone6 ADV Q PAR it COP how Q PAR

You have just bought an iPhone6, haven't you? How is it?

Kai: tʰɕa̍n bɔ̀ːk tʰɤːˆ daî lɤːi waːˆ (I/S/E) sua̍i lɛ́ʔ diː

I told you for sure COMP Ø beautiful CONJ good

kʷàː iPhone5s nêː nɔːn

more than iPhone5s surely

I can tell you that (it) is surely better and more beautiful than iPhone5s.

(58) Sentence with animate null object followed by a prepositional phrase (A/O/PP)

Chai: pʰo̍m maî tɕɤːˆ mêː maː kɯap dɯan lɛ́ːw mûa waːn

I not saw mom ADV almost month already yesterday

po̍m lɤːi pai ha̍ː (A/O/PP) tʰîˆ baːˆn

I then went saw Ø at home

I hadn't seen my mom for almost a month, so yesterday I went to visit (her) at home.

Down: tʰɤːˆ tʰɕoːk diː tʰîˆː jaŋ miː mêː haî jîam mêː tʰɕa̍n

you lucky COMP still have mom AUX visit mom my

sǐa taˆŋ tɛ̀ː tʰɕa̍n jaŋ dèk

died since I still child

You are lucky to have a mom to visit. Mine passed away when I was still young.

(59) Sentence with inanimate null object followed by a prepositional phrase (I/O/PP)

Mom˧ lu˧˥k ʔau mái kʷà˧t pai wa˧ŋ wái troŋ nai˨˩
you took broom ADV put ADV at Q PAR

Son, where did you put the broom?

Son: pʰo˨˩m wa˧ŋ (I/O/PP) wái kʰa˧˥ŋ kʰa˧˥ŋ tu˧˥ jen kráp mɛ̂˧
I put Ø ADV beside fridge PAR mom

I put (it) beside the fridge, mom.

(60) Sentence with animate null object without a prepositional phrase following (A/O)

Ked: tʰɕa˨˩n mai˧˥ tɕɤ˧ fɛ˧n ma˧ la˨˩i wan lɛ́˧w mɯ̂a wa˧n kʰa˨˩u
I not saw boyfriend ADV many day already yesterday he

ma˧ ha˨˩˧ (A/O)
came saw Ø

I haven't met my boyfriend for days. Yesterday, he came to see (me).

Noi: tʰɤ˧ koŋ di˧ tɕai ma˧˥k sìʔ náʔ
You probably happy much PAR

You must have been really happy.

(61) Sentence with inanimate null object without a prepositional phrase following (I/O)

Pol: pʰǒm tʰam wên taː haǐ kʰun tʰɕûai pʰǒm haˇː (I/O) nɔ̀i
I did eye-glasses lost you help me find Ø PAR

daˆː mái
Q PAR

I've lost my eye-glasses. Can you help me find (them)?

Keng: wêːn sǐː lɯ̌aŋ tʰɕâi mái kʰun kʰoŋ tʰam Ø tòk
eye-glasses yellow Q PAR you might did Ø dropped

tʰɛ̌ːw tʰɛ̌ːw níː
around here

The yellow ones? I think you may have dropped them around here.

As for scoring, the participants would receive one point if they translated null arguments presented in the Thai dialogues into overt English counterparts, be it an NP or a pronoun, as exemplified below:

(62) Momː luˆːk ʔau mái kʷàːt pai waːŋ wái troŋ naǐ
you took broom ADV put ADV at Q PAR

Son, where did you put the broom?

Son: pʰǒm waːŋ (I/O/PP) wái kʰaˆːŋ kʰaˆːŋ tuˆː jen kráp mêː
I put Ø ADV beside fridge PAR mom

I put (it/the broom) beside the fridge, mom.

The null object in (62) is coindexed with the NP “the broom”. A grammatical translated English sentence would contain either the pronoun “it” or the NP “the broom”. Given that the focus was on null arguments, other linguistic features such as tenses, prepositions, vocabulary, etc. would not be taken into consideration. Also, sentences that were not translated according to the given dialogues would also be ignored.

Again, the participants were given 60 minutes to complete this task. They were given clear instructions and were encouraged from the teachers in each session to ask for any further clarification about the task. It is worth noting that the vocabulary and grammatical structures in the Thai dialogues were kept as simple as possible, given that the participants were not allowed to use a dictionary to look up for vocabulary definitions, nor were they allowed to consult grammar books.

4.2.2 Validity test

Before both tasks were administered to the participants, their content validity was assessed by a panel of experts consisting of three university lecturers in linguistics. The Index of Item-Objective Congruence (IOC) developed by Rovinelli and Hambleton (1976) was adopted to judge the congruence between the test items and the objectives on which they were based. The experts assigned either one point to the item they felt congruent with the objectives, zero point to the item they were not sure whether it was congruent with the objectives, or minus one point to the item they thought it was incongruent with the objectives. In addition, any item that was judged

as incongruent or received minus one point was either revised or replaced with a new item. Therefore, the possible points for the validation were limited to zero and one, given that the items received minus one point were excluded from the task. The scores obtained from the experts' validation must also be higher than 0.5 to be regarded as valid measures of the intended objectives.

Overall, the result showed that the content validity of the GJT was 0.978, while that of the DDT was 0.979. The IOC scores of each item are illustrated in Appendix D.

4.3 Data collection

The three tasks including the OQPT were distributed in a regular classroom setting. The instructors supervising each session kindly and carefully explained how the tasks should be completed. Each of them was given two hours and 45 minutes to complete all the tasks. Owing to time limitation, however, it was almost impossible to finish the tasks within the given time in class, so the participants were asked to submit them on the following day. They were also informed that the tasks took no part in their courses in order not to make them feel worried, or even intimidated, and were encouraged not to use a dictionary or grammar books or to consult one another. Furthermore, at the time of the experiment, all of the participants had just finished their mid-term examinations, so stress and pressure that might be factors affecting the test scores could be singled out. At the end of each session, they were given a snack as a reward.

4.4 Data analysis

First and foremost, it should be noted that the participants who did not meet the OQPT score criterion were excluded from the study. All the raw scores gained from the participants who met the criterion were then calculated and converted to percentage scores. Descriptive statistics was employed to answer the first hypothesis. In particular, the participants scoring lower than 80% were considered as having difficulty acquiring non-null arguments in English[17]. Moreover, as the two different levels of proficiency were taken as a measure of language development, the intermediate and advanced groups' mean scores were compared to see whether the learners' knowledge of non-null arguments in English increased over time.

As for the second hypothesis, inferential statistics was employed to determine whether the three variables affected the acquisition of both experimental groups. SPSS version 16 (SPSS Inc., Chicago, IL, USA) was used to perform paired-samples *t*-tests (also referred to as the matched-pairs or dependent means *t*-test) to see whether there was a significant difference between the mean scores of each pair of experimental sentences that test each variable. Statistically speaking, if the *p*-value was less than or equal to a significance level of 0.05, the null hypothesis would be rejected and the second hypothesis would be confirmed.

[17] According to Tarone, Gass, and Cohen (1994), the 80% criterion for acquisition is commonly accepted in SLA.

Chapter 5
Results and Discussion

In this chapter, the results obtained from the experiment described in Chapter 4 will be presented. Section 5.1 and 5.2 present the results from Tasks 1 and 2, respectively. The two sections are further divided into subsections in order to allow a thorough look at the data. Possible explanations for the results relevant to each aspect of the study, namely (1) subject/object asymmetry, (2) difficulty of acquiring null subjects and objects, and (3) variables affecting the acquisition, will follow each subsection, where the extent to which the results confirmed the hypotheses of the study was also discussed.

5.1 Task 1: Grammaticality judgment task

In this section, overall scores of the eight types of test sentences (both control and experimental) by the intermediate, advanced, and native control groups will be presented first. The scores of each experimental group on recognizing and correcting null subject sentences (Types 1-4) and null object counterparts (Types 5-8) will be compared and determined by the paired-samples *t*-test to see whether there was an asymmetrical pattern between the recognition of non-null subjects and objects. The paired-samples *t*-test was performed to compare their scores of (1) animate null subject and object sentences with their inanimate null subject and object counterparts, (2) null matrix subject sentences with their null embedded subject counterparts, and (3) sentences followed by a prepositional phrase with sentences

without a prepositional phrase following, to see whether the variables of animacy, clause types, and prepositional phrases, respectively, affect the recognition of English non-null arguments. Possible explanations attributable to the trends of the results will be provided immediately after the data have been analyzed in each subsection. It should be noted that the scores of the native control group will be presented only in Section 5.1.1 since the emphasis is placed on L2 learners' data.

5.1.1 Overall results

Mean scores of the eight types of test sentences (both control and experimental) by the intermediate, advanced, and native control groups were calculated and converted to percentages as illustrated in Table 1. It should be noted that responses were interpreted as "correct" when control sentences were marked with a check mark. If any corrections were made on control sentences except those described in 4.2.1.1, the responses were considered as "incorrect". As mentioned in 4.2.1.1, responses to experimental sentences were interpreted as "correct" when the participants marked the sentences with a cross and supplied an overt argument (typically a pronoun) to the sentences. Responses were, however, considered as "incorrect" when the participants either marked the experimental sentences with a check mark or even when they marked the sentences with a cross but failed to correct the relevant part.

Table 3: Average scores of null argument recognition and correction on each sentence type by the intermediate, advanced, and native control groups

Sentence Types	A/S/M		I/S/M		A/S/E		I/S/E	
	C	E	C	E	C	E	C	E
Intermediate (n=31)	93.55	59.68	96.77	40.32	79.03	45.16	77.42	32.26
Advanced (n=31)	91.94	79.03	91.94	82.26	95.16	90.32	82.26	87.10
Control (n=5)	100	100	100	100	100	100	100	100
Sentence Types	A/O/PP		I/O/PP		A/O		I/O	
	C	E	C	E	C	E	C	E
Intermediate (n=31)	72.58	27.42	64.52	20.97	87.10	30.65	93.55	33.87
Advanced (n=31)	82.26	82.26	93.55	72.58	75.80	54.84	96.77	75.81
Control (n=5)	100	100	100	100	100	100	100	100

(Note. n = number of participants, C = control, E = experimental)

The native controls judged control sentences as correct at a 100% rate and also successfully corrected experimental sentences at a 100% rate. The intermediate and the advanced groups tended to be less consistent, especially the former group

which performed on control sentences far better than on experimental sentences. Both groups judged control sentences as correct above 70% and 80%, respectively, with an only exception on the A/O type. However, the intermediate participants supplied a correction to all types of experimental sentences lower than 60%, most of which (I/S/M, I/SE, A/O/PP, I/O/PP, A/O, and I/O) were corrected below 41%. As for the advanced participants, they corrected experimental sentences above 72%, with an only exception on the A/O type (55%). Overall, there appears to be a huge difference between null subject sentences (i.e. A/S/M, I/SM, A/S/E, and I/S/E) and null object sentences (i.e. A/O/PP, I/O/PP, A/O, and I/O), which will be dealt with in the next section.

It is worth noting, however, that corrections to control sentences were not concerned with the knowledge of non-null arguments, given that no response changed grammatical sentences into ungrammatical sentences by deleting overt subjects or objects. Incorrect responses to experimental sentences included changes of tense markers, auxiliaries, prepositions, vocabulary, and so on, which were not related to subjects or objects at all. For this reason, responses to control sentences were not taken into consideration when raw data were calculated in order to discuss each aspect of the study since they did not truly reflect the knowledge of non-null arguments in English.

Although the relationship between English proficiency and an ability to detect the ungrammaticality of null subject and object sentences was not of the study main

concern, it is worth discussion, given that the two different levels of proficiency were taken as a measure of language development. As the L2 learners' proficiency increased, they obviously had less difficulty recognizing sentences with null subjects and objects, as shown in Table 4 below.

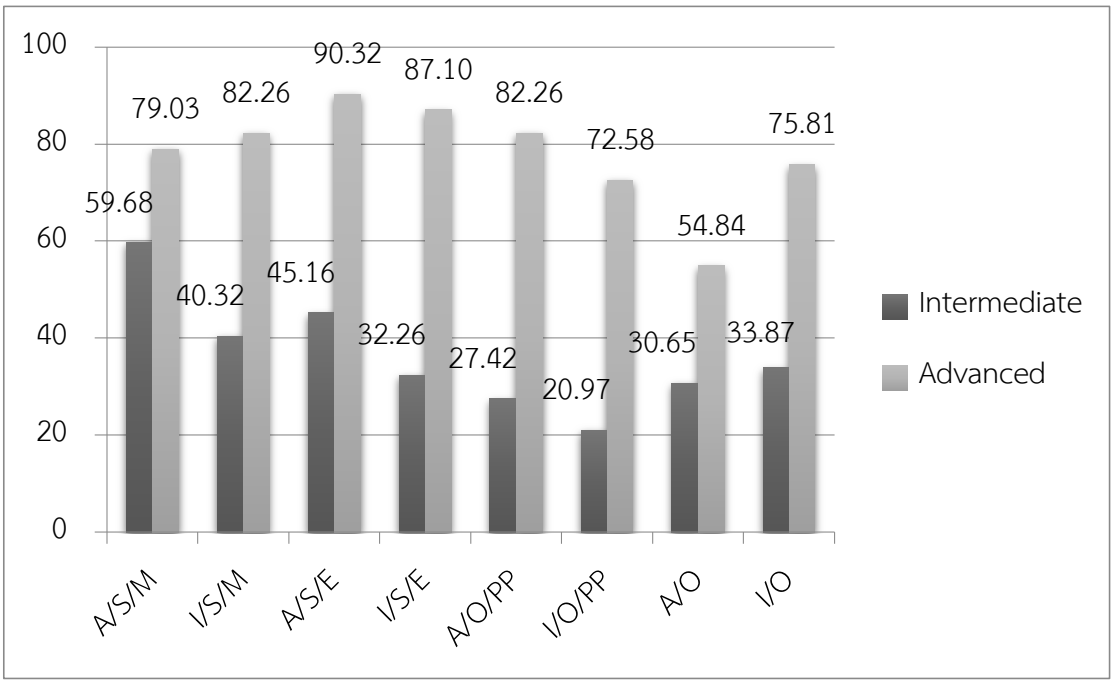
Table 4: Average scores of null argument recognition and correction on each sentence type by the intermediate and advanced groups

Sentence Types	A/S/M	I/S/M	A/S/E	I/S/E
Intermediate	59.68	40.32	45.16	32.26
Advanced	79.03	82.26	90.32	87.10
	(+ 19.35)	(+ 41.94)	(+45.16)	(+ 54.84)
Sentence Types	A/O/PP	I/O/PP	A/O	I/O
Intermediate	27.42	20.97	30.65	33.87
Advanced	82.26	72.58	54.84	75.81
	(+ 54.84)	(+ 51.16)	(+ 24.19)	(+ 41.94)

In terms of percentage, the advanced participants clearly outperformed the intermediate participants. The former's scores on all sentence types were 42% higher than the latter's, with only two exceptions on the A/S/M and the A/O types where

their scores were 19% and 24% higher, respectively. Therefore, it can be concluded that the advanced group's performance on rejecting and correcting null subject and object sentences diverged sharply from the intermediate group's. Up to this point, it is possible to claim that as L2 learners' English proficiency increases, the influence of L1 transfer decreases, suggesting that there was development over time in the acquisition of non-null arguments in L2 English by L1 Thai learners (see Figure 1). That the intermediate participants performed poorly on almost any sentence type could be accounted for in terms of negative carry-over from their mother-tongue. Since Thai is a discourse-oriented language that allows subjects and objects to drop in almost any environment (Phimsawat, 2011), it is possible for L1 Thai learners to accept null subject and object sentences in English, a sentence-oriented language that basically prohibits pronoun omission (Huang, 1984).

Figure 1: Average scores of null argument recognition and correction on each sentence type by the intermediate and advanced groups



The cross-linguistic influence which was evident in an early stage of English non-null argument acquisition in the current study has been widely reported in previous studies whose participants' L1s are prodrop as well (Yuan, 1997; Kong, 2005; Kim, 2007; Meechanyakul & Singhapreecha, 2013). For example, Yuan (1997) found that his Chinese participants divided into seven groups performed gradually better on experimental sentences as their English proficiency improved. He also claimed that L1 transfer played a very important role in acquiring non-null arguments in English. Similarly, Kong (2005), whose Chinese participants were divided into three groups according to levels of proficiency, found that the most advanced group showed native-like performance on many sentence types, whereas the lowest proficiency group's performance diverged considerably from the higher proficiency groups', let alone the native control group's. Kim (2007), whose participants were L1 Korean learners of L2 English, found that the advanced group performed much better than the intermediate and the low-level groups on rejecting null subject and object sentences. That the latter groups performed significantly worse than the advanced group on rejecting especially null object sentences was, according to Kim, attributable to the transfer of their L1 that allows recoverable arguments to be dropped. Meechanyakul and Singhapreecha (2013) found that their four groups of L1 Thai participants showed greater sensitivity to null arguments as their proficiency increased. They speculated that Thai learners' acceptance of null arguments might be attributed to the L1, a

language which allows arguments to be omitted so long as their referents can be retrieved from contexts.

5.1.2 Null subjects and objects

The role of L1s in shaping L2 learners' interlanguages, which often diverge from TL norms, is undeniable, as discussed in the previous section. Given that Thai is a null-argument language that allows arguments, be they subjects or objects, to drop in almost any environments, it can be implied that the acquisition of obligatory subjects should be as difficult as the acquisition of obligatory objects. Nevertheless, this prediction was not borne out by the results since the intermediate and advanced participants generally performed far better on rejecting null subject sentences than null object sentences, as revealed by percentage results in Table 5 below:

Table 5: Average scores on null subject and object sentences by the intermediate and advanced groups

Proficiency	NS	NO
Intermediate	44.35	28.23
Advanced	84.68	71.37

(Note. NS = null subjects, NO = null objects)

To determine whether the participants judged null subject sentences and null object sentences differently, a paired-samples *t*-test was conducted. The statistical analyses showed a significant difference ($p < .001$) between null subject and object sentences as recognized by both intermediate and advanced participants. The

intermediate group detected the ungrammaticality of null subject sentences (44.35%, SE = 0.074) more accurately than they did the null object sentences (28.23%, SE = 0.063, $t(123) = 4.525$, $p = 0.000$, $r = 0.378$). In the same vein, the advanced group scored higher on null subject sentences (84.68%, SE = 0.047) than on null object sentences (71.37%, SE = 0.070, $t(123) = 4.043$, $p = .000$, $r = 0.342$). The asymmetrical pattern between null subject and object recognition can obviously be seen among the two experimental groups, given that null objects were more difficult to be recognized than null subjects. Indeed, negative transfer played a partial role in the participants' performance on null subject and object recognition, but it cannot account for the null subject/object asymmetry since Thai allows both null subjects and objects to occur with almost no restriction (cf. Phimsawat, (2011)). The present study lends support to input inconsistency between subjects and objects (Wakabayahshi & Negishi, 2003). That is, English basically requires overt subjects in every sentence, but sentences with intransitive verbs lack object noun phrases. L2 learners then need to determine which type of verbs can and cannot be used without an object. As for subjects, by contrast, they can use overt forms in almost all circumstances, except those in imperative sentences where the pronoun "you" is almost always omitted (Radford, 2009).

Hypothesis 1 of the current study states that L1 Thai learners have problems in the acquisition of non-null arguments in L2 English. In other words, if they do not meet the 80% criterion for acquisition, which is commonly accepted in SLA (Tarone, Gass, & Cohen, 1994), they are considered as having difficulty acquiring non-null

arguments in English. It should be noted that the hypothesis is based on two theoretical assumptions. First, as mentioned earlier, when learners acquire some linguistic features in the L2 that are different from those in their L1, negative transfer is likely to occur, causing learners' interlanguages to diverge from TL norms. However, the first assumption may be challenged by the fact that it is not always the case that if a particular feature in the L1 is different from that in the L2, it will be difficult to acquire. In other words, there is no evidence to prove that pronoun retention in English is more difficult than pronoun omission in Thai. The first theoretical assumption is then bolstered by Eckman's (1977) Markedness Differential Hypothesis (MDH). The hypothesis is adopted to predict the relative degree of difficulty in order to make sure that pronoun retention in English is difficult to be acquired by L1 Thai learners. A typological investigation by Siewierska and Bakker (1996) reveals that the majority of the world's languages are prodrop. With regard to Croft's (1990) definition of cross-linguistic frequency, this suggests that null pronouns are more common or less marked than overt pronouns. In other words, argument retention is more marked than argument omission. Therefore, the MDH has successfully predicted that non-null arguments are more difficult to be acquired than null counterparts, consistent with Hypothesis 1.

Percentage results of null argument recognition and correction showed that the intermediate participants scored less than 45% on both null subject and object sentences, whereas the advanced participants performed higher 80% on null subject

sentences, but only 71% on null object sentences. It can be therefore concluded that the L1 Thai participants at two different levels of proficiency in the current study had difficulty recognizing non-null arguments in English, with an only exception on non-null subjects, which were acquired by the higher-proficiency group of participants. Overall, it seems that the MDH has successfully predicted the difficulty L1 Thai learners of English possibly had when acquiring non-null arguments in English. Negative transfer tended to play a role in the participants' performance on null argument recognition. Up to this point, it seems that Hypothesis 1 has been confirmed, at least in terms of L2 learners' perception, by the fact that the participants did not meet the 80% criterion for acquisition although the advanced group seemed to acquire non-null subjects in English.

The difficulty in acquiring non-null arguments in English particularly at the initial stages of the L2 grammar development as witnessed in the present study has also been found in a great amount of previous research (Yuan, 1997; Hsieh, 2008; Meechanyakul & Singhapreecha, 2013). Yuan (1997) found that his elementary and post-elementary subjects failed to acquire both null subjects and objects. As for the higher proficiency subjects, they were near-native like in detecting null subjects, but performed much worse on null objects. Likewise, Hsieh (2008) found that her low proficiency participants' GJT scores on null subject and object sentences were significantly lower than those of the native controls. In addition, although the high proficiency participants' scores on null subject sentences were not significantly

different from those of the native controls, their scores on null objects were. Meechanyakul and Singhapreecha (2013) also found the difficulty the Thai learners across four different levels of proficiency had acquiring non-null arguments in English. However, the participants in their study performed even worse than those in the present study, given that the highest proficiency group scored well below than 77% on null subjects and lower than 53 on null objects, let alone the lower proficiency groups. The results shown in Meechanyakul & Singhapreecha's (2013) study together with those in the current study constituted stronger evidence to indicate that null arguments in English are difficult, in terms of perception, to be acquired by L1 Thai learners and that negative transfer is likely to cause L2 learners' interlanguages to diverge from L1 norms.

5.1.3 Clause types

Hypothesis 2 of the current study states that asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to three variables, one of which is clause types. As animacy might be a variable affecting the recognition of null subjects in matrix and embedded clauses, animate null matrix/embedded subjects and inanimate matrix/embedded subjects were analyzed separately. Percentage results showed that the intermediate participants performed better on animate null matrix subjects (59.68%) and inanimate null matrix subjects (40.32%) than on animate null embedded subjects (45.16%) and inanimate null embedded subjects (32.26%), respectively. By contrast, the advanced learners

performed slightly better on animate null embedded subjects (90.32%) and inanimate null embedded subjects (87.1%) than on animate null matrix subjects (79.03%) and inanimate null matrix subjects (82.26%), respectively.

Table 6: Average scores on null matrix/embedded subjects by the intermediate and advanced learners

Proficiency	A/S/M	A/S/E	I/S/M	I/S/E
Intermediate	59.68	45.16	40.32	32.26
Advanced	79.03	90.32	82.26	87.1

(Note. A/S/M = animate null matrix subjects, A/S/E = animate null embedded subjects, I/S/M = inanimate null matrix subjects, I/S/E = inanimate null embedded subjects)

In order to determine whether there was any significant difference between the participants' recognition of null matrix and embedded subjects, a paired-samples *t*-test was conducted. The statistical analyses showed a significant difference between animate null matrix subjects and animate null embedded subjects as recognized by both experimental groups. The intermediate learners performed significantly better on animate null matrix subjects (59.68%, SE = 0.845) than on animate null embedded subjects (45.16%, SE = 0.746, $t(30) = 2.158$, $p = 0.039$, $r = 0.366$). By contrast, the advanced learners performed significantly better on animate null embedded subjects (90.32%, SE = 0.301) than on animate null matrix subjects (79.03%, SE = 0.667, $t(30) =$

-3.057, p = 0.005, r = 0.488). Although percentage results showed the asymmetrical pattern between null inanimate matrix subjects and null inanimate embedded subjects recognized by the intermediate group (40.32% and 32.26%, respectively) and the advanced group (82.26% and 87.1%, respectively), inferential statistics bore no significant difference. The results from the paired-samples *t*-test were shown below:

Table 7: Paired-samples *t*-test on animate null matrix subjects (A/S/M) vs. animate null embedded subjects (A/S/E) and inanimate null matrix subjects (I/S/M) vs. inanimate null embedded subjects (I/S/E) by the intermediate and advanced groups

Pair	Intermediate	Advanced
A/S/M - A/S/E	0.039*	0.005**
I/S/M - I/S/E	0.231	0.325

(Note. * = $p < .05$, ** = $p < .01$)

Although statistical differences were found only between A/S/M and A/S/E, the percentage results showed the same, though not significant, tendency in that the intermediate participants accepted null embedded subjects at a higher rate than null matrix subjects, whereas the reverse held true for the advanced participants. The present study suggests perceptual saliency as a factor for the asymmetry found among the intermediate learners. That is, matrix subjects are more salient in terms of position than embedded subjects (Wakabayashi & Negishi, 2003). As a result, omission of the

former is less likely to be accepted than the latter. Consider the two experimental sentences below:

(63) Bill could not stand his seven-year-old laptop anymore. * Ø kept hanging and restarting itself.

(64) The old DVD player was very smart. *At first I thought Ø could only read certain file formats.

The null pronoun in (63) is more salient than that in (64) as it is at the beginning of a matrix clause. The embedded position makes the null pronoun in (64) less salient than that in (63) since it is preceded by a matrix clause. The participants might be aware that every sentence in English is generally started with a subject, and without which causes the ungrammaticality of a sentence. The present study supports the same line of argument with respect to saliency offered by Wakabayashi & Negishi (2003). Two of the many experimental sentences in their study focused on subject drop in main/embedded clauses. They hypothesized that if their participants omitted null subjects in main clauses less than null subjects in embedded clauses, saliency might come into play, given that null matrix subjects are more salient and would be detected more easily than null embedded subjects. The present study also supports the same line of argument with respect to perceptual saliency offered by DeKayser (2000). That is, null matrix subjects violate the L1 basic word order norm and thus are so perceptually salient to the participants that they could easily reject them. By contrast, null embedded subjects are more difficult to be detected, given that they

are preceded by some constituents like main clauses, making it much more difficult to be noticed by the participants.

L2 learners' preference for null embedded subjects over null matrix subjects has been found in a number of previous studies. However, the present study offers a different theoretical assumption from that given by especially Kong (2001, 2005, & 2007). He argued that topic-chain constructions result in the asymmetry between null matrix and embedded subjects. In other words, learners whose L1s (e.g. Chinese, Korean, Japanese, and Thai) allow topic-comment structures are likely to omit subjects if their antecedent is present at the beginning of a sentence. Kong (2001, p. 51) argued that learners relied on "identification" which was available through the overt subject of a matrix clause. As a result, learners were likely to allow null subjects in elsewhere positions provided that their antecedent is in the sentence initial position, as exemplified below:

(65) We pass … and when Ø came to some stairs…

(Kong, 2001, p. 48)

The null subject preceded by the time-relative pronoun "when" is coindexed with the pronoun "we" at the beginning of (65). Learners might then assume that there is no need to restate the pronoun. Meechanyakul and Singhapreecha (2013) also conducted a study on the recognition of null matrix/embedded subjects by L1 Thai learners and their results also lent support to Kong's (2001) identification of the subjects. Their experimental sentence is exemplified below:

(66) Jane's camera broke. *She said that Ø used it only once.

(Meechanyakul & Singhapreecha, 2013, p. 746)

Similar to (65), the pronoun "she" in (66) is in the sentence initial position, which presumably led their participants to omit it elsewhere in the sentence[18]. Indeed, Thai is considered as a topic-prominent language, which means that it allows topic-chain constructions (Aroonmanakun, 1997; Phimsawat, 2011). This, though not explicitly stated, led Meechanyakul and Singhapreecha (2013) to support Kong's (2001) identification of subjects in that L1 Thai learners relied on topic constructions in their L1, as did the L1 Chinese participants in Kong's study. However, the results in the present study cannot be accounted for by identification of subjects since all null embedded subjects in the experimental sentences are coindexed with their NP referents in the preceding sentences, not in the matrix clauses, as exemplified in (64) where the null embedded subject is coindexed with the NP referent "DVD player" in the preceding sentence. For this reason, identification of subjects that results from L1 transfer of topic constructions is probably not a satisfying explanation for null matrix/embedded asymmetry. Rather, the present study suggests saliency which is

[18] Note that the greater omission of null embedded subjects found in Meechanyakul and Singhapreecha (2013) might result from the presence of the complementizer "that" in place of the null subject, as exemplified in (66). This is because "that" can either function as a conplementizer or as a demonstrative pronoun. Their participants might treat "that" as a demonstrative pronoun serving as a subject. Given this flaw in their task design, identification of subjects might not be able to account for their findings.

able to account for the results in the present study as well as those in the studies conducted by Kong (2001, 2005, 2007) and Meechanyakul & Singhapreecha (2013) since embedded subjects, regardless of being coindexed with an argument in the matrix clause or in a preceding sentence, are less salient in terms of position in comparison to null matrix subjects, so they are less likely to be detected than null matrix subjects that are more salient.

As for the advanced learners, they accepted null matrix subjects at a greater rate than they did null embedded subjects. This cannot be explained in terms of perceptual saliency, given that they detected the less salient features, null embedded subjects, at a higher rate than they did the more salient ones, null matrix subjects. It is assumed that these L2 learners were in a later stage of development in accordance with their English proficiency. They therefore showed a native-like performance on judging null matrix/embedded subjects in that certain colloquial styles of English also allow null matrix subjects (e.g. spoken and diary registers), but null embedded subjects are not allowed in spoken language, though they are marginally used in certain diary registers (Weir, 2012). Examples of subject drop in spoken English (67) and in a diary register (68) are given below:

(67) A: Why didn't you and your flatmates go to the party?

B: Ø didn't fancy it.

(Weir 2012: 106)

(68) Ø understand where Ø have been going wrong.

(Fielding, as cited in Weir, 2012, p. 120)

In (67), the pronoun "we" is omitted in B's response, which is acceptable in spoken English. By contrast, omission of the first-person pronoun "I" both in the matrix clause and the embedded clause in (68) is ungrammatical in spoken English, but is acceptable in diaries of certain writers. Although there is no valid evidence to support the advanced participants' preference for null matrix subjects over null embedded subjects, it might be possible to assume that they accepted null matrix subjects based on spoken language or other informal forms of communication, such as text messages and language of social media.

Hypothesis 2 of the current study with respect to the variable of clause types applied in the perception task was therefore confirmed, given that L1 Thai learners of L2 English showed the asymmetric pattern of non-null subjects and null subjects as a result of clause types (matrix vs. embedded). The study proposed that perceptual saliency could account for the intermediate participants' asymmetric performance on null matrix/embedded subjects while informal styles of communication affected the advanced participants' preference for null matrix subjects.

5.1.4 Prepositional phrases

Hypothesis 2 of the current study states that asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to three variables, including prepositional phrases. Given that animacy might be a variable

affecting the recognition of null objects with and without a prepositional phrase following, the study analyzed animate null objects with and without a prepositional phrase following and inanimate null objects with and without a prepositional phrase following separately. Percentage results showed that the intermediate participants performed poorly on animate null objects without a prepositional phrase following (30.65%) and on animate null objects followed by a prepositional phrase (27.42%). However, they performed better on inanimate null objects without a prepositional phrase following (33.87%) than on inanimate null objects followed by a prepositional phrase (20.97%). By contrast, the advanced participants performed far better on animate null objects followed by a prepositional phrase (82.26%) than on animate null objects without a prepositional phrase following (54.84%). However, they performed equally well both on inanimate null objects without a prepositional phrase following (75.81%) and on inanimate null objects followed by a prepositional phrase (72.58%).

Table 8: Average scores on null objects with and without a prepositional phrase following by the intermediate and advanced learners

Proficiency	A/O/PP	A/O	I/O/PP	I/O
Intermediate	27.42	30.65	20.97	33.87
Advanced	82.26	54.84	72.58	75.81

(Note. A/O/PP = animate null objects followed by a prepositional phrase, A/O = animate null objects without a prepositional phrase following, I/O/PP = inanimate null objects followed by a prepositional phrase, I/O = inanimate null objects without a prepositional phrase following)

In order to determine whether there was any significant difference between the participants' recognition of null objects with and without a prepositional phrase following, a paired-samples *t*-test was conducted. The statistical analyses showed a significant difference between inanimate null objects followed by a prepositional phrase and inanimate null objects without a prepositional phrase following as recognized by the intermediate group and between animate null objects followed by a prepositional phrase and animate null objects without a prepositional phrase following as recognized by the advanced group. The intermediate learners performed significantly better on inanimate null objects without a prepositional phrase following (33.87%, SE = 0.702) than on inanimate null objects followed by a prepositional phrase (20.97%, SE = 0.564, $t(30) = -2.278$, $p = .030$, $r = 0.457$). However, there was no

significant difference between their recognition on animate null objects without a prepositional phrase following (30.65%, SE = 0.803) and on animate null objects followed by a prepositional phrase (27.42%, SE = 0.675, *t*(30) = -.360, *p* = 0.721, *r* = 0.066). By contrast, the advanced learners performed significantly better on animate null objects followed by a prepositional phrase (82.26%, SE = 0.588) than on animate null objects without a prepositional phrase following (54.84%, SE = 0.831, *t*(30) = 3.712, *p* = 0.001, *r* = 0.561). However, no significant difference was found between their recognition on inanimate null objects without a prepositional phrase following (75.81%, SE = 0.811) and on inanimate null objects followed by a prepositional phrase (72.58%, SE = 0.768, *t*(30) = -.387, *p* = 0.702, *r* = 0.070). The results from the paired-samples *t*-test were shown below:

Table 9: Paired-samples *t*-test on animate null objects followed by a prepositional phrase (A/O/PP) vs. animate null objects without a prepositional phrase following (A/O) and inanimate null objects followed by a prepositional phrase (I/O/PP) vs. inanimate null objects without a prepositional phrase following (I/O) by the intermediate and advanced groups

Pair	Intermediate	Advanced
A/O/PP - A/O	0.721	0.001**
I/O/PP - I/O	0.030*	0.702

(Note. * = $p < .05$, ** = $p < .01$)

From the statistics given in Table 9, it may be concluded that the intermediate learners, to some extent, had more difficulty detecting null objects followed by a prepositional phrase than those without a prepositional phrase following, as witnessed in the "I/O/PP - I/O" pair. It is hypothesized that the learners might treat a prepositional phrase, which is an adjunct, as an argument, leading them to accept null objects followed by a prepositional phrase more frequently than those without a prepositional phrase following. In other words, any constituents that appear in the position where an overt object is needed tend to be regarded as an argument by the learners. Moreover, the presence of a prepositional phrase in place of null objects also adds to clarity of context, causing the participants to easily accept null object sentences as exemplified below:

(69) *Some of the apples on the tree were ripe, so Anna went out to pick Ø with her children.

(70) *Mary lost her eye-glasses and finally found Ø under the bed.

In (69), the pronoun "them" whose antecedent is "the apples" is omitted and followed by the adjunct "with her children". As well as in (70), the pronoun "them" whose antecedent is "eye-glasses" is dropped and followed by the adjunct "under the bed". Both adjuncts are placed just after the intransitive verbs "pick" and "find" in (69) and (70), respectively, resulting in the wrong treatment of adjunct as an argument.

Hseih (2008) included various types of null subject and object sentences in her study, two of which were null objects with and without a prepositional phrase following. Inspired by Xiao's (1988) study showing that the phenomenon of some constituents appearing to the left of null subjects seemed to be highly accepted, Hseih hypothesized that constituents occurring to the right of the null object would cause the object to be omitted more frequently. Her results bore no statistical difference between the two types of sentences, and she did not give any further explanation as to why the presence of some constituents like a prepositional phrase to the right of the object cause the object to be more easily dropped. Further to her assumption, the present study argued that non-obligatory constituents like prepositional phrases that occur to the right of null objects are likely to be treated as an argument by L2 learners. Therefore, they have greater difficulty detecting sentences with null objects followed by a prepositional phrase. Evidence to strengthen this claim is from learners of English whose mother-tongues are topic-prominent languages (e.g. Chinese, Korean, and Thai) that allow non-subject topics. According to Hawkins (2001), EFL Chinese learners have great difficulty in detecting null subjects when some other constituents appear in the clause initial position of a sentence. This is because non-subject topics are allowed in Chinese, which may lead EFL Chinese learners to accept them in English. Consider the following examples:

(71) *Mary hasn't visited her parents for a long time. I wonder why Ø has been so busy.

(Kong, 2005, p. 254)

(72) *Beijing snows a lot.

(Hseih, 2008, p. 34)

Kong (2005) included (71) in his study and found that the presence of the *wh*-operator "why" which begins the noun clause in the second sentence in (71) had an effect on increasing his Chinese-speaking participants' acceptance of null embedded subjects. This shows that L2 learners treat non-subject topics as subjects, resulting in the failure to detect the ungrammaticality of sentences with null subjects in embedded clauses. Likewise, Hseih (2008) claimed that Chinese-speaking learners in the early stage of L2 acquisition tended to accept sentences like (72) where the non-subject topic "Beijing" occupies the subject position. To say (72) in Chinese, however, it is grammatical.

All in all, non-obligatory constituents like prepositional phrases probably had an effect on the intermediate participants' acceptance of null object sentences as they fill the object position of a sentence. The participants might treat an adjunct as an object in the same way as L2 learners whose mother-tongues are topic-prominent languages treat a non-subject topic as a subject.

It can be seen from the statistics presented in Table 9 that there was no significant difference between the advanced participants' judgment on inanimate null objects without a prepositional phrase following and on inanimate null objects followed by a prepositional phrase, and that they performed significantly better on animate null objects followed by a prepositional phrase than on animate null objects

without a prepositional phrase following. Their significantly greater performance on null objects followed by a prepositional phrase cannot be accounted for by the lack of argument/adjunct knowledge. This is because if they treated adjuncts as arguments, they would perform significantly worse on null objects followed by a prepositional phrase, but in fact it was the other way around. Put differently, the advanced learners, unlike the intermediate learners, had possibly mastered the knowledge of arguments and adjuncts, but some uncontrolled variables might come into play. It is assumed that different types of verbs might result in the significant difference between the advanced participants' judgment on animate null objects followed by a prepositional phrase and on animate null objects without a prepositional phrase following. Consider the situation types of the eight verbs used in each experimental sentence below:

Table 10: list of verbs in each type of null object sentences categorized by situation types

Sentence type	Verb	Situation type
A/O	see	stative
	forgive	stative
A/O/PP	punch	dynamic
	punish	dynamic
I/O	fix	dynamic
	make	dynamic
I/O/PP	find	dynamic
	pick	dynamic

As mentioned in 4.2.1.1, there are eight verbs used in the experimental sentences with null objects. When situation types of all verbs were taken into consideration, it can be seen that “see” and “give” are categorized as stative verbs, while the others as dynamic verbs. According to Kearns (2011), verbs can be subcategorized by their meaning which correlate to differences of situation types. Given this criterion, there are two broad types of semantic situations: stative and dynamic. The former refers to a state or condition that remains steady with no internal changes, while the latter describe activities, events, and actions that can begin and

finish (Kearn, 2011). That the advanced learners performed significantly better on the A/O/PP type than on the A/O type could probably be explained in terms of situation types of verbs, which probably makes context salient enough to reject null objects. That is, the two dynamic verbs, “punch” and “punish”, which involve physical actions, presumably draw more attention to the agent and recipient of the action, thereby helping them to successfully supply overt objects in the experimental sentences. By contrast, the two stative verbs, “see” and “forgive”, which are concerned with mental states, direct less attention to their arguments, thereby resulting in high acceptance of the null objects following them. Besides, that there was no statistical difference between their judgments on the I/O type and the I/O/PP type might be because both sentence types contain the same kind of verbs that describe the same situation, dynamic.

Evidence to support the notion of action verbs receiving more attention than state verbs comes from a study of child’s language acquisition conducted by Lempert & Kinsbourne (1981, as cited in Lempert & Kinsbourne, 1983). They investigated the ability of English-speaking children aged 4 to 5.5 years and 7 to 8.5 years whether they could recall objects of state and action verbs. The subjects in action verb condition listened to sentences such as “The boy kicked the wheel” and those in state verb condition listened to sentences such as “The monkey wanted the cup”. After they had heard all the experimental sentences, they were cued with the first noun for the object noun. It was found that the older group could recall objects of state and action

verbs equally well, whereas the younger group in the action verb condition could retrieve significantly more objects than those in the state verb condition. This suggests that semantic situations of verbs probably played a role in drawing attention to objects of dynamic verbs, resulting in a greater ability of young children to recall objects of dynamic verbs than those of stative verbs. In the same vein, the present study proposed that objects of dynamic verbs draw more attention to the participants than those of stative verbs, thereby causing them to recognize null objects and successfully supplied overt ones after the verbs “punch” and “punish”.

Hypothesis 2 of the current study with respect to the variable of prepositional phrases applied in the perception task was therefore partially confirmed, given that the intermediate participants showed the asymmetric pattern of non-null objects and null objects as a result of the presence/absence of prepositional phrases. The study proposed that the lack of argument/adjunct knowledge could account for the intermediate participants’ asymmetric performance on null object sentences with and without a prepositional phrase following. By contrast, the advanced participants’ performance on null object sentences was not affected by the presence or absence of a prepositional phrase. Rather, it is proposed that different situation types of verbs might result in their asymmetric pattern of null object sentences with and without a prepositional phrase following.

5.1.5 Animacy

Hypothesis 2 of the current study states that asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to three variables, one of which is animacy. Seeing that clause types and prepositional phrases might be variables affecting the recognition of null subjects and null objects, respectively, the study thus compared animate null matrix/embedded subjects and animate null objects with and without a prepositional phrase following with their inanimate counterparts. Percentage results showed that the intermediate participants performed better on animate null matrix subjects (59.68%) and slightly better on animate null embedded subjects (45.16%) than on inanimate null matrix subjects (40.32%) and on inanimate null embedded subjects (32.26%), respectively. However, they performed slightly worse on animate null objects followed by a prepositional phrase (27.42%) than on inanimate null objects followed by a prepositional phrase following (30.65%). They also performed equally poorly on animate null objects without a prepositional phrase following (30.65%), as they did inanimate null objects without a prepositional phrase following (33.87%). As for the advanced participants, they performed slightly worse on animate null matrix subjects (79.03%) and on animate null embedded subjects (82.26%) than on inanimate null matrix subjects (90.32%) and on inanimate null embedded subjects (87.1%), respectively. However, they performed slightly better on animate null objects followed by a prepositional

phrase (82.26%) than on inanimate null objects followed by a prepositional phrase (72.58%). By contrast, they performed much worse on animate null objects without a prepositional phrase following (54.84%) than on inanimate null objects without a prepositional phrase following (75.81%).

Table 11: Average scores on animate null matrix/embedded subjects and null objects with and without a prepositional phrase following and their inanimate counterparts

Proficiency	A/S/M	I/S/M	A/S/E	I/S/E	A/O/PP	I/O/PP	A/O	I/O
Intermediate	59.68	40.32	45.16	32.26	27.42	20.97	30.65	33.87
Advanced	79.03	82.26	90.32	87.1	82.26	72.58	54.84	75.81

(Note. A/S/M = animate null matrix subjects, A/S/E = animate null embedded subjects, I/S/M = inanimate null matrix subjects, I/S/E = inanimate null embedded subjects, A/O/PP = animate null objects followed by a prepositional phrase, A/O = animate null objects without a prepositional phrase following, I/O/PP = inanimate null objects followed by a prepositional phrase, I/O = inanimate null objects without a prepositional phrase following)

In order to determine whether there was any significant difference between the participants' recognition of animate null subjects and objects and their inanimate counterparts, a paired-samples *t*-test was conducted. The statistical analyses revealed significant differences between animate null matrix subjects (59.68%, SE = 0.845) and

inanimate null matrix subjects (40.32%, SE = 0.833, $t(30) = 3.474$, $p = 0.002$, $r = 0.536$) and between animate null embedded subjects (45.16%, SE = 0.746) and inanimate null embedded subjects (32.26%, SE = 0.755, $t(30) = 2.278$, $p = 0.030$, $r = 0.384$) as recognized by the intermediate participants. However, no significant differences were found between animate null objects followed by a prepositional phrase (27.42%, SE = 0.675) and inanimate null objects followed by a prepositional phrase (20.97%, SE = 0.564, $t(30) = 1.000$, $p = 0.325$, $r = 0.180$) and between animate null objects without a prepositional phrase following (30.65%, SE = 0.803) and inanimate null objects without a prepositional phrase following (33.87%, SE = 0.702, $t(30) = -0.338$, $p = 0.738$, $r = 0.062$) as recognized by them. As for the advanced participants, their recognition on animate null objects without a prepositional phrase following (54.84%, SE = 0.831) was significantly different from that on inanimate null objects without a prepositional phrase following (75.81%, SE = 0.811, $t(30) = -2.353$, $p = 0.025$, $r = 0.395$). No significant differences were found between animate null matrix subjects (79.03%, SE = 0.667) and inanimate null matrix subjects (82.26%, SE = 0.374, $t(30) = -1.650$, $p = 0.109$, $r = 0.288$), between animate null embedded subjects (90.32%, SE = 0.301) and inanimate null embedded subjects (87.1%, SE = 0.643, $t(30) = 1.438$, $p = 0.161$, $r = 0.254$), and between animate null objects followed by a prepositional phrase (82.26%, SE = 0.588) and inanimate null objects followed by a prepositional phrase (82.26%, SE = 0.768, $t(30) = 1.971$, $p = 0.058$, $r = 0.339$) as recognized by them.

Table 12: Paired-samples t-test on animate null matrix subjects (A/S/M) vs. inanimate null matrix subjects (I/S/M), animate null embedded subjects (A/S/E) vs. inanimate null embedded subjects (I/S/E), animate null objects followed by a prepositional phrase (A/O/PP) vs. inanimate null objects followed by a prepositional phrase (I/O/PP), and animate null object without a prepositional phrase following (A/O) vs. inanimate null object without a prepositional phrase following (I/O) by the intermediate and advanced groups

Pair	Intermediate	Advanced
A/S/M - I/S/M	0.002**	0.109
A/S/E - I/S/E	0.030*	0.161
A/O/PP - I/O/PP	0.325	0.058
A/O - I/O	0.738	0.025*

(Note. * = $p < .05$, ** = $p < .01$)

As mentioned in 2.1.4, the variable of animacy was also employed in the study to see whether or not it influenced the use of null/overt arguments by L1 Thai learners, based on an alignment of the universal animacy hierarchy (Hawkinson & Hyman, 1974; Gass, 1984; Croft, 2003; among others) and the reduction scale (Bresnan, 1998) adapted from Artstein (1999) shown below:

(73) The animacy hierarchy

Human > Animate > Inanimate

(74) The reduction scale

Null > Overt

An alignment of (73) and (74) predicts that human arguments will be omitted more frequently than animate and inanimate ones, respectively. Animate arguments will also be omitted more frequently than inanimate ones. However, it is worth noting that there are only two types of null subjects and objects in the experimental sentences, human and inanimate, and that human nouns are referred to as animate nouns throughout this study. In short, the study primarily aimed to test whether animate (human) pronouns will be omitted more frequently than inanimate pronouns. The statistics given in Table 12 indicates that from eight pairs of sentences testing the variable of animacy, only three of them showed significant differences between animate null arguments and their inanimate counterparts. In addition, two out of three statistically significant pairs went against the predictions made by (73) and (74). That is, the intermediate participants performed significantly better on animate null matrix subjects and animate null embedded subjects than on inanimate null matrix subjects and inanimate null embedded subjects, respectively. In addition, no significant differences were found between the other two pairs as recognized by this group. As for the advanced participants, however, they performed significantly better on inanimate null objects without a prepositional phrase following than on animate null objects without a prepositional phrase following, as predicted by (73) and (74).

However, no significant differences were found among the other three pairs as recognized by this group.

Overall, it seems that an alignment of the universal animacy hierarchy and a reduction scale which predicts that animate null arguments will be dropped more frequently than inanimate null arguments cannot account for L2 perception data. This is because only one out of eight sentence pairs indicated that animate null arguments were omitted more frequently than inanimate counterparts. Furthermore, that the advanced participants accepted the A/O sentences at a significantly higher rate than the I/O sentences might result from different situation types of verbs as mentioned in 5.1.4, rather than from animacy, since the two verbs used in the A/O sentences are stative verbs, while those in the I/O sentences are dynamic ones. As explained in 5.1.4, objects of stative verbs tend to be omitted more easily than those of dynamic ones, thereby resulting in the advanced participants' significantly greater acceptance rate of the A/O sentences than that of the I/O sentences. The reason why the L2 data in the present study did not appeal to the animacy hierarchy may be explained in terms of task effects. That is to say, perception tasks like the GJT used in this study might produce unpatterned data that did not appeal to the order predicted by an alignment of the universal animacy hierarchy and a reduction scale, which suggests that animate arguments are omitted more frequently than inanimate counterparts. By contrast, production tasks like the DTT which was also used in this study might yield more patterned data as will be discussed in 5.2.5. The current study assumed that some

other variables such as sentence complexity and a wide range of vocabulary might have a great impact on learners' recognition of null argument sentences, resulting in the perception data not appealing to an alignment of the universal animacy hierarchy and the reduction scale.

Evidence to support the task-related variation is from Hyltenstam (1983), who designed a study to show that task variation in interlanguage exists through an L2 application of a hierarchy[19]. Another evidence to support task effects comes from Chou (2006) who found that order of acquisition predicted by a hierarchy was not evident in a grammaticality judgment task, but it was the case in production tasks[20]. All in all, the results discovered in the present study was in line with those of Hyltenstam (1983) and Chou (2006) in that data elicited through perception tasks were not restrained by the hierarchies, which was probably due to task complexity.

Hypothesis 2 of the current study with respect to the variable of animacy employed in the perception task was therefore rejected, given that both intermediate and advanced groups mostly showed an equal acceptance and correction rate

[19] Hyltenstam (1983) investigated the interlanguages of adults from various L1 backgrounds who acquired L2 Swedish with regard to resumptive pronouns in relative clauses and sentence negation. Several tasks were employed to elicit data on each syntactic area including written GJTs and a picture-description task. It was found that the former produced data which lacked patterning, while the latter yielded patterned data on resumptive pronouns, which more or less followed Keenan and Comrie's (1977) NP Accessibility Hierarchy. He assumed that the failure of many of the tasks occurred because they were too demanding for his participants.

[20] Chou (2006) also tested the NP Accessibility Hierarchy. His participants were L1 adult Chinese learners of L2 English. Data were collected through a GJT, a sentence completion task, and a translation task. It was found that the acquisition order followed the hierarchy except in the GJT.

between null animate arguments and null inanimate counterparts. Moreover, the former group even performed on two out of four sentence pairs testing the variable of animacy in the reverse order against the animacy hierarchy. That is, they accepted null inanimate subjects at a significantly lower rate than null animate counterparts. The study proposed that task effects with respect to sentence complexity and a wide range of vocabulary resulted in the participants' interlanguages deviating from the order predicted by the hierarchies (73) and (74).

The results of the GJT and the possible explanations of the findings are summarized in Table 13 below:

Table 13: Summary of the results of the GJT and the possible explanations of the findings

Findings	Proficiency level	
	Intermediate	Advanced
Null S/O	The intermediate participants had difficulty detecting both Ss and Os. They also detected the former at a higher rate than the latter. Apart from L1 transfer that prevented them from recognizing null arguments,	The advanced participants had problems recognizing null Os, whereas their rejection and correction rate of null Ss was above 80%. It is assumed that input frequency probably resulted in the asymmetry.

Findings	Proficiency level	
	Intermediate	Advanced
Null S/O	input frequency caused them to accept null Os at a higher rate than null Ss.	
Clasue Type	They accepted null embedded Ss at a greater rate than null matrix counterparts. Perceptual saliency can probably account for the asymmetry, given that null matrix Ss are more salient in terms of position than null embedded counterparts.	They accepted null matrix Ss at a higher rate than they did null embedded Ss. It is proposed that informal styles of communication possibly resulted in their preference for null matrix Ss.
PP	They detected null Os without a PP following at a greater rate than they did null Os followed by a PP. The lack of argument/adjunct knowledge could probably account for their asymmetric performance on null	Their performance on null Os was not affected by the presence/absence of a PP. However, it was found that different situation types of verbs might result in their asymmetric pattern of null Os with and

Findings	Proficiency level	
	Intermediate	Advanced
PP	Os with and without a PP following.	without a PP following. That is, they tended to omit Os of stative verbs more frequently than those of dynamic ones.
Animacy	Their performance on animate null arguments and inanimate null counterparts went against the order predicted by an alignment of the universal animacy hierarchy and the reduction scale. It is proposed that task effects probably resulted in their interlanguages deviating from the prediction.	They mostly showed an equal acceptance rate between animate null arguments and inanimate null counterparts. Task effects can probably account for their interlanguages not restrained by an alignment of the two hierarchies.

(Note. S = subject, O = object, PP = prepositional phrase)

5.2 Task 2: Dialogue translation task

In this section, overall scores of the eight types of test sentences by the intermediate and advanced groups will be presented first. As is the case for the GJT,

the scores of each experimental group on translating null subject sentences (Types 1-4) and null object counterparts (Types 5-8) will be compared and determined by a paired-samples *t*-test to see if there was an asymmetrical pattern between the production of non-null subjects and objects. Similar to the GJT, a paired-samples t-test was performed again to compare their production scores of (1) animate overt subject and object sentences with their inanimate null subject and object counterparts, (2) overt matrix subject sentences with their overt embedded subject counterparts, and (3) overt objects followed by a prepositional phrase with those without a prepositional phrase following, to see whether the variables of animacy, clause types, and prepositional phrases, respectively, affect the production of English non-null arguments. Possible explanations attributable to the trends of the results will be provided immediately after the data have been analyzed in each subsection.

5.2.1 Overall results

Mean scores of the eight types of test sentences by the intermediate and advanced groups were calculated and converted to percentages as shown in Table 14[21]. As mentioned in 4.2.1.2, responses were interpreted as "correct" when the participants translated null arguments in the experimental sentences presented in Thai dialogues into overt English counterparts. By contrast, responses were considered as "incorrect" when the participants produced the sentences with null arguments. Given

[21] Note that responses from one intermediate participant were excluded from the data analysis since too many experimental sentences were left untranslated.

that the focus was on null arguments, other linguistic features such as tenses, prepositions, vocabulary, etc. were not taken into consideration. It is also worth noting that this task was presented in a form of dialogues, rather than single sentences, in order to provide contextual information for the test takers.

Table 14: Average scores of overt argument production on each sentence type by the intermediate, advanced and groups

Proficiency	Sentence types							
	A/S/M	I/S/M	A/S/E	I/S/E	A/O/PP	I/O/PP	A/O	I/O
Intermediate (n = 30)	78.33	98.33	95	98.33	96.67	93.33	80	98.33
Advanced (n = 30)	96.78	96.78	91.94	96.78	100	96.78	91.94	100

(Note. n = number of participants)

In comparison to the GJT, both intermediate and advanced groups performed considerably better on every test sentence in the DTT. The advanced group's overt argument production scores on all sentence types surpassed 90%. Likewise, those of the intermediate group were also higher than 90%, with only two exceptions on the A/SM (78.33%) and the A/O (80%) types. Overall, there appears to be no difference between both groups' production of overt subjects and objects in the DTT.

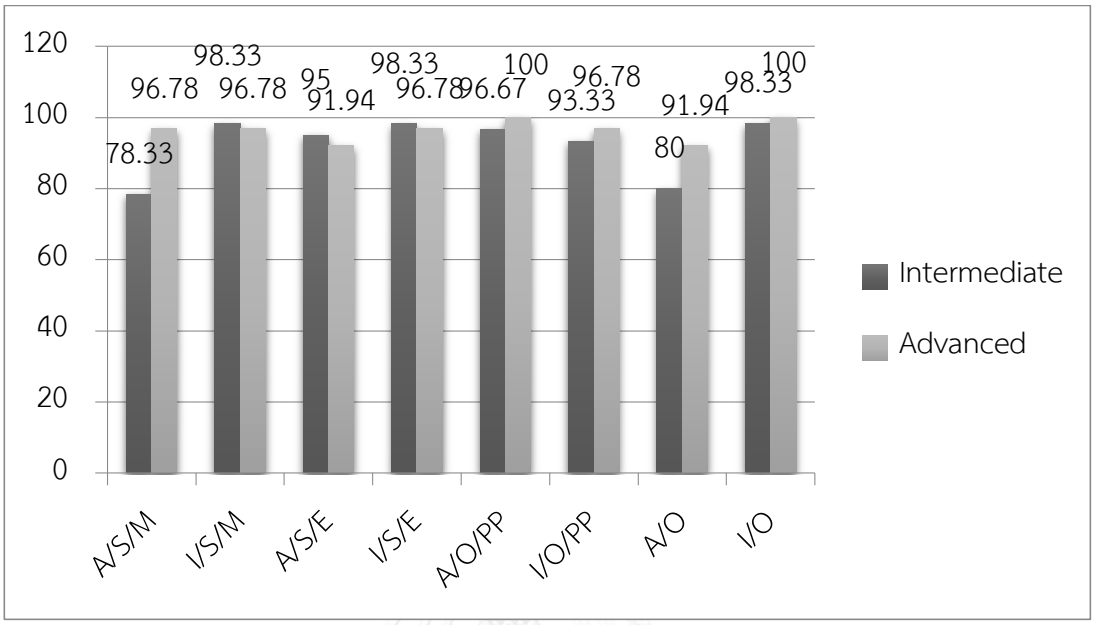
Although the relationship between English proficiency and an ability to translate null subject and object sentences presented in Thai dialogues into overt English counterparts was not of the study main concern, it is worth discussion, given that the two different levels of proficiency were taken as a measure of language development. Unlike the GJT, the difference between the intermediate and advanced groups' scores of overt argument production was merely minimal, which shows that proficiency barely had an impact on overt argument production, as illustrated in Table 15 below:

Table 15: Average scores of overt argument production on each sentence type by the intermediate and advanced groups

Sentence Types	A/S/M	I/S/M	A/S/E	I/S/E
Intermediate	78.33	98.33	95	98.33
Advanced	96.78	96.78	91.94	96.78
	(+ 18.45)	(-1.55)	(-3.06)	(-1.55)
Sentence Types	A/O/PP	I/O/PP	A/O	I/O
Intermediate	96.67	93.33	80	98.33
Advanced	100	96.78	91.94	100
	(+3.33)	(+3.45)	(+11.94)	(+ 1.77)

In terms of percentage, both intermediate and advanced groups scored almost equally on six out of eight types of sentences, with only two exceptions on the A/S/M and the A/O types where the latter group's scores were 18% and 12% higher, respectively. Thus, it can be concluded that the advanced group's ability to translate null subject and object sentences presented in Thai dialogues into overt English counterparts was not much different to that of the intermediate group. Proficiency only played a limited role in overt English argument production. Although their L1 allows pronominal arguments to drop freely in almost any environments (Phimsawat, 2011), the participants successfully translated null argument sentences presented in Thai dialogues into overt English counterparts. What possibly contributes to this mastery of overt argument production might be transfer of training, one of the five central cognitive processes that is likely to have an impact on L2 acquisition (Selinker, 1972). In particular, the participants might have been trained to form an English sentence that follows the basic Subject-Verb-Object (henceforth, S-V-O) pattern. No matter how many null elements presented in Thai dialogues there were, the participants automatically supplied overt arguments in their English sentences that follow the basic S-V-O pattern. This cognitive process clearly overrode L1 transfer of argument omission, given that there was marginal production of null arguments in the translated sentences.

Figure 2: Average scores of overt argument production on each sentence type by the intermediate and advanced groups



What was found in the present study regarding L2 production of overt arguments is in line with previous studies using a translation task to elicit L2 learners' overt argument production. For example, Hseih (2008) found that her lower proficiency (LP) and higher proficiency (HP) L1 Chinese participants had much less difficulty producing overt arguments in the translation task than detecting null arguments in the GJT. Approximately 93% and 97% of the LP and HP participants, respectively, produced overt subjects in the Chinese-English translation task. By contrast, approximately 79% and 87% of the LP and HP participants, respectively, produced overt objects in the task. She offered no explanation, nonetheless, as to why the asymmetry was found between her participants' performance on the two experimental tasks.

5.2.2 Null subjects and objects

Provided that the participants' production of non-null arguments was affected by their L1, they should have equal difficulty producing null subjects and null objects since Thai is a language that allows both subjects and objects to drop. The results suggested that there was no difference between the participants' production of overt subjects and overt objects. Furthermore, it turned out that both groups of the participants barely produced null subjects and null objects as their overt argument production's scores were well higher than 90%. Input consistency that resulted in the asymmetry of subjects and objects as witnessed in the GJT seemed to play no role in the DTT. Overall, the two participant groups produced overt subjects and overt objects higher than 90% and they also showed no difference between object and subject production as shown in Table 16 below:

Table 16: Average scores on overt subject and object sentences produced by the intermediate and advanced groups

Proficiency	OS	OO
Intermediate	92.5	92.08
Advanced	95.56	97.58

(Note. OS = overt subjects, OO = overt objects)

To determine whether the participants produced overt subject sentences and overt object sentences at a different rate, a paired-samples *t*-test was conducted. The statistical analyses suggested that there was no significant difference between overt

subject and object sentences as produced by both intermediate and advanced participants. The intermediate group produced overt subject sentences (92.5%, SE = 0.359) at a non-significant rate as they did with overt object sentences (92.08%, SE = 0.410, $t(119) = .159$, $p = 0.874$, $r = 0.014$). In a similar fashion, the advanced group produced overt subject sentences (95.56%, SE = 0.285) at a non-significant rate as they did with overt object sentences (97.58%, SE = 0.232, $t(123) = -1.000$, $p = 0.319$, $r = 0.090$). The native-like performance on producing non-null arguments as witnessed in both groups of the participants could not be explained by cross-linguistic influence since if it were the case, the participants whose L1 allows pronoun omission would transfer this property to their L2, resulting in argument omission at a much higher rate than this. Furthermore, input consistency which presumably resulted in the asymmetrical pattern between the two groups' recognition of null subject and null object sentences in the GJT seemed to play no role in the DTT as no significant difference was found between overt subject and object production.

Hypothesis 1 of the current study states that L1 Thai learners have problems in the acquisition of non-null arguments in L2 English. In particular, if they do not meet the 80% criterion for acquisition, which is commonly accepted in SLA (Tarone, Gass, and Cohen, 1994), they are considered as having difficulty acquiring non-null arguments in English. As mentioned earlier in 5.1.2, the hypothesis is based on two theoretical assumptions: negative transfer and Eckman's (1977) Markedness Differential Hypothesis (MDH). Together with the L1 influence, the MDH predicts that pronoun retention in

English is difficult to be acquired by L1 Thai learners. However, the prediction was not borne out by the results, given that the participants' overt argument production rate was well above 90%. It is assumed that negative transfer was overridden by transfer of training, which facilitated the participants to produce overt arguments, regardless of being subjects or objects. In particular, the participants might have been trained to form an English sentence that follows the basic Subject-Verb-Object (henceforth, S-V-O) pattern, as aforementioned. As a result, they successfully translated Thai sentences with null arguments into English sentences with overt counterparts. Up to this point, it seems that Hypothesis 1 with respect to the learners' production has been rejected by the fact that the participants scored above the 80% criterion for acquisition.

5.2.3 Clause types

Hypothesis 2 of the current study states that asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to three variables, one of which is clause types. Seeing that animacy might be a variable affecting the production of subjects in matrix and embedded clauses, the study analyzed animate null matrix/embedded subjects and inanimate matrix/embedded subjects separately. Percentage results revealed that the intermediate participants produced animate overt embedded subjects (95%) at a greater rate than they did animate overt matrix subjects (78.33%). However, they produced inanimate overt matrix subjects (98.33%) at the same rate as they did inanimate overt embedded subjects (98.33%). As for the advanced participants, they produced animate overt

matrix subjects (96.78%) at a slightly greater rate than they did animate overt embedded subjects (91.94%). As is the case for the intermediate learners, they produced inanimate overt matrix subjects (96.78%) at the same rate as they did inanimate overt embedded subjects (96.78%).

Table 17: Average scores on overt matrix/embedded subject production by the intermediate and advanced learners

Proficiency	A/S/M	A/S/E	I/S/M	I/S/E
Intermediate	78.33	95	98.33	98.33
Advanced	96.78	91.94	96.78	96.78

(Note. A/S/M = animate null matrix subjects, A/S/E = animate null embedded subjects, I/S/M = inanimate null matrix subjects, I/S/E = inanimate null embedded subjects)

In order to determine whether there was any significant difference between the participants' production of overt matrix and embedded subjects, a paired-samples *t*-test was conducted. The statistical analyses showed a significant difference only between animate overt matrix subjects and animate overt embedded subjects as produced by the intermediate participants. That is, they produced animate overt embedded subjects (95%, SE = 0.305) at a significantly higher rate than they did animate overt matrix subjects (78.33%, SE = 0.504, $t(29) = -3.340$, $p = 0.002$, $r = 0.527$). However, no significant difference was found between inanimate overt matrix subjects and inanimate overt embedded subjects as produced by the intermediate group

(98.33% and 98.33%, respectively). In the same way, no significant difference was found between animate overt matrix subjects and animate overt embedded subjects (96.78% and 91.94%, respectively) and between inanimate overt matrix subjects and inanimate overt embedded subjects as produced by the advanced group (96.78% and 96.78%, respectively). The results from the paired-samples *t*-test were shown below:

Table 18: Paired-samples *t*-test on the production of animate overt matrix subjects (A/S/M) vs. animate overt embedded subjects (A/S/E) and inanimate overt matrix subjects (I/S/M) vs. inanimate overt embedded subjects (I/S/E) by the intermediate and advanced groups

Pair	Intermediate	Advanced
A/S/M - A/S/E	.002**	.184
I/S/M - I/S/E	1.000	1.000

(Note. * = $p < .05$, ** = $p < .01$)

It can be seen that both intermediate and advanced participants produced overt subjects above 90%, which means that they possibly acquired non-null subjects in English and that clause types might not affect their non-null subject production. However, it seems that the intermediate participants still had difficulty producing overt animate matrix subjects in comparison to their overt animate embedded counterparts (78.33% vs. 95%), as confirmed by the statistical analysis shown in Table 18. What could explain the matrix-embedded subject asymmetry might be an influence from

the English spoken language. As mentioned in 3.2.1, null matrix subjects are allowed in the informal register, while null embedded subjects are not (Weir, 2012). Input frequency presumably had an impact on their decision of matrix/embedded subject production. In other words, matrix subjects can be omitted, but embedded subjects rarely occur in the casual register. This presumably led the intermediate learners to drop the matrix subjects in their English translation. Furthermore, it is worth noting that the two experimental sentences with null animate matrix subjects contain omitted pronouns "I" and "you" as illustrated below[22]:

(75) Teacher: (A/S/M) maː rian sa̬i ʔiːk lɛ́ːw wan níː
Ø came study late again today

(You) came late again today.

Student: pʰo̬m pai haː mɔ̌ː maː kʰráp pʰo̬m wian hua̬ tɛ̀ː
I went see doctor ADV PAR I dizzy but

mɔ̌ː bɔ̀ːk waː Ø mai̬ pen ʔà rai maːk
doctor told COMP Ø not COP anything much

I went to see a doctor. I was dizzy, but the doctor said (I) was fine.

[22] Abbreviations and symbols used in (75) - (76) are as follows: Ø = null argument, ADV = adverb, COMP = complementizer, COP = copula, and PAR = particle.

(76) Noi: náʔ dɛ̀ːt lɔ̀ː mâk tɕʰǎn tɕɤːˈ Ø tîː sàʔ naˇːm bin
Nadet handsome very I saw (him) at airport

mɯ̂a waːn kʰaw haî lai sɛn tɕʰǎn dûai
yesterday he gave autograph me too

Nadet is very handsome. I saw (him) at the airport yesterday. He also gave me his autograph.

Waew: (A/S/M) ìt tɕʰǎːˇ tʰɤːˈ tɕiŋ tɕiŋ
(I) jealous you really

I am really jealous of you.

In (75), the second person pronoun “you” is omitted, which can be understood by the given context. Four out of 30 intermediate participants omitted the pronoun when translating the Thai sentence into its English counterpart. All of the ungrammatical responses are shown below:

(77) *Going to school late today

(78) *Today are late again

(79) *Came late again today

In (76), the first person pronoun “I” is omitted in the Thai response, which can also be understood by the given context, as is the case for that in (75). However, as many as nine out of 30 intermediate participants omitted the pronoun in their English translation. All of the ungrammatical responses are illustrated below:

(80) *So jealous of you

(81) *Envy you

(82) *Jealous of you

(83) *So jealous

According to Nariyama (2004), it is common in English conversation to see the first person pronoun and the second person pronoun omitted in a declarative and in an interrogative, respectively[23]. This is probably because

> "Every utterance is made by a speaker and he is more likely to know his own affairs as represented by first person subject than those of others ; thus first person subject is associated more with declaratives ...On the other hand, the speaker has less knowledge about his addressee, therefore second person subject is the default in interrogatives."
>
> (Nariyama, 2004, p. 253)

As is the case for the present study, the intermediate participants might assume from the input that first and second person matrix subjects are commonly dropped in the colloquial language, resulting in their animate matrix subject omission. On top of that, first person pronoun serving as a matrix subject tends to be omitted in the casual register more frequently than any other type of pronouns in the same position

[23] It should be noted that the present study considered every null subject response as ungrammatical since subject drop is prohibited in the Standard English although it is acceptable in the casual register.

(Nariyama, 2004). This is probably why as many as nine out of 30 intermediate participants dropped the first person pronoun in (76). Also, this can explain why both groups of the participants barely omitted the inanimate matrix and embedded subjects at all. In particular, the referential pronouns “it” and “they” in the four experimental sentences with inanimate matrix and embedded subjects rarely occur in input, thereby helping the participants to produce their overt forms.

It is worth noting, however, that despite their preference for null matrix subjects over null embedded subjects as witnessed in the GJT, the advanced participants showed no difference in producing matrix and embedded subjects in the DTT. As mentioned in 5.2.1, transfer of training could be a promising explanation for this phenomenon. In particular, the participants might have been trained to form an English sentence that follows the basic S-V-O pattern, which guided them to produce overt arguments almost every time.

Hypothesis 2 of the current study with respect to the variable of clause types applied in the production task was thus partially confirmed. This is because it affected only the intermediate learners in allowing animate null matrix subjects at a greater rate than animate null embedded counterparts. It is proposed that the casual register which allows null matrix subjects, especially the first and second person pronouns, influenced their greater production of animate null matrix subjects than animate null embedded counterparts.

5.2.4 Prepositional phrases

Hypothesis 2 of the current study states that asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to three variables, including prepositional phrases. As animacy might be a variable affecting the production of objects with and without a prepositional phrase following, the study analyzed animate objects with and without a prepositional phrase following and inanimate objects with and without a prepositional phrase following separately. Percentage results revealed that the intermediate participants produced animate overt objects with a prepositional phrase following (93.33%) at a greater rate than they did animate overt objects without a prepositional phrase following (80%). By contrast, they produced inanimate overt objects with a prepositional phrase following (93.33%) at a slightly lower rate than they did inanimate overt objects without a prepositional phrase following (98.33%). As regards the advanced participants, they produced animate overt objects followed by a prepositional phrase (100%) at a higher rate than they did animate overt objects without a prepositional phrase following (91.94%). By contrast, they produced inanimate overt objects followed by a prepositional phrase (96.78%) at a slightly lower rate than they did inanimate overt objects without a prepositional phrase following (100%).

Table 19: Average scores on the production of overt objects with and without a prepositional phrase following by the intermediate and advanced learners

Proficiency	A/O/PP	A/O	I/O/PP	I/O
Intermediate	93.33	80	93.33	98.33
Advanced	100	91.94	96.78	100

(Note. A/O/PP = animate objects followed by a prepositional phrase, A/O = animate objects without a prepositional phrase following, I/O/PP = inanimate objects followed by a prepositional phrase, I/O = inanimate objects without a prepositional phrase following)

In order to determine whether there was any significant difference between the participants' production of overt objects with and without a prepositional phrase following, a paired-samples *t*-test was conducted. The statistical analyses showed a significant difference between animate overt objects followed by a prepositional phrase and animate overt objects without a prepositional phrase following as produced by both experimental groups. That is, the intermediate participants produced animate overt objects followed by a prepositional phrase (93.33%, SE = 0.254) at a significantly greater rate than they did animate overt objects without a prepositional phrase following (80%, SE = 0.563, $t(29) = 3.010$, $p = 0.005$, $r = 0.488$). In the same vein, the advanced participants produced animate overt objects followed by a prepositional phrase (100%, SE = 0.000) at a significantly greater rate than they

did animate overt objects without a prepositional phrase following (91.94%, SE = 374, *t*(30) = 2.402, *p* = 0.023, *r* = 0.402). However, no significant difference was found between inanimate overt objects followed by a prepositional phrase and inanimate overt objects without a prepositional phrase following as recognized by both experimental groups. The results from the paired-samples *t*-test were shown below:

Table 20: Paired-samples *t*-test on the production of animate overt objects followed by a prepositional phrase (A/O/PP) vs. animate overt objects without a prepositional phrase following (A/O) and the production of inanimate overt objects followed by a prepositional phrase (I/O/PP) vs. inanimate overt objects without a prepositional phrase following (I/O) by the intermediate and advanced groups

Pair	Intermediate	Advanced
A/O/PP - A/O	.005**	.023*
I/O/PP - I/O	.184	.161

(Note. * = $p < .05$, ** = $p < .01$)

Both intermediate and advanced groups tended to produce overt animate objects followed by a prepositional phrase at a significantly greater rate than they did overt animate objects without a prepositional phrase following. They also produced overt inanimate objects followed by a prepositional phrase and overt inanimate objects without a prepositional phrase following at a non-significant rate. Therefore, the variable of prepositional phrases probably played no role in their object

production. This is because the presence of a prepositional phrase after the null object did not lead the participants to treat it as an argument since they produced objects followed by a prepositional phrase at a higher rate than they did objects without a prepositional phrase following. Thus, some uncontrolled variables might come into play. It is assumed that personal pronouns possibly affected the intermediate group's production of overt objects. Consider the omitted object pronouns in the experimental sentences in Table 21 below:

Table 21: List of object pronouns omitted in each sentence type

Sentence type	Verb	omitted object pronoun	person
A/O	see	me	first
	punish	you	second
A/O/PP	visit	her	third
	meet	him	third
I/O	use	it	third
	find	them	third
I/O/PP	drop	them	third
	put	it	third

Similar to first and second person subject pronouns, first and second person object pronouns tend to be omitted more frequently than any other personal pronoun. According to Nariyama (2004), first person and second person subject pronoun omission is common among native speakers of English. However, it is quite surprising to find that it is also the case for object omission among L2 learners of English as witnessed in the current study. Moreover, the person/animacy hierarchy proposed by Aissen (1998) and the reduction scale proposed by Bresnan (1998) given below may also account for the data.

(84) The person/animacy hierarchy

1st/2nd Person > Proper Noun 3rd > Human 3rd > Animate 3rd > Inanimate 3rd

(85) The reduction scale

Null > Overt

As discussed earlier in 2.1.4, the alignment of the hierarchy and the scale adopted from Artstein (1999) explains that first and second person pronouns are dropped more frequently than any other types of arguments and that inanimate third person pronouns are vice versa. That the intermediate and advanced participants omitted null animate objects without a prepositional phrase following at a significantly greater rate than they did null animate objects followed by a prepositional phrase shows that they adhered to the alignment, leading them to omit first and second person pronouns more frequently than animate and inanimate third person pronouns, respectively.

Hypothesis 2 of the current study with respect to the variable of prepositional phrases applied in the production task was therefore rejected, given that the presence/absence of a prepositional phrase after null objects did not lead the participants to treat it as an argument. It is proposed that whether the participants omit objects or not depends on the personal pronoun being omitted in the experimental sentences. That is to say, they tended to omit first and second person object pronouns more than any other personal pronouns in their English translation, which presumably adheres to the alignment of the person/animacy hierarchy and the reduction scale adopted from Artstein (1999).

5.2.5 Animacy

Hypothesis 2 of the current study states that asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to three variables, one of which is animacy. Seeing that clause types and prepositional phrases might be variables affecting the production of subjects and objects, respectively, the study thus compared animate matrix/embedded subjects and animate objects with and without a prepositional phrase following with their inanimate counterparts. Percentage results showed that the intermediate participants produced animate overt matrix subjects (78.33%) at a much lower rate than they did inanimate overt matrix subjects (98.33%). However, they produced animate overt embedded subjects (95%) at a slightly lower rate than they did inanimate overt embedded subjects (98.33). By contrast, they produced animate overt objects followed by a prepositional phrase

(96.77%) at a slightly higher rate than they did inanimate overt objects followed by a prepositional phrase (93.33%). However, they produced animate overt objects without a prepositional phrase following (80%) at a much lower rate than they did inanimate overt objects without a prepositional phrase following (98.33%). As for the advanced participants, they produced animate overt matrix subjects (96.78%) as equally as they did inanimate overt matrix subjects (96.78%). However, they produced animate overt embedded subjects (91.94%) at a slightly lower rate than they did inanimate overt embedded subjects (96.78%). By contrast, they produced animate overt objects followed by a prepositional phrase (100%) at a greater rate than they did inanimate overt objects followed by a prepositional phrase (96.78%). However, they produced animate overt objects without a prepositional phrase following (91.94%) at a lower rate than they did inanimate overt objects without a prepositional phrase following (100%).

Table 22: Average scores on the production of animate overt matrix/embedded subjects and objects with and without a prepositional phrase following and their inanimate overt counterparts

Proficiency	A/S/M	I/S/M	A/S/E	I/S/E	A/O/PP	I/O/PP	A/O	I/O
Intermediate	78.33	98.33	95	98.33	96.77	93.33	80	98.33
Advanced	96.78	96.78	91.94	96.78	100	96.78	91.94	100

(Note. A/S/M = animate matrix subjects, A/S/E = animate embedded subjects, I/S/M = inanimate matrix subjects, I/S/E = inanimate embedded subjects, A/O/PP = animate objects followed by a prepositional phrase, A/O = animate objects without a prepositional phrase following, I/O/PP = inanimate objects followed by a prepositional phrase, I/O = inanimate objects without a prepositional phrase following)

In order to determine whether there was any significant difference between the participants' production of animate overt subjects and objects and their inanimate counterparts, a paired-samples *t*-test was conducted. The statistical analyses showed that the intermediate participants produced animate overt matrix subjects (78.33%, SE = 0.504) at a lower rate than they did inanimate overt matrix subjects (98.33%, SE = 0.183, $t(29) = -4.397$, $p = 0.000$, $r = 0.632$). They also produced animate overt objects without a prepositional phrase following (80%, SE = 0.563) at a lower rate than they did inanimate overt objects without a prepositional phrase following (98.33%, SE = 0.183, $t(29) = -3.612$, $p = 0.001$, $r = 0.557$). However, no significant difference was found

between their production of animate overt embedded subjects (95%, SE = 0.305) and inanimate overt embedded subjects (98.33%, SE = 0.183, *t*(29) = -1.000, *p* = 0.326, *r* = 0.183) and between animate overt objects followed by a prepositional phrase (96.77%, SE = 0.254) and inanimate overt objects followed by a prepositional phrase (93.33%, SE = 0.434, *t*(29) = 0.812, *p* = 0.423, *r* = 0.149). As far as the advanced participants are concerned, they produced animate overt objects without a prepositional phrase following (91.94%, SE = 0.374) at a lower rate than they did inanimate overt objects without a prepositional phrase following (100%, SE = 0.000, *t*(30) = -2.402, *p* = 0.023, *r* = 0.402). However, no significant difference was found between their production of animate overt matrix subjects (96.78%, SE = 0.250) and inanimate overt matrix subjects (96.78%, SE = 0.250, *t*(30) = 0.000, *p* = 1.000, *r* = 0.000), between animate overt embedded subjects (91.94%, SE = 0.374) and inanimate overt embedded subjects (96.78%, SE = 0.250, *t*(30) = -1.139, *p* = 0.264, *r* = 0.204), and between animate overt objects followed by a prepositional phrase (100%, SE = 0.000) and inanimate overt objects followed by a prepositional phrase (96.78%, SE = 0.250, *t*(30) = 1.438, *p* = 0.161, *r* = 0.254). The results from the paired-samples *t*-test were shown below:

Table 23: Paired-samples *t*-test on the production of animate overt matrix subjects (A/S/M) vs. inanimate overt matrix subjects (I/S/M), animate overt embedded subjects (A/S/E) vs. inanimate overt overt subjects (I/S/E), animate overt objects followed by a prepositional phrase (A/O/PP) vs. inanimate overt objects followed by a prepositional phrase (I/O/PP), and animate overt object without a prepositional phrase following (A/O) vs. inanimate overt object without a prepositional phrase following (I/O) by the intermediate and advanced groups

Pair	Intermediate	Advanced
A/S/M - I/S/M	.000***	1.000
A/S/E - I/S/E	.326	.264
A/O/PP - I/O/PP	.423	.161
A/O - I/O	.001**	.023*

(Note. * = $p < .05$, ** = $p < .01$, *** = $p < 0.001$)

As both the intermediate and advanced groups performed very well on the production task as witnessed in Table 22 where their percentage scores were mostly higher than 90%, it is difficult to determine whether the variable of animacy played a role in their argument production. However, the statistics given in Table 23 indicates that from eight pairs of sentences testing the variable of animacy, three of them showed significant differences between animate null arguments and their inanimate counterparts. In particular, the intermediate participants produced animate overt

matrix subjects at a lower rate than they did inanimate overt matrix subjects. They also produced animate overt objects without a prepositional phrase following at a lower rate they did inanimate overt objects without a prepositional phrase following, as did the advanced participants. These patterned data tended to suggest that an alignment of the universal animacy hierarchy (Hawkinson & Hyman, 1974; Gass, 1984; Croft, 2003; among others) and the reduction scale (Bresnan, 1998) adapted from Artstein (1999) successfully predicted that animate arguments will be dropped more frequently than inanimate arguments. As mentioned in 2.1.4, the alignment was used by Artstein (1999) to explain why first and second person subject pronouns are allowed, but other personal pronouns are not in Hebrew. The effect of animacy on pronoun omission as witnessed in the L1 may also account for the L2 data in the current study. That is, whenever the participants produced null arguments, they were likely to be animate ones. They also tended to be first and second person pronouns as discussed earlier in 5.2.3. and 5.2.4, which adheres to the person/animacy hierarchy.

Hypothesis 2 of the current study with respect to the variable of animacy employed in the production task was therefore confirmed, given that animate arguments tended to be omitted at a greater rate than their inanimate counterparts. It is assumed that both groups' performance on this task probably followed the alignment of the person/animacy hierarchy and the reduction scale, which led them to omit animate arguments more frequently than inanimate ones.

The results of the DTT and the possible explanations of the findings are summarized in Table 24 below:

Table 24: Summary of the results of the DTT and the possible explanations of the findings

Findings	Proficiency level	
	Intermediate	Advanced
Null S/O	The intermediate participants had little difficulty producing overt arguments since their overall production rate was above 90%. They also showed no difference in producing overt Ss and Os. It is proposed that transfer of training probably facilitated them to produce overt arguments.	The advanced participants' overt argument production rate was well above 90% on every sentence type. They also showed no difference in producing overt Ss and Os. Transfer of training can probably account for their native-like performance on overt argument production.
Clause Type	They produced animate null matrix Ss at a greater rate than animate null embedded counterparts. The casual register	The variable of clause types did not affect their production of Ss. It is proposed that transfer of training caused them to be

Findings	Proficiency level	
	Intermediate	Advanced
Clause Type	which allows null matrix Ss possibly influenced their greater production of the former than the latter.	aware of producing overt Ss every time regardless of positions.
PP	The presence/absence of a PP after null objects did not affect their object production. However, it was found that they tended to omit first and second person pronouns, which arguably adheres to an alignment of the person/animacy hierarchy and the reduction scale.	The variable of PPs did not affect their overt object production. However, as is the case for the intermediate participants, it was found that they tended to omit first and second person pronouns more than any other personal pronouns, which presumably follows an alignment of the person/animacy hierarchy and the reduction scale.
Animacy	They tended to omit animate arguments at a higher rate than they did inanimate counterparts.	As their overt argument production rate was above 92%, it was difficult to determine

Findings	Proficiency level	
	Intermediate	Advanced
Animacy	Their argument production more or less adheres to an alignment of the universal animacy hierarchy and the reduction scale.	whether the variable of animacy played a role. However, there was a tendency showing that they omitted animate arguments at a greater rate than they did inanimate counterparts, which more or less follows the prediction made by the alignment.

(Note. S = subject, O = object, PP = prepositional phrase)

Chapter 6
Conclusions

This chapter concludes the present study. Section 6.1 concludes the major and minor findings elaborated on in Chapter 5. Some pedagogical implications are provided in Section 6.2. Sections 6.3 and 6.4 provide several limitations and suggest some gaps existing in the current study that could be filled in future research.

6.1 Conclusions

The present study set out to investigate the null argument phenomenon among L1 Thai learners of L2 English of different proficiency levels through perception and production tasks. Conclusions were as follows.

The first hypothesis of the study states that L1 Thai learners have problems in the acquisition of non-null arguments in L2 English. Based on Eckman's (1977) Markedness Differential Hypothesis (MDH), it is predicted that non-null argument languages are more difficult to acquire than null argument counterparts. As far as the GJT is concerned, the overall results were as predicted. Both the intermediate and participants had difficulty detecting null arguments in English sentences although the latter seemed to acquire non-null subjects as they met the 80% criterion of acquisition. It is assumed that negative transfer played a significant role in the participants' performance on null argument recognition. That is, they found it difficult to abandon argument dropping which is common in their L1, but is prohibited in the L2. However, the MDH failed to predict their performance on the DTT. Both experimental groups

had no problems producing non-null arguments as their scores were mostly above 90%. It is proposed that transfer of training put forward by Selinker (1972) could account for their mastery of non-null argument production. In particular, the participants might have been trained to form an English sentence that follows the basic Subject-Verb-Object (S-V-O) pattern, resulting in their native-like performance in translating Thai sentences with null arguments into English sentences with overt counterparts. L1 transfer of argument omission was presumably overridden by this cognitive strategy in this production task.

The second hypothesis of the study states that asymmetric patterns of non-null arguments and null arguments in L2 English by L1 Thai learners occur to three variables: clause types, prepositional phrases, and animacy. As for the variable of clause types, it was found in the GJT that the intermediate participants had a preference for null embedded subjects over null matrix subjects, whereas the advanced participants were vice versa. It is assumed that perceptual saliency of subject positions could account for the intermediate participants' performance on the task. That is, null embedded subjects are less salient in terms of position than null matrix subjects (Wakabayashi & Negishi, 2003), causing them to identify the former at a lower rate than they did the latter. As for the advanced participants, however, they acquired non-null subjects in English as they met the acquisition criterion. It is proposed that informal styles of communication affected their preference for null matrix subjects since they are commonly used in the casual register by native English speakers (Weir,

2012). As regards the DTT, the intermediate participants produced null matrix subjects at a lower rate than they did null embedded subjects. It is proposed that input frequency led them to produce null matrix subjects but rejected null embedded subjects. In other words, matrix subjects are constantly omitted, but embedded subjects rarely occur in the casual register. The advanced participants, however, showed no difference in producing either null embedded or matrix subjects as their scores on all types of null subjects sentences were above 90%.

As far as prepositional phrases are concerned, it was found in the GJT that the intermediate participants had more difficulty detecting null objects followed by a prepositional phrase than those without a prepositional phrase following. It is proposed that the lack of argument/adjunct knowledge could account for their preference for the former over the latter. Although the variable did not affect the advanced participants' recognition, it was found that they were affected by situation types of verbs. In particular, they were likely to omit objects of stative verbs at a greater rate than those of dynamic verbs, which lends support to Lempert and Kinsbourne (1981 as cited in Lempert & Kinsbourne, 1983) in that arguments of a dynamic verb are more salient than those of a stative one. However, the presence/absence of a prepositional phrase after null objects did not affect both experimental groups' object production in the DTT.

Although the variable of animacy played no role in the participants' recognition of null subjects and objects in the GJT, it seemed likely to affect their argument

production in the DTT. Task effects may possibly account for the asymmetrical patterns between the two tasks. That is, perception tasks like a GJT probably produced unpatterned data due to some uncontrolled variables such as sentence and vocabulary complexity. As a result, the data did not appeal to the order predicted by an alignment of the universal animacy hierarchy and a reduction scale, which suggests that animate arguments are omitted more frequently than inanimate counterparts. By contrast, it was found that both groups of the participants produced the data that more or less followed the prediction made by the alignment. In particular, they tended to omit animate arguments, first and second person pronouns in particular, at a greater than they did inanimate counterparts.

Apart from the major findings, some minor findings are worth mentioning. First, given the two different levels of proficiency were taken as a measure of language development, it was found that sensitivity to identify null arguments increased with higher proficiency. That is, the advanced group's performance on the GJT was far better than that of the intermediate group, which to some extent suggests that despite acquiring the L2 that is more marked than the L1, it is possible for learners to master the more marked language. Put differently, negative carry-over from the mother-tongue may finally be abandoned at a later stage of L2 acquisition. Second, there was an asymmetrical pattern between null subject and object recognition in the GJT. In particular, both experimental groups recognized null subjects at a higher rate than they did null objects. The study lends support to input inconsistency between subjects and

objects (Wakabayashi & Negishi, 2003). More specifically, subjects in English basically require overt subjects in every sentence, but sentences may lack objects if their predicate is an intransitive verb. As a result, the participants probably had more difficulty recognizing null objects as they needed to determine which type of verb can or cannot be used without an object, whereas they could simply use overt forms of subjects in almost any circumstance.

In short, there seems to be an asymmetrical pattern between L1 Thai learners' recognition of null and non-null arguments as well as production of these two argument types in English. The simplicity of overt argument production in the DTT over null argument recognition in the GJT can arguably be accounted for by transfer of training. On top of that, task effects including sentence and vocabulary complexity might be the reason why some variables played a role in one task but not in the other task. In the same vein, as the intermediate and the advanced participants were at a different stage of L2 acquisition, some variables such as perceptual saliency, arguments/adjuncts, and verb types that affected one group might not influence the other group (see 5.1).

6.2 Pedagogical implications

Overall, it seems that both groups of the participants successfully supplied overt arguments in the DTT but had difficulty detecting null arguments in the GJT. As regards null subjects, it was found that the intermediate learners recognized null embedded subjects at a lower rate than they did null matrix subjects. For this reason,

teachers to L1 Thai learners of L2 English should emphasize that English basically disallows null subjects in any sentential position and that null subjects are only limited to special cases such as those in imperatives and in colloquial language. To achieve this, it is recommended that L1 Thai learners receive explicit instruction of the relevant features, which has been proved to be an effective approach in previous studies. For instance, Lai (2006) gave explicit instruction of non-null subjects in English to her Taiwanese EFL learners and found that the subjects improved considerably after taking part in the activities that promoted the learning of non-prodrop features in English.

Whereas only the lower-proficiency group was found to have problems acquiring non-null subjects in L2 English, it was found in the current study that both the lower- and the higher-proficiency groups had difficulty detecting null objects in English sentences. To improve this, teachers may incorporate drills that place an instructional emphasis on the features of objects in English. The reason why teaching materials should be specially designed to raise awareness of non-null objects in English is that major grammar books, dictionaries, or even widely used ESL textbook series have not given an adequate picture of non-null arguments in English (Liu, 2008). They simply treat English as a non-null argument language, which does not allow object omission at all. In fact, some English verbs permit object deletion, but there are only few (e.g. “I know (that),” which is a response to “There is no class today”) (Liu, 2008, p. 288). This might lead L2 learners to view the limited occurrence of null objects in English as evidence to allow object deletion in other instances. To prevent this, drills

should be designed to give examples of object deletion in English that are limited to a handful of verbs. Also, they should mention that object omission is much more common in their L1 than in the L2, which possibly results in greater awareness of non-null objects in English.

Last but not least, as it was argued in the present study that the lack of argument/adjunct knowledge probably resulted in the intermediate learners' poor performance on recognizing null objects followed by a prepositional phrase, teachers to low-proficiency learners of L2 English may include the concept of arguments and adjuncts in the lesson to raise their students' awareness of non-null objects in English. If L2 English learners are able to distinguish adjuncts from arguments, they will possibly not treat a prepositional phrase as an object.

6.3 Limitations

There are some methodological problems in the study that might have biased the results. The data collection procedures are of utmost concern. Due to time constraints, it was practically impossible to have the participants complete three tasks that took almost three hours in a row. As a result, they were asked to submit their tests on the following day. Although they were encouraged by their teachers and the experimenter to avoid consulting other people or textbooks, academic malpractice could possibly occur. To resolve this ethical issue, it is suggested that the participants be carefully monitored throughout the experiment in a classroom atmosphere.

Another concern is the number of test items used in the GJT. As mentioned in 4.2.1.1, there were 16 control and 16 experimental sentences in this task. However, it was found later that corrections made by the participants to the control sentences were not related to the knowledge of non-null arguments because no response changed grammatical sentences into ungrammatical ones by deleting overt subjects or objects. Accordingly, the participants' responses to the control sentences were ignored; only 16 experimental sentences were included in the data analyses. It is recommended that the study replace control sentences with experimental counterparts. In so doing, the results could be more generalized as there would be a larger set of data, 32 sentences in particular, to analyze.

6.4 Recommendations for future research

As there were two tasks employed in the study, future research may collect data from other kinds of tasks. For example, a reconstruction or story-telling that approximates natural speech production may yield results different from those found in the current study. To get a large set of data that leads to more generalized results, in addition, future studies might try creating a learner corpus that contains essays written by L2 learners at various proficiency levels. By doing so, researchers are able to get spontaneous production data, which are believed to be more desirable than elicited counterparts that were used in the present study (Larsen-Freeman & Long, 1999). However, certain language features would be impossible to study since they rarely occur in common written and spoken languages.

The MDH incorporated to the second hypothesis allows the current study to set a directionality assumption. That is, null arguments are less marked than non-null arguments. Therefore, L1 Thai learners have more difficulty acquiring L2 English, which was confirmed by the perception task's results. Conversely, L1 English learners have less difficulty acquiring L2 Thai. For this reason, it is interesting to further investigate whether null arguments in Thai can be acquired with ease by learners whose L1s do not allow argument omission.

As it was found that the presence of non-obligatory constituents like a prepositional phrase to the right of null objects caused the intermediate participants to treat adjuncts as arguments in the GJT due to the lack of argument/adjunct knowledge, more structures that may cause a similar syntactic misanalysis such as null subject sentences with clause initial adverbs (e.g. "The building was on fire after being hit by a bomb." "15 minutes later (it) suffered a total collapse.") might be included in future studies conducting with L1 Thai learners. This being found, it may explain that the lack of argument/adjunct knowledge can result in syntactic mistreatment of clause-initial adverbs as subjects as well.

Furthermore, it was found that situation types of verbs possibly affected the advanced learners' object omission. That is, they tended to omit objects of stative verbs at a greater rate than those of dynamic verbs. As there has been little empirical evidence suggesting that arguments of dynamic verbs are more salient and tend to be

overt, future studies need to further investigate whether it is the case for L2 learners from other L1 backgrounds.

Lastly, as the alignment of the universal animacy hierarchy and the reduction scale is firstly introduced to explain L2 data in the current study, more research needs to confirm whether it is powerful enough to explain the null argument phenomenon in L2A, as is the case for L1A. At the very least, it could partially explain the data elicited through a guided translation in the current study.

APPENDICES

Appendix A: Details of the participants

1. Intermediate learners (n = 31)

Participants	Age	OQPT Score (60)
I 1	21	38
I 2	21	41
I 3	21	41
I 4	21	39
I 5	21	31
I 6	21	36
I 7	21	39
I 8	21	40
I 9	21	39
I 10	21	40
I 11	20	31
I 12	20	38
I 13	20	35
I 14	20	37
I 15	20	35
I 16	20	34
I 17	20	35
I 18	20	32

Participants	Age	OQPT Score (60)
I 19	21	38
I 20	20	35
I 21	20	38
I 22	20	32
I 23	20	39
I 24	20	34
I 25	20	33
I 26	19	32
I 27	19	35
I 28	19	35
I 29	19	34
I 30	19	34
I 31	19	35
$\bar{X}$	20.16	35.98

2. Advanced learners (n = 31)

Participants	Age	OQPT Score (60)
A 1	21	48
A 2	21	48

Participants	Age	OQPT Score (60)
A 3	20	48
A 4	21	48
A 5	21	48
A 6	19	48
A 7	21	48
A 8	21	51
A 9	21	54
A 10	21	51
A 11	21	56
A 12	21	50
A 13	21	50
A 14	21	50
A 15	21	53
A 16	21	49
A 17	21	49
A 18	21	56
A 19	21	50
A 20	21	49
A 21	21	52

Participants	Age	OQPT Score (60)
A 22	20	48
A 23	20	48
A 24	21	56
A 25	21	49
A 26	21	50
A 27	21	48
A 28	21	50
A 29	21	48
A 30	21	48
A 31	21	48
$\bar{X}$	20.87	49.98

3. Native controls (n=5)

Participants	Age	Nationality
N 1	24	American
N 2	32	Australian
N 3	54	American
N 4	56	British
N 5	57	American

Participants	Age	Nationality
$\bar{X}$	44.6	-

Appendix B: Grammaticality judgment task with correction

Directions: Read the sentences. Decide if they are correct or incorrect. Check ✓ if correct, or X if incorrect. Also make a correction on the sentences that you think they are incorrect.

1. I lost my car key, so I asked my mother to help me find it.

2. John cheated on his girlfriend, but later she chose to forgive.

3. Susan broke her right arm before falling off the bicycle.

4. Emily wanted to buy some strawberries, but she found they were much more expensive than usual.

5. Some of the apples on the tree were ripe, so Anna went out to pick with her children.

6. My friend handed me a dish of fried worms, but I was not brave enough to taste them.

7. There was a car bomb in front of the Supreme Court. Fortunately, no one got injuring.

8. The play we saw yesterday was very spectacular. There was no doubt how the tickets were sold out in just one day.

9. The teacher told me that Ben came to school yesterday, but I did not see.

10. Emma's cell phone was incredibly tough. It was dust and water resistant.

11. My sister used to have a very expensive Harley Davidson motorbike. She rode it to her office from time to time.

12. When I lived in a dormitory with my roommate, they used to cook me various kinds of Italian cuisine.

13. I always got sick of my little sister when we lived together. Every time she was away from home, however, I really missed her.

14. I had a car accident last summer. At that time my mother thought might not make it since I was in a coma.

15. Some of the students in this class were very naughty. Their teacher often punished in front of the class.

16. The president was shot dead just after he delivered a speech in the Independence Day.

17. The teacher was not in the class when Don and Danny had a row with one another.

18. Thomas was one of the greatest chefs in town. I first met him at an international food fair.

19. The building was on fire after being hit by a bomb. Suffered a total collapse 15 minutes later.

20. Many years ago Molly was in a car wreck and she was paralyzed because acute damage to her spine.

21. It was a good time we had in Kyoto. People were very nice and the food were very tasty.

22. Mary lost her eye-glasses and finally found under the bed.

23. Jane shot the burglar in the chest. She was afraid the wounded burglar would escape, so she called the police to arrest him.

24. Wilson's dog bit Jenny on her elbow. Fortunately, the cat was vaccinating against serious diseases.

25. Judy found a pair of high heels in her husband's car. Later he admitted belonged to his mistress.

26. After I took two pills of aspirin, my headache got better for an hour.

27. Jenny was awarded the latest Miss Universe crown. Looked so beautiful and charming.

28. When we traveled on Florence, several years ago, we met a lot of world-class painters and sculptors.

29. The old DVD player was very smart. At first I thought could only read certain file formats.

30. Although The Bee Gees were a famous band in the UK, a lot of people in Asia did not know them.

31. A famous businessman committed a suicide after seeing no way to pay down all his debt.

32. My computer desktop was out of order, so I asked a technician to fix.

33. There seemed to have no mutual agreement even though the two parties had discussed for almost two months.

34. Peter was about to start the opening ceremony. So he asked if the attendees were ready.

35. Bill could not stand his seven-year-old laptop anymore. Kept hanging and restarting itself.

36. That an office worker fell from the ten floor of that building shocked many passers-by.

37. I met my long-lost friend another day and found out that she lived abroad with her husband and two sons.

38. I bought this pink umbrella in Japan last year. It was 70% off.

39. My ex-boyfriend was very romantic. When we were together, he was always kissing me in public.

40. When I lived in Italy, I ate lasagna almost every day. Still, I did not know how to make.

41. Last night a burglar broke into my house and stole my mother's gold necklace. Fortunately, she told me it was imitation gold.

42. Yesterday I had to work more harder than ever since many people took a sick leave.

43. The police noticed an escaping robber. Approached him as quietly as possible.

44. Susan broke up with her boyfriend last month. She said he was very cruel, so she dumped him.

45. An airline passenger said something very rude to my sister, so I punched in the face.

46. Having finished reading all these novels, Bill sold them to a second-hand bookstore.

47. Hilary felt a bit irritating when her acquaintance asked to borrow her money.

48. My uncle fell down the stairs. The doctor said needed at least 6 months to recover.

49. Air Canada had to cancel some domestic flights in spite of severe snow conditions.

50. I met Lisa's boyfriend the other day. He was as good-looking as George Clooney.

Appendix C: Dialogue translation task

Directions: Translate the dialogues below from Thai into English.

1. ครู: มาเรียนสายอีกแล้ววันนี้

นักเรียน: ผมไปหาหมอมาครับ ผมเวียนหัวแต่หมอบอกว่าไม่เป็นอะไรมาก

ครู: ดีแล้ว งั้นวันนี้ครูไม่ทำโทษเพราะเธอมีเหตุผลสมควรให้มาสาย

2. สุดา: เธอแน่ใจหรือเปล่าว่าเธอจะให้กระเป๋าใบนี้กับฉัน มันแพงมากเลยนะ

วิภา: ฉันคิดว่าคงไม่ได้ใช้แล้ว เธอรับมันไว้เถอะ

3. เกตุ: ฉันไม่เจอแฟนมาหลายวันแล้ว เมื่อวานเขามาหา

หน่อย: เธอคงดีใจมากสินะ

4. แม่: ลูกเอาไม้กวาดไปวางไว้ตรงไหน

ลูกชาย: ผมวางไว้ข้างๆตู้เย็นครับแม่

5. ลูกค้า: ร่มคันนี้ราคาเท่าไร ยี่ห้อนี้กันรังสียูวีด้วยหรือเปล่า

พนักงาน: ร่มราคา 500 บาท กันรังสียูวี 99 เปอร์เซ็นต์ครับ

6. เนตร: ทำไมเธอถึงซื้อรถมือสองคันนี้มา

พร: ฉันเห็นว่าถูกดี สภาพมันก็ยังใหม่

7. จิ๊บ: เธอเพิ่งซื้อไอโฟนหกมาใช่ไหม มันเป็นไงบ้าง

ไก่: ฉันบอกเธอได้เลยว่าสวยและดีกว่าไอโฟนห้าเอสแน่นอน

8. ปุ้ย: ฉันทำบัตรเอทีเอ็มหาย คงหล่นอยู่แถวนี้

เก๋: บัตรสีม่วงใช่ไหม ฉันเห็นมันอยู่บนเก้าอี้ตรงโน้น

9. น้อย: ณเดชช์หล่อมาก ฉันเจอที่สนามบินเมื่อวาน เขาให้ลายเซ็นต์ฉันด้วย

แวว: อิจฉาเธอจริงๆ

10. ชาย: ผมไม่เจอแม่มาเกือบเดือนแล้ว เมื่อวานผมเลยไปหาที่บ้าน

ดาว: เธอโชคดีที่ยังมีแม่ให้เยี่ยม แม่ฉันเสียตั้งแต่ฉันยังเด็ก

11. พล: ผมทำแว่นตาหาย คุณช่วยผมหาหน่อยได้ไหม

เก่ง: แว่นสีเหลืองใช่ไหม คุณคงทำตกแถวๆนี้

Appendix D: Item-Objective Congruence (IOC) scores

Task 1

Test item	Expert 1	Expert 2	Expert 3	IOC score
1. The police noticed an escaping robber. _Approached him as quietly as possible.	1	1	1	1.00
2. Jenny was awarded the latest Miss Universe crown. _Looked so beautiful and charming.	1	1	1	1.00
3. I met Lisa's boyfriend the other day. He was as good-looking as George Clooney.	1	1	1	1.00
4. Peter was about to start the opening ceremony. So he asked if the attendees were ready.	1	1	1	1.00
5. The building was on fire after being hit by a bomb. _suffered a total collapse 15 minutes later.	1	1	1	1.00

Test item	Expert 1	Expert 2	Expert 3	IOC score
6. Bill could not stand his seven-year-old laptop anymore. _kept hanging and restarting itself.	1	1	1	1.00
7. Emma's cell phone was incredibly tough. It was dust and water resistant.	1	1	1	1.00
8. I bought this pink umbrella in Japan last year. It was 70% off.	1	1	1	1.00
9. My uncle fell down the stairs. The doctor said _needed at least 6 months to recover.	1	1	1	1.00
10. I had a car accident last summer. At that time my mother thought _might not make it since I was in a coma.	1	1	1	1.00
11. Susan broke up with her boyfriend last month. She said he was very cruel, so she dumped him.	1	1	1	1.00

Test item	Expert 1	Expert 2	Expert 3	IOC score
12. Jane shot the burglar in the chest. She was afraid the wounded burglar would escape, so she called the police to arrest him.	1	1	1	1.00
13. The old DVD player was very smart. At first I thought _could only read certain file formats.	1	1	1	1.00
14. Judy found a pair of high heels in her husband's car. Later he admitted _belonged to his mistress.	1	1	1	1.00
15. Emily wanted to buy some strawberries, but she found they were much more expensive than usual.	1	1	1	1.00
16. Last night a burglar broke into my house and stole my mother's gold necklace. Fortunately, she told me it was imitation gold.	1	1	1	1.00

Test item	Expert 1	Expert 2	Expert 3	IOC score
17. Some of the students in this class were very naughty. Their teacher often punished_ in front of the class.	1	1	1	1.00
18. An airline passenger said something very rude to my sister, so I punched_ in the face.	1	1	1	1.00
19. Thomas was one of the greatest chefs in town. I first met him at an international food fair.	1	1	1	1.00
20. My ex-boyfriend was very romantic. When we were together, he was always kissing me in public.	1	1	1	1.00
21. Some of the apples on the tree were ripe, so Anna went out to pick_ with her children.	1	1	1	1.00
22. Mary lost her eye-glasses and finally found _ under the bed.	1	1	1	1.00

Test item	Expert 1	Expert 2	Expert 3	IOC score
23. Having finished reading all these novels, Bill sold them to a second-hand bookstore.	1	1	1	1.00
24. My sister used to have a very expensive Harley Davidson motorbike. She rode it to her office from time to time.	1	1	1	1.00
25. The teacher told me that Ben came to school yesterday, but I did not see_.	1	1	1	1.00
26. John cheated on his girlfriend, but later she chose to forgive_.	1	0	1	0.67
27. Although The Bee Gees were a famous band in the UK, a lot of people in Asia did not know them.	1	1	0	0.67
28. I always got sick of my little sister when we lived together. Every time she was away from home, however, I really missed her.	1	1	1	1.00

Test item	Expert 1	Expert 2	Expert 3	IOC score
29. When I lived in Italy, I ate lasagna almost every day. Still, I did not know how to make_.	1	1	1	1.00
30. My computer desktop was out of order, so I asked a technician to fix_.	1	1	1	1.00
31. My friend handed me a dish of fried worms, but I was not brave enough to taste them.	1	1	1	1.00
32. I lost my car key, so I asked my mother to help me find it.	1	1	1	1.00
Average				0.978

Task 2

Test item	Expert 1	Expert 2	Expert 3	IOC score
1. ครู: _มาเรียนสายอีกแล้ววันนี้	1	1	1	1.00
2. นักเรียน: ผมไปหาหมอมาครับ ผมเวียนหัว แต่หมอบอกว่า_ไม่เป็นอะไรมาก	1	1	1	1.00

Test item	Expert 1	Expert 2	Expert 3	IOC score
3. ครู: ดีแล้ว งั้นวันนี้ครูไม่ทำโทษ_เพราะเธอมีเหตุผลสมควรให้มาสาย	1	1	1	1.00
4. วิภา: ฉันคิดว่า_คงไม่ได้ใช้แล้ว เธอรับมันไว้เถอะ	1	1	1	1.00
5. วิภา: ฉันคิดว่าคงไม่ได้ใช้_แล้ว เธอรับมันไว้เถอะ	1	1	1	1.00
6. พล: ผมทำแว่นตาหาย คุณช่วยผมหา_หน่อยได้ไหม	1	1	1	1.00
7. เก่ง: แว่นสีเหลืองใช่ไหม คุณคงทำ_ตกแถวๆนี้	1	0	1	0.67
8. ลูกชาย: ผมวาง_ไว้ข้างๆตู้เย็นครับแม่	1	1	1	1.00
9. พนักงาน: ร่มราคา 500 บาท _กันรังสียูวี 99 เปอร์เซ็นต์ครับ	1	1	1	1.00
10. พร: ฉันเห็นว่า_ถูกดี สภาพมันก็ยังใหม่	1	1	1	1.00
11. ไก่: ฉันบอกเธอได้เลยว่า_สวยและดีกว่าไอโฟนห้าเอสแน่นอน	1	1	1	1.00
12. ปุ้ย: ฉันทำบัตรเอทีเอ็มหาย _คงหล่นอยู่แถวนี้	1	1	1	1.00
13. น้อย: ณเดชช์หล่อมาก ฉันเจอ_ที่สนามบินเมื่อวาน เขาให้ลายเซ็นต์ฉันด้วย	1	1	1	1.00
14. แวว: _อิจฉาเธอจริงๆ	1	1	1	1.00
15. ชาย: ผมไม่เจอแม่มาเกือบเดือนแล้ว เมื่อวานผมเลยไปหา_ที่บ้าน	1	1	1	1.00

Test item	Expert 1	Expert 2	Expert 3	IOC score
16. เกตุ: ฉันไม่เจอแฟนมาหลายวันแล้ว เมื่อวานเขามาหา_	1	1	1	1.00
Average				0.979

REFERENCES

Aarts, B. (1997). *English syntax and argumentation*. Hampshire : Macmillan Press.

Adjemian, C. (1976). On the nature of interlanguage systems. *Language Learning, 26(2)*, 297-230.

Aissen, J. (1998). *Markedness and subject choice in Optimality Theory* (Unpublished master's dissertation). University of California, Santa Cruz, USA.

Aroonmanakun, W. (1997). Referent Resolution for Zero Pronouns in Thai. In A.A. Abramson (Ed.) Southest Asian Linguistic Studies in Honour of Vichin Panupong. Bangkok: Chulalongkorn University Press.

Artstein, R. (1999). Person, animacy, and null subjects. In T. Combier-Langeveld et al. (Eds.), *Proceedings of Console VII* (pp. 1-15). Leiden: SOLE.

Bardovi-Harlig, K. (1987). Markedness and salience in second language acquistition. *Language Learning, 37*, 385-408.

Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *The Longman Grammar of Spoken and Written English*. London: Longman.

Bresnan, J. (1998). *The emergence of the unmarked pronoun* (Unpublished master's dissertation). Stanford University, USA.

Burt, M. & Kiparsky, C. (1972). *The gooficon: A repair manual for English*. Rowley, Mass: Newbury House.

Candlin, C.N. (Ed.). (1980). *Contrastive Analysis*. London: Longman.

Carnie, A. (2011) *Modern syntax: A course book.* Cambridge: Cambridge University Press.

Celce-Murcia, M. (1972a). A syntactic and psycholinguistic study of comparison in English (Unpublished doctoral dissertation). UCLA, USA.

Celce-Murcia, M. (1972b). The Universalist Hypothesis: Some implications for contrastive syntax and language teaching. *UCLA Workpapers in TESL 6*, 11-16. Reprinted in Robinett and Schachter, 294-302.

Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, Mass.: MIT Press.

Chomsky, N. (1981). *Lectures on Government and Binding*. Dordrecht: Foris.

Chou, Y. (2006). *Acquisition of English relative clause by Taiwan EFL college students*. (Unpublished master's dissertation). National Sun Yat-sen University, Taiwan.

Cole, P. (1987). Null objects in Universal Grammar. *Linguistic Inquiry, 18*, 597–612.

Corder, S. P. (1967). The significance of learners' errors. *IRAL International Review of Applied Linguistics in Language Teaching*, *5*, 161-170.

Corder, S. P. (1971). Idiosyncratic dialects and error analysis. *IRAL International Review of Applied Linguistics in Language Teaching*, *9(2)*, 147-160.

Cote, S. A. (1996). *Grammatical and discourse properties of null arguments in English*. (Unpublished master's dissertation). University of Pennsylvania, USA.

Coulter, K. (1968). *Linguistic error-analysis of the spoken English of two native Russians* (Unpublished master's dissertation). University of Washington, USA.

Croft, W. (1990). *Typology and universals*. Cambridge: Cambridge University Press.

Croft, W. (2003). *Typology and universals*. Cambridge: Cambridge University Press.

Crystal, D. (2012). *English as a global language*. Cambridge: Cambridge University Press.

DeKeyser, R.M. (2000). The robustness of critical period effects in second language acquisition. *SSLA*, *22*, 499-533.

Delort, J.-Y. (2009). Automatically characterizing salience using readers' feedback. *Journal of Digital Information 10(1)*.

Dulay, H. & Burt, M. (1974). Errors and strategies in child language acquisition. *TESOL Quaterly, 8(2)*, 129-136.

Eckman, F. R. (1977). Markedness and the contrastive analysis hypothesis. *Language Learning*, *27 (2),* 315-330.

Eckman, F. R. (1984). Universals, typologies and interlanguages. In W. E. Rutherford (Ed.), *Language Universals and Second Language Acquisition*. Philadelphia: John Benjamins.

Eckman, F. (1988). Typological and parametric views of universals in second language acquisition. In S. Flynn and W. O'neil (Eds.), *Linguistic Theory in Second Language Acquisition*. Dordrecht: Kluwer Academic.

Ellis, N.C. (2002). Frequency effects in language processing. *SSLA*, *24*, 143-188.

Ellis, R. (1985). *Understanding second language acquisition*. Oxford: Oxford University Press.

Ellis, R. (1994). *The study of second language acquisition*. Oxford: Oxford University Press.

Ellis, R. (1997). *Second language acquisition*. Oxford: Oxford University Press.

Ellis, R. (2001). *Research and language teaching*. Oxford: Oxford University Press.

Ellis, R. (2003). *Second language acquisition*. Oxford: Oxford University Press.

Ellis, R. (2008). *The study of second language acquisition*. Oxford: Oxford University Press.

Field, J. (2004). *Psycholinguistics: The key concepts*. London: Routledge.

Finegan, E. (2011). English. In B. Comrie (Ed.), *The World's major languages*. New York: Oxford University Press.

Gass, S. (1979). Language transfer and universal grammatical relations. *Language Learning*, *29*, 327–344.

Gass, S. (1984). The empirical basis for the Universalist Hypothesis in interlanguage studies. In A. Davies, C. Criper, & A.P.R. Howatt (Eds.), *Interlanguage*. Edinburgh: Edinburgh University Press.

Gass, M. (2013). Second language acquisition: An introductory course (4th ed.). New York: Routledge.

George, H.V. (1972). *Common errors in language learning: Insight from English*. Rowley, Mass: Newbury House.

Gradman, H. (1971). The limitations of contrastive analysis predictions. *Working Papers in Linguistics, 3*, 11-16.

Greenberg, J. H. (1966). *Universals of language*. Cambridge: The M.I.T Press.

Haegeman, L. (2007). Subject omission in present-day written English on the theoretical relevance of peripheral data. *Rivista di Grammatica Generativa, 32*, 91-124.

Hawkins, R. (2001). *Second Language syntax: A generative introduction*. Oxford: Blackwell.

Hawkinson, A. & Hyman, L. (1974). Natural topic hierarchies in Shona. *Studies in African Linguistics, 5*, 147-170.

Hilles, S. (1986). Interlanguage and the pro-drop parameter. *Second Language Research, 2*, 33-52.

Holmberg, A. & Roberts, I. (2013). The syntax–morphology relation. *Lingua*, *130*, 11–131.

Hoonchamlong, Y. (1991). *Some issues in Thai anaphora: A Government and Binding approach* (Unpublished doctoral dissertation). University of Wisconsin, Madison, USA.

Hsieh, Y.K. (2008). *The acquisition of null pronouns of EFL learners in Taiwan* (Unpublished master's thesis). National Sun Yat-sen University, Taiwan.

Huang, C. T. (1984). On the distribution and reference of empty pronouns. *Linguistic Inquiry*, *15*, 531-574.

Hyams, N. (1983). *The acquisition of parameterized grammars* (Unpublished doctoral dissertation). City University of New York, USA.

Hyams, N. & Wexler, K. (1993). The grammatical basis of null subjects in child language, *Linguistic Inquiry*, *24*, 421-459

Hyltenstam, K. (1983). Data type and second language variability. In H. Rongbon (Ed.), *Psycholinguistics and foreign language learning*. Finland: Abo Akademi.

Jaeggli, O. (1982). *Topics in Romance syntax*. Dordrecht: Foris.

James, C. (1998). *Errors in language learning and use*. London: Longman.

Kearns, K. (2011). *Semantics*. New York: Palgrave Macmillan.

Keenan, E. L. & Comrie, B. (1977). Noun phrase accessibility and universal grammar. *Linguistic Inquiry, 8*, 63–99.

Kim, S. Y. (2007). Asymmetric Unlearning of Null Arguments in L2 English Acquisition by Korean speakers. *The Linguistic Association of Korea Journal, 15(1)*, 63-81.

Kobsiriphat, W. (1988). *Empty Categories in Thai*. (Unpublished doctoral dissertation). University of Washington, Seattle, USA.

Kong, S. (1998). *Discourse-oriented Chinese language and the acquisition of obligatory subjects in English* (Unpublished master's dissertation). University of Essex, UK.

Kong, S. (2001). L1 Chinese speakers and asymmetry of null matrix and embedded subjects in their L2 English. *Essex Graduate Student Papers in Language and Linguistics, 3,* 59-70.

Kong, S. (2005). The partial access of universal grammar in second language acquisition: an investigation of the acquisition of English Subjects by L1 Chinese speaker. *Journal of East Asian Linguistics*, *14*, 227-265.

Kong, S. (2007). The matrix-embedded subject asymmetry in L2 English: a pilot study. *Intergrams, 8 (1)*, 1-28.

Kroeger, P. R. (2005). *Analyzing grammar: an introduction*. Cambridge: Cambridge University Press.

Lado, R. (1957). *Linguistics across cultures: Applied linguistics for language teachers*. Ann Arbor: University of Michigan Press.

Lai, Y. (2006). Reassessing the pro-drop parameter of Taiwanese EFL learners. *Journal of Language and Learning, 5(1)*, 98-113.

Larsen-Freeman, D & Long, M. H. (1999). *An introduction to second language acquisition research* (10th ed.). C.N. Candlin (Ed.). London: Longman.

Lempert, H. & Kinsbourne, M. (1983). Perceptual constraints on the use of language by young children. In K.E. Nelson (Ed.), *Children's language Volume 4*. New Jersey: Lawrence Erlbaum Associates.

Lillo-Martin, D. C. (1991). *Universal grammar and American sign language: Setting the null argument parameters*. Dordrecht: Kluwer Academic Publishers.

Liu, D. (2008). Intransitive or object deleting?: classifying English verbs used without an object. *Journal of English Linguistics*, *36 (4),* 289-313.

Lott, D. (1983). Analyzing and counteracting interference errors. *English Language Teaching Journal, 37(3)*, 256-262.

Macaro, E., Vanderplank, R., & Murphy, V.A. (2010). A compendium key concepts in second language acquisition. In E. Macaro (Ed.), The Bloombury companion key to second language acquisition. London: Bloomsbury.

Massam, D. & Roberge, Y. (1989). Recipe Context Null Objects in English. *Linguistic Inquiry, 20 (1)*, 134-139.

Mazurkewich, I. (1988). The acquisition of infinitive and gerund complements by second language learners. S. Flynn and W. O'neil (eds.), *Linguistic Theory in Second Language Acquisition*, 127-143.

Meechanyakul, N & Singhapreecha, P. (2013). The unlearning of null arguments by Thai learners of English. *Proceedings of the 3rd International Conference on Foreign Language Learning and Teaching, Thailand* (pp. 741-752).

Mitchell, R. & Myles, F. (1998). *Second language learning theories*. London: Arnold.

Morolong, M. & Hyman, L.M. (1977). Animacy, objects, and clitics in Sesotho. *Studies in African Lingusitics*, *8(3)*, 199-217.

Moseley, C., Nicolas, A., & Unesco. (2010). *Atlas of the world's languages in danger*. Paris: Unesco Pub.

Na Ranong, S. & Leung, Y.-I. (2009). Null objects in L1 Thai-L2 English-L3 Chinese: an empiricist take on a theoretical problem. In Y.-I. Leung (Ed.), *Third language acquisition and universal grammar*. Bristol: Multilingual Matters.

Nariyama, S. (2003). Subject ellipsis in English. *Journal of Pragmatics, 36*, 237-264.

Nemser, W. (1971). Approximative systems of foreign language learners. *International Review of Applied Linguistics, 9(2)*, 115-124.

Ortega, L. (2009). *Understanding second language acquisition*. London: Hodder Education.

Phimsawat, O. (2011). *The syntax of pro-drop in Thai* (Unpublished doctoral dissertation). The University of Newcastle, UK.

Phinney, M. (1987). The Prodrop Parameter in Second Language Acquisition. In T. Roeper & E. Williams (Eds.), *Parameter Setting*. Dordrecht: Reidel.

Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. (1985). *A comprehensive grammar of the English language*. London: Longman.

Radford, A. (2009). *An introduction to English sentence structure*. Cambridge: Cambridge University Press.

Richards, J.C. (1974). A noncontrastive approach to error analysis. *English Language Teaching Journal*, *25(3)*, 204-219.

Rizzi, L. (1982). *Issues in Italian syntax*. Dordrecht: Foris.

Rovinelli, R.J. & Hambleton, R.K. (1976). On the use of content specialists in the assessment of criterion-referenced test item validity. *Dutch Journal of Educational Research, 2*, 49-60.

Schachter, J. (1974). An error in error analysis. *Language Learning, 24(2)*, 205-214.

Schachter, J. & Celce-Murcia, M. (1977). Some reservations concerning error analysis. *TESOL Quaterly, 11(4)*, 441-451.

Schumann, J.H. & Stenson, N. (1974). *New frontiers in second language learning*. Rowly, Mass: Newbury House Publishers.

Selinker L. (1972). Interlanguage. *International Review of Applied Linguistics, 10*, 209-232.

Siewierska, A. & Bakker, D. (1996). The distribution of subject and object agreement and word order type. *Studies in Language, 20(1)*, 115-161.

SPSS Inc. (2007). SPSS for Windows (Version 16.0). Chicago: SPSS Inc.

Stenson, N. (1974). Induced errors. In J. H. Schumann, & N. Stenson (Eds.), *New frontiers in second language learning*. Rowley, Mass: Newbury House.

Taraldsen, K. (1978). On the NIC, vacuous application and the *that*-trace filter. Ms., MIT, Cambridge, Mass.

Tarone, E. (2006). Interlanguage. In Keith Brown (Editor in Chief), *Encyclopedia of Language and Linguistics,* 2nd ed., Vol. 5. Oxford: Elsevier.

Teddiman, L. & Newman, J. (2007). Subject ellipsis in English: construction of and findings from a diary corpus. *Proceedings of the 26th conference on Lexis and Grammar, Bonifacio* (pp. 1-6).

Thomas, M. (2004). *Universal grammar in second language acquisition: A history*. London: Routledge.

Thomas, M. (2013). History of the study of second language acquisition. In J. R. Herschensohn, & M. Young-Scholten (Eds.), *The Cambridge handbook of second language acquisition*. Cambridge: Cambridge University Press.

Tran-Chi-Chau. (1975). Error analysis, contrastive analysis, and students' perceptions: a study of difficulty in second language learning. *International Review of Applied Linguistics, 13(2)*, 119-143.

Tsao, F. (1977). Subject and topic in Chinese. In R. Cheng, L. Ying-che, & T. Ting-chi (Eds.), *Proceedings of Symposium on Chinese Linguists* (pp. 167-195). Linguistic Institute of the Linguistic Society of America. Taipei: Student Book Company.

Tsimpli, I.-T. & Roussou, A. (1991). Parameter-resetting in L2? *UCL Working Papers in Linguistics, 3*, 149–69.

Wakabayashi, S., & Negishi, R. (2003). Asymmetry of subjects and objects in Japanese speakers' L2 English. *Second Language, 2,* 53-73.

Wardhaugh, R. (1970). The contrastive analysis hypothesis. *TESOL Quaterly, 4(2)*, 123-130.

Weir, A. (2012). Left-edge deletion in English and subject omission in diaries. *English Language and Linguistics, 16,* 105-129.

Whaley, J.D. (1997). *Introduction to typology: The unity and diversity of language.* Thousand Oaks, CA: SAGE Publications.

White, L. (1989). *Universal grammar and second language acquisition*. Amsterdam: John Benjamins.

White, L. (1985). The pro-drop parameter in adult second language acquisition. *Language Learning, 35*, 47-62.

Xiao, Y. (1988). *An investigation of the syntactic development of school-age Chinese-speaking children learning English: the role of topic prominence*. (Unpublished doctoral dissertation). University of Hawaii, Manoa, USA.

Xiaolu, Y. (1994). *Triggering the unlearning of null arguments in second language acquisition* (Unpublished master's dissertation). The Chinese University of Hong Kong, Hong Kong.

Yuan, B. (1997). Asymmetry of null subjects and null objects in Chinese speakers L2 English. *SSLA, 19,* 467-494.

Zhang, J. (2015). Animacy hierarchy effects on the second language acquisition of attributive psych adjectives. *Applied Psycholinguistics*, *36*, 275-298.

Zwicky, A.M. & Pullum, G.K. (1983). Cliticization vs. inflection: English N'T. *Language, 59*, 502-513.

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