THE ACQUISITION OF DATIVE CONSTRUCTIONS BY THAI LEARNERS OF ENGLISH
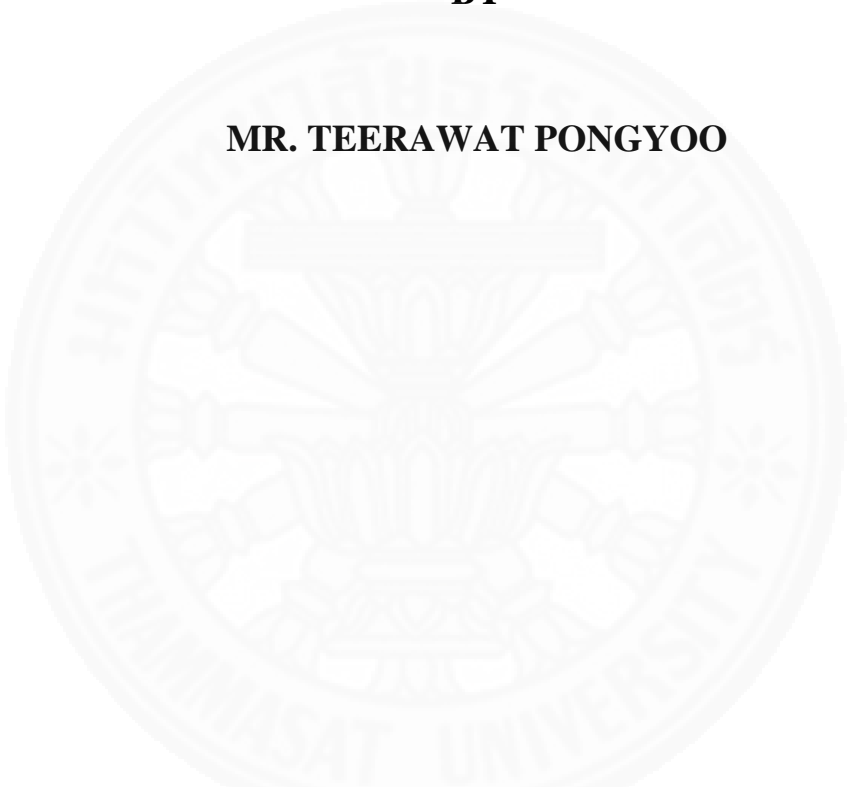
BY

MR. TEERAWAT PONGYOO

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN
ENGLISH LANGUAGE TEACHING
LANGUAGE INSTITUTE
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DISSERTATION

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ENTITLED

THE ACQUISITION OF DATIVE CONSTRUCTIONS
BY THAI LEARNERS OF ENGLISH

was approved as partial fulfillment of the requirements for
the degree of Doctor of Philosophy (English Language Teaching)

on March 11, 2018

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Dissertation Title	THE ACQUISITION OF DATIVE CONSTRUCTIONS BY THAI LEARNERS OF ENGLISH
Author	Mr. Teerawat Pongyoo
Degree	Doctor of Philosophy
Major Field/Faculty/University	English Language Teaching Language Institute Thammasat University
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Academic Years	2017

ABSTRACT

This study investigated the acquisition of dative constructions, Prepositional Dative (PD) and Double Object (DO), by Thai learners of English. Based on the Minimalist framework (Chomsky, 1995), DO contains a strong feature that requires an overt and costly DP-movement, while PD does not. The less economical PD was predicted to be acquired by Thai learners of English more easily than the more costly DO. Regarding Case-checking in DO, [Spec, vP] has a strong D feature triggering an overt DP movement to check off a dative Case.

In respect of L1, dative constructions in Thai are expressed in PD, Thai DO (THEME GOAL), and Serial Verb Constructions (SVC). Assuming that there are development stages and beginning learners are more likely to be affected by L1 grammar than advanced learners, the former group was predicted to exhibit L1 structures, i.e. Thai DO (THEME GOAL) and Serial Verb Constructions (SVC), while the latter group was predicted to reject L1 structures. Both the Minimalist predicted (PD, DO) and L1 constructed (Thai DO, SVC) sentence types were examined. Because Thai DO differs from English DO in word order, determined by strong vs. weak D features in [Spec, vP], the beginners should accept Thai DO, which is more economical, and reject English DO.

Sixty Thai student participants varying in English proficiency (beginning, intermediate, and upper intermediate) were tested on the same Acceptability Judgment (AJ) and Elicited Production (EP) tasks. Results confirmed Minimalist-related hypotheses. Particularly, PD was accepted and produced more frequently than DO, across AJ and EP. As regards feature checking, Thai learners were more aware of the ungrammaticality arising from feature-checking than a word order of V PP NP as predicted. As for the influence of L1, the beginners accepted both Thai DO and English DO, while the upper intermediate group rejected Thai DO but accepted English DO, which partially confirmed our prediction. Concerning SVC, the barely accepted *hand* and *send* in SVC, but the more advanced groups strongly rejected them. In terms of developmental stages, this study found an increase in rejection on test sentences (Thai DO and SVC) constructed with L1 grammar, in tandem with an increase in proficiency. These findings suggest the followings. Firstly, feature checking of strong T and *v* is accessible by L2 learners at the early stage. Secondly, L1 transfer is minimal in both EP and AJ tasks; even among the beginners, both Thai DO and SVC constructions were marginally produced. As evidenced by the beginners' AJ results, the average acceptance score of Thai DO was not significantly higher than that of English DO. Finally, *hand* and *send* in SVC were merely accepted in positive values by the beginners. This suggested that L2 learners possibly avoided less economical constructions from L1 such as SVC through the process of L2 acquisition.

ACKNOWLEDGEMENTS

Mr. Teerawat Pongyoo

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Symbols/Abbreviations	Terms
Acc	Accusative Case
C_{HL}	Computational System of Human Language
D	Determiner
DA	Dative Alternation
Dat	Dative Case
DO	Double Object
DP	Determiner Phrase
F	Feature
Fig	Figure
GB	Government and Binding
Inf	Inflection
L1	First Language
L2	Second Language
LF	Logical Form
MP	Minimalist Program
Nom	Nominative Case
NP	Noun Phrase
P	Preposition
PD	Prepositional Dative
PF	Phonetic Form
PP	Prepositional Phrase
SLA	Second Language Acquisition
T	Tense
TP	Tense Phrase
UG	Universal Grammar
V	Verb
v	Light Verb
VP	Verb Phrase
vP	Light Verb Phrase

CHAPTER 1
INTRODUCTION

1.1 General Perspective

This study investigated the acquisition of English dative constructions by Thai learners of English. Selected as the target linguistic structure, English dative structures present two main interesting areas where we can assess L2 learners' developmental process in acquiring the target constructions. First, the English dative constructions, unlike others, involve the ability of L2 learners to express a single semantically related event in two different syntactic constructions, as in (1) and (2).

(1) John gave Mary a book.
(2) John gave a book to Mary.

In (1), the indirect object *Mary* precedes the direct object *a book*. Sentence (1) is termed a Double Object (DO) construction. In (2), the direct object precedes the prepositional phrase *to Mary*. Sentence (2) is known as a *To-dative* construction, or Prepositional Dative (PD) construction. Explanations to this alternation have been offered both semantically and syntactically in the literature. This study examined the extent to which those explanations could predict the developmental stages of acquisition by Thai learners.

The second interesting aspect is the cross-linguistic differences between the dative constructions of the target language, English, and the constructions of the learners' native language, Thai. In English, every verb under the class of *To-dative* such as *give, send, hand,* and *throw* can undergo the alternation as mentioned earlier, while the counterparts of these verbs in Thai are fixed to a specific construction and very few verbs can be used interchangeably in two constructions. As a result of these differences, Thai learners of English are possibly encountered with the difficulty in learning the argument structures of dative verbs. The learners do not only need to learn syntactic constructions, i.e. PD and DO, of the target language but also can use them interchangeably. To fully acquire the target constructions, the learners have to de-learn

Thai properties of dative verbs; for example, one Thai dative verb is fixed to a specific construction. They must be able to build a new network of verb class, denoting to an event of transferring something to someone, and then to assign PD and DO to the verbs under this class.

As both semantic and syntactic accounts are important for the understanding of the upcoming theoretical discussion, we briefly introduce them here. We also provide some insights into the analyses in relation to our study.

The semantic structures of the dative constructions in general are posited to have two variants: give-type and throw-type (Jackendoff, 1990b). The give-type verbs such as *hand* and *sell* involve a giver or a seller and a receiver, the former is known as AGENT and the latter as RECIPIENT. According to Jackendoff (1990), both AGENT and RECIPIENT are expressed in NPs. He postulates that a construction requiring two NPs as in DO represents a construction of give-type verbs. While the give-type verbs are typically related to the relationship between two persons, the throw-type verbs, such as *toss* and *kick,* are not restricted to a person-to-person relationship. The throw-type verbs can also entail change of location, involving only one animate participant, AGENT, while the other is a location marked by a preposition *to*. According to Jackendoff (1990), the throw-type verbs require AGENT and a location, and the prepositional *to* construction or PD is purported to represent this verb class. Nonetheless, the location of the throw-type verbs is not only restricted to a non-animate location but also extended to an animate receiver acting as GOAL to whom AGENT tosses or kicks something. When such relationship between two persons is formed, Jackendoff (1990) suggests the possibility that speakers extend the throw-type verbs from PD to DO of the give-type verbs. This leads to the dative PD and DO alternation.

The notion regarding sub-types of verbs, as in Jackendoff's (1990) give-type and throw-type, has received support in SLA research on dative alternation. Researchers (Hamdan, 1994; Inagaki, 1997; Oh & Zubizarreta, 2005; Whong-Barr & Schwartz, 2002) divided English verbs based on their meanings into various sub-types. In each sub-type, the verbs sharing similar meanings such as *tell* and *whisper* were grouped together. One verb such as *tell* in that sub-type can undergo the alternation, but the other such as *whisper* cannot. These studies shared common objective in testing whether L2 speakers overgeneralized the alternation to illicit verbs such as *whisper*.

In addition to the sub-types of dative verbs, the predictions of these studies were also based on the comparisons between L2 learners' linguistic backgrounds. For example, Whong-Barr and Schwartz (2002) examined such overgeneralizations among Japanese and Korean children living in Britain.. In Inagaki's (1997) study, Chinese and Japanese speakers studying in American universities. The differences between Korean and Japanese dative constructions (Whong-Barr & Schwartz, 2002) and Chinese and Japanese (Inagaki, 1997) were a basis in their predictions.

As the main assumptions of the aforementioned SLA studies on English dative constructions, both of the semantic sub-class and the overgeneralization cannot be directly replicated as the central ideas in the methodology of this study. There were two factors regarding the properties of Thai verbs and the research settings that required new approaches to investigate the acquisition in this study. First, the general dative verb-types, such as Jackendoff's (1990) give-type and throw-type, seem to contradict Thai data. Considering a throw-type verb, for example, according to Jackendoff (1990), the relationship between AGENT and GOAL roots in PD. However, the Thai counterpart of *throw*, *kʰwâːŋ*, is ungrammatical in PD as in (3).

(3) dek. pʰûː. tɕʰaːj   kʰwâːŋ   bɔn   *kɛ̀ː   pʰɯ̂ən

    boy   throw   ball   *to   friend

    'The boy threw a ball to his friend'.

The grammatical usage of verbs under the throw-type in Thai is in Serial Verb Construction (SVC). Instead of a preposition, a serial verb, also known as the second verb, is inserted in front of GOAL. As the second verb in Thai dative construction, verb *hâj*, which means *'give'*, is used to introduce GOAL, who is perceived as BENEFICIARY, as in (4).

(4) dek. pʰûː. tɕʰaːj   kʰwâːŋ   bɔn   hâj   pʰɯ̂ən

    boy   throw   ball   give   friend

    'The boy threw a ball to his friend'.

Another factor that highlighted the differences in this study to the previously mentioned was the research settings. We conducted our study only with Thai learners

who were studying English as a foreign language in Thailand. Unlike previous studies (Inagaki, 1997; Whong-Barr & Schwartz, 2002), the present study did not compare the differences in the background languages of the participants. In addition, the Thai learners participated in this study were exposed to English mostly in classroom, while the participants of those previous studies immersed themselves in English speaking countries. We postulated that, with the exclusion of English speaking environment, the influences of Thai structures and the target language proficiency would have certain impacts on the acquisition of the Thai learners in this study.

As the factor of target language exposure in everyday life was virtually negligible in this study, the predictions based on how humans acquire a language through on the Faculty of Language (FL) had to be built on a model of language acquisition that incorporates syntactic operations as part of a key component. The model must contain syntactic operations that are systematic and in-depth enough to help explain the developmental stage in which the learners are. Moreover, the architecture of the model is to be universal in order that the language phenomena in both of the target and the background are analyzed by the same means.

Considering these requirements, we adopted the Chomsky's (1995) Minimalist Program (MP), as a theoretical framework of this study. In this introductory chapter, the overview of the MP will be outlined to provide the justifications why this framework is adopted in this study, while the technical detail will be discussed in Chapter 2.

First, Minimalism does not only provide theoretical explanation of how sentences are constructed but also extends the explanation to how human acquire a language. According to Chomsky (1995), the computational system of language is a single system shared by all human languages, known as a single computational system of human languages (C_{HL}). This cognitive system is connected to two interface levels as illustrated in Figure 1. One represents the conceptual-intentional system, labelled as the Logical Form (LF). The other is linked to the sensory-motor system, called the Phonological Form (PF). The morphological and syntactic rules are operated by the computational system until it reaches the point, referring to as Spell-Out, where the two interfaces diverge. Figure 1.1 illustrates the theoretical model of a human language within the Minimalism framework.

Figure 1.1: Minimalism Interface Model

Lexicon

Operations

Spell-Out

Overt syntax   Covert syntax

PF   LF

(sound and articulation)   (conceptual and meaning)
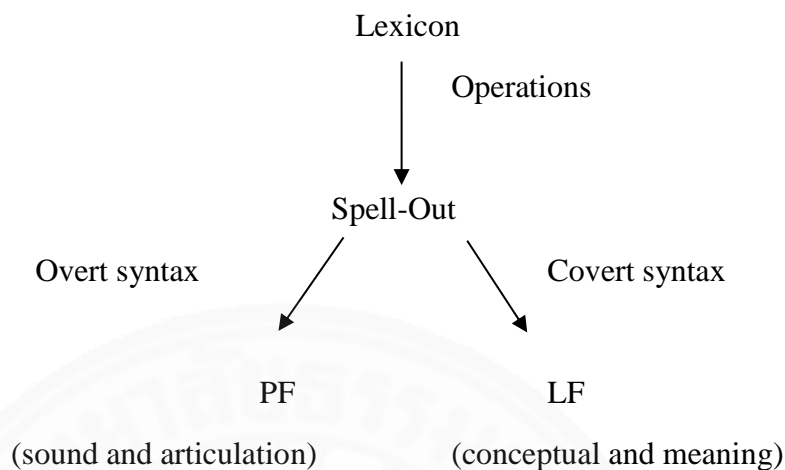
The notion that all languages share a single semantic interpretation at LF is very crucial to the hypothesis formation of this study. Suppose the hypotheses were based on the central idea that a semantic interpretation is diversified and language-dependent, the differences in acquisition of L2 learners would be attributed to different semantic interpretations at the outset. In fact, each lexical item in every language contains a pair of form and meaning, symbolized as (λ, π). A form (λ) is linked to phonetic components, while a meaning (π) is associated with concept. For example, when stipulated the phonetic components (λ), these two dative verbs, *give* in English and *hâj* in Thai, share the same conceptual component (π). According to Chomsky (1995), when lexical items merge into larger units at the conceptual-intentional interface, they are mapped into semantic language-independent positions. On the other hand, differences among languages are the manifestation at the phonological interface. Lexical items have different phonetic assignments (λ) across languages, which is not the focus of this study. Another different manifestation lies in syntax. These differences are the results of feature strengths varying from one language to another. In theory, a strong feature triggers an overt movement of a lexical item from its semantic position, while a weak feature does not. This eventually leads to structural differences among languages. Such overt movement is manifested and visible at PF; in contrary, a covert movement of a weak feature is derived at LF. The same feature may be strong in one language, but

weak in another[1]. As the adopted framework, the Minimalism paves the way for the hypothesis formation in this study through the comparisons of feature strengths relevant to the dative constructions between the target language, English, and the learners' background, Thai. Once the feature strengths of both languages are being compared, the predictions about the developmental process in SLA can be made based on the framework. It is expected that strong features in the target language would be more difficult for L2 learners to acquire because those features cause a displacement of a lexical item from its semantic position, which is cross-linguistically uniform, to a position, specific to the target language.

The second justification for adopting the Minimalism as the theoretical framework is its consistency in language analysis. As previously mentioned, at the conceptual component, the semantic interpretation is identical. For example, the semantic interpretation of both English and Thai dative constructions shares a single concept of position where lexical items are mapped into their semantic positions. In addition to a dative verb and other functional elements, lexical items containing semantic roles (θ-roles), namely AGENT, THEME, and GOAL, are mapped into their semantic positions. At this conceptual-intentional interface, these θ-roles are interpreted language-independently. Thus, we assume that Thai speakers interpret the dative construction in their background language in the same manner as English speakers do so in their language.

However, at the phonological level, the syntactic structures of these two languages can become different, especially, in word orders. The structural differences between the English and Thai result from the differences in feature strengths of each particular language. These differences are fundamental to this study. In theory, Chomsky (1995) considers every overt movement visible at PF triggering by strong features as costly when compared to its covert or non-movement counterpart that is already mapped at LF into the semantic position. He also mentions that the language computational system of every language is designed to be optimal in a sense that the

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[1] For example, English has a strong Q feature in [Spec, CP], which attracts an overt wh-phrase to adjoin to it, while Chinese does not have such strong features. *Wh*-movement in Chinese is not visible at PF, and *wh*-phrases are in-situ. Chomsky (1995) remarks that both English and Chinese have covert movements at the Logical Form (LF), but only English questions require overt *wh*-movement operations to check off the strong features.

system tries to reach the phonetic interface or PF as quickly as possible by barring unnecessary overt movements. In other words, only movements required by strong features of a specific language are allowed by the computational system. This condition, barring overt movements to operate freely, is part of economy conditions, which are properties of UG.

With reference to economy conditions, we emphasize the differences, between features of the target language and those of the learners' background language. As examples, concerning feature strengths, the Double Object constructions of both English and Thai are illustrated in this chapter. As manifested at PF, the word order of English DO as in (5) is different from that of Thai in (6).

(5)	Somchai	gave	Suda	a book.
(6)	Somchai	hâj	năŋ.sǔ:	Suda
	Somchai	give	book	Suda

'Somchai gave Suda a book.'

In (5), the word order is VERB GOAL THEME, while the Thai DO as in (6) is VERB THEME GOAL. Due to the differences at PF, it can be concluded that a feature relating to English DO differs from that of Thai (to be discussed in detail in2.4.2 and 2.52).

Sentence (7) and (8) represent the mapping of lexical items, in English and Thai, respectively, into their semantic positions. According to the uniformity at LF, the computational system of both languages operates similarly. Initially, GOAL is merged to VERB, and then THEME is subsequently merged into the merger of VERB-GOAL.

(7) [$_{TP}$Somchai [$_{v}$ [CASE:DAT] [$_{VP}$ a book [CASE:ACC] [gave [CASE:ACC] Suda [CASE:DAT]]]]].

(8) [$_{TP}$Somchai [$_{v}$ [CASE:DAT] [$_{VP}$ năŋ.sǔ: [CASE:ACC] [hâj [CASE:ACC] Suda [CASE:DAT]]]]].

Regarding Dative checking, GOAL *Suda* overtly moves from its semantic position in (7) to check off a strong feature of a light verb (*v*) in English DO as in (7a). On the other hand, GOAL *Suda* is still in its semantic position as in (8), so Dative checking in Thai undergoes through a covert operation as in (8a).

(7a)   [$_{TP}$Somchai [gave [Suda $_{[CASE:DAT]}$ [v $_{[CASE:DAT]}$ [$_{VP}$ a book [gave Suda]]]]].

(8a)   [$_{TP}$Somchai [hâj [v $_{[CASE:DAT]}$ [$_{VP}$ năŋ.sǔː [hâj Suda $_{[CASE:DAT]}$]]]]].

In (7a) – other operations besides an overt movement of GOAL are omitted. It can be concluded that a light verb (v) of English in DO contains a strong feature, while its Thai counterpart does not. Therefore, English DO is more costly than Thai DO.

According to the MP framework, Thai DO is more optimal in the terms of language design. We, then, predicted that learning a new L2 construction such as English DO would be difficult for learners whose background language in the relevant construction such as Thai DO is more optimal in design.

Besides the theoretical framework of Minimalism, this present study also examined the possibility of language transfer to better understand the acquisition process. Especially, in our prediction on Serial Verb Construction (SVC) as in (9).

(9)   Somchai   sòŋ   năŋ.sǔː   hâj   Suda
       Somchai   send   book   give   Suda
       'Somchai sent a book to Suda.'

As the most productive expression with Thai dative verbs, SVC requires an additional VP to accommodate GOAL. In (9), there are two VPs. The main dative verb, *sòŋ 'send'*, is in the first VP [sòŋ năŋ.sǔː], while a serialized verb, *hâj 'give'*, is in the second VP [hâj Suda]. The detail related to the dative constructions in Thai will be discussed in 2.5.

Due to the drastic differences between SVC and the related-constructions in English, we intentionally left the analytical methods by comparing the feature strengths of the target language and those of learners' background as purposed in PD and DO. We did not apply such methods to SVC because there are no comparable constructions in the target language, English, comparable to SVC. In this respect, we

have taken a caution raised by Kremers (2003) regarding a question whether two drastically different structures[2] beyond merely word order actually originate from a common structure at LF or they represent two separate argument structures. For this reason, the predictions relevant to SVC will be based on the possibility of L1 transfer focusing on the effects of verbal sensitivity. Unlike English, the dative alternation of Thai dative verbs is very restricted. Most of them are fixed to a specific construction, SVC. We aimed to examine whether Thai learners, when SVC is not available in the target language, were able to accept or produce the target constructions, PD and DO, alternatively. These predictions will be discussed in detail and formulated as our hypotheses in Chapter 3.

In sum, this present study was different from previous research on the acquistion of English dative constructions by speakers of other languages in these following aspects. First, instead of adopting the differences in classification of sub-type verb, we compared feature strengths based on the Minimalism between English and Thai to formulate our predictions. Second, in terms of language transfer, we did not focus on the effect of specific verbs on overgeneralization, but we, instead, investigated the transfer of constructions such as SVC to the constructions of the target language. Finally, insteading of formulating hypotheses by comparing the differences between background languages of participants, our hypotheses were based on English proficiency levels of Thai native speakers who were the only group of learners in this research study.

After presenting the general perspectives, in the following sections, we will introduce our methodology, and the scope of the study.

1.2 Research Methodology

In this section, we intended to highlight our justification in comparison to the methods used in the previous studies. We are pointing the methodology that we adopted and the research gaps that we intended to improve. As a brief introduction, the present study comprised two methods of data collection: Acceptability Judgment (AJ)

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[2] Kremers (2003) investigated Arabic grammar, which is basically a topic-comment. He suspected that a topic-comment should be regarded as another argument structure or just a results from feature strengths.

and Elicited Production (EP). The participants were 60 Thai learners of English in a school and universities. A placement test was conducted to classify the participants into three groups based on their proficiency level. The methodology will be discussed in detail in Chapter 4.

In terms of tasks, from the previous research (Hamdan, 1994; Inagaki, 1997; Oh & Zubizarreta, 2005; Whong-Barr & Schwartz, 2002), the method of gradient Acceptability Judgment (AJ) was commonly used with adaptations in the instruments to be appropriate for the participants in those research studies. For example, smiley faces representing disapproval, neutral, and approval rating were implemented in Whong-Barr and Schwartz's (2002) study for small child subjects.

With reference to the subjects in Inagaki's (1997) study, all of them were undergraduate and graduate students, as well as scholars, at a U.S. university. The test instrument was constructed in a 7-point Likert scale, ranging from completely impossible to completely possible. A 7-point Likert scale was also used in Oh and Zubizarreta's (2005) study. Considering gradient tasks as a method that can uncover subtle aspects in languae theories (Keller, 2000), we implemented the method of gradient Acceptability Judgment (AJ) in this study. However, we adapted the scale to suit the participants in this study who were Thai learners of English in local educational institutions. Unlike the subjects in Inagaki's (1997) and Oh and Zubizarreta's (2005) studies, who were in an English-speaking country, a 7-point Likert scale, as used in both studies, was not employed, but a 5-point Likert scale was implemented instead to reduce task complication.

Regarding an additional data collection method, most of the previous studies employed only AJ as a means in data collection (Inagaki, 1997; Whong-Barr & Schwartz, 2002). Regarding a data collection method for production, Oh and Zubizarreta (2005) asked their participants to translate 15 English sentences containing the licit and illicit verbs for dative alternation into a background language of the participants, either Japanese or Korean. Although a single task is typical to research on datives, we employed both Acceptability Judgment (AJ) and Elicited Production (EP) tasks because the findings from different tasks can complement each other in yielding a comprehensive view.

Concerning the EP types, Sentence Translation tasks (cf. Oh and Zubizarreta, 2005) were not used in the present study. We have a concern over the limitations of the translation technique. According to Richards (2015), a translation technique is appropriate when learners are bilingual because translation from one language to another by bilingual speakers will reveal differences in stylistics. However, when a translation technique is conducted on monolingual learners, as in this study, Interlanguage will be obscured by the process of literal translation. As we aim to investigate the development in the acquisition by learners from different proficiency levels, learners' Interlanguage must be observable to the full extent as far as possible.

Thus, we constructed 32 short video clips to elicit the learners' answers by using dative verbs (to be discussed in Section 4.2.3). Concerning confounding variables that might affect the results, the tasks were constructed to minimize such effects to the lowest possible extent. The major concern in this study of confounding variables is the effect of priming, which refers to the participants' ability to detect the target structure from input. For example, the use of a preposition *'to'* was intentionally avoided in EP stimuli to reduce the priming effect in favor of PD. Sentence (10) is an example of a stimulus to be avoided in light of the priming effect, whereas sentence (11) is an example of a stimulus used in EP.

(10)   Who did the woman gave a basket to?

(11)   What did the woman do?

A response to the stimulus in (10) is likely to be primed by the question. The participants, perhaps from all proficiency levels, responses to (10) as *'The woman gave a basket to the man.'*; therefore, the possibility that the participants use other constructions such as DO or those transferred from Thai is less likely. However, the stimulus as in (10) would be difficult for the participants to promptly provide a response. Since AGENT is not a point of investigation, the stimulus as in (11) is followed by a part of the answer as in (11a) below to facilitate a prompt response with points of investigation: THEME, GOAL, and a preposition.

(11)   What did the woman do?

(11a)   The woman gave ……………

According to McDonough and Fulga (2015), a sequence of presentation is also considered as one of the priming effects. To minimize the sequential effect, the 32 video clips were systematically shuffled to prevent two video clips containing stimuli from the same target verb from being played consecutively.

In addition to the effect of priming, the last point worth mentioning is the use of Text-to-Speech (TTS) technology (Acapela-Group, 2017). The incorporation of TTS technology is relatively new in SLA research. We found that TTS was effective and reduced a great deal of time on instrument construction.

1.3 Scope of the Study

In conventional assumption, dative verbs are often called ditransitive verbs, referring to a verb that requires two objects: direct and indirect objects. Therefore, a group of verbs like *give, hand, buy, cook,* etc. is considered as dative verbs. Despite having a similar structure in DO, these verbs requires different prepositions in PD. For example, a preposition *to* is used with *give* and *hand*, while a preposition *for* is used with *buy* and *cook*. A group of verbs marked by *to* in PD such as *give* and *hand* is called *to*-dative or GOAL dative verbs because a recipient of these verbs enters into the computation with an obligatory θ-role of GOAL. The other group of verbs marked by *for* in PD such as *buy* and *cook* is called *for*-dative or benefactive dative verbs because a recipient of these verbs enters into the computation with an optional θ-role of BENEFICIARY.

At this point, we would like to delimit the scope of the dative verbs in this study. In relation to the θ-role of a recipient, a group of benefactive dative verbs was excluded from the present study.

1.4 Organization of the Study

This dissertation is structured as follows. The next chapter provides more theoretical background. There are four general themes in Chapter 2. The chapter begins with the Faculty of Language and the Minimalist perspectives of Chomsky (1995). The

first theme also encapsulates the notion of feature strengths and the syntactic operations in the MP framework. The second theme is emphasizing the English dative constructions from semantic and syntactic viewpoints. As the framework, the operations in MP are demonstrated to capture the computation of PD and DO. As turning to the third theme, this chapter introduces a brief description of Thai. It outlines three classifications of Thai dative constructions, namely PD, Thai DO, and SVC. This section ends with comparisons between Thai and English PD constructions and Thai and English DO constructions to capture differences between L1 and L2. The last theme in Chapter 2 is divided into the general perspectives on SLA, research on English speaking children related to the dative acquisition, and previous studies on the acquisition of dative construction by speaker of other languages.

In Chapter 3, we formulate hypotheses and make predictions about how English dative constructions can be acquired. Besides the hypotheses, this chapter also presents the criteria in choosing four English dative verbs. In Chapter 4, we present the methodology and the instrument constructions. The concerns regarding the test instruments are discussed. Then, we report the results in Chapter 5. The reports are presented by task, starting with the results from the Elicited Production (EP), and followed by the results from the Acceptability Judgment (AJ). In the AJ section, the results are presented by the order of hypotheses. Chapter 6 contains discussions and the conclusion.

CHAPTER 2
REVIEW OF LITERATURE

In this chapter, we present five main sections, namely the language acquisition model, the architectural core of the framework, syntactic operations related to the target PD and DO constructions, information on learners' background language, and previous SLA research on relevant issues. The first section represents the theoretical framework of this present study, following Chomsky's (1995) Minimalism Program. In section 2.1, we begin with the core concept of Minimalism, the Faculty of Language[3], which consists of a computational mechanism, feeding input to two interfaces, namely a sensory-motor interface (S-M) and a conceptual-intentional interface (C-I) (Berwick, Friederici, Chomsky, & Bolhuis, 2013). The framework provides new perspectives to first language acquisition. This section complements those perspectives with research findings on language acquisition (Lebeaux, 2000; Legate & Yang, 2007).

In the second section (2.2), we discuss how the computational mechanism of human language operates to comply with the optimal design of language[4], determined by the economy condition[5] of UG. The optimal design encapsulates syntactic operations Select, Merge, Agree, and Move[6]. As the central assumption of this study, the optimal language design applies not only to the first language but also to the second language. Thus, we intend to explore the extent to which the optimal design is involved in L2 acquisition.

Then, in the next section (2.3), we address controversial issues with regard to the syntax and semantics of English dative constructions. In relation to semantic

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[3] Referring to Hauser, Chomsky, and Fitch's (2002) Faculty of Language in the narrow sense (FLN), which is unique to human. In the broader sense, FLB includes cognitive domains of human and other animal species.

[4] Chomsky (2000, 2015) proposed the concept of "the Strong Minimalist Thesis" (SMT) as the central notion to the optimal design.

[5] In majority, the terms in this Chapter are primarily adopted from Chomsky's Minimalist Program (1st ed.) (1995) and in some occasions from Minimalist Inquiry (2000) and also from Beyond Explanatory Adequacy (Chomsky, 2001a), both of which are auxiliary, i.e. they are employed when MP (1995) does not provide adequate explanation.

[6] Some of these and other operations such as Copy and Delete were abandoned and reinstated throughout the development of the program. Chomsky (2001a).

aspect, Pinker's (1989) semaqntic structures offer possible solutions to the phenomena of dative alternation, by advocating two separate argument structures assigned to PD and DO. Similarly, other researchers (Goldberg, 2002; Malchukov, Haspelmath, & Comrie, 2010) contend that each dative construction has its own argument structure. In contrast to the solutions from semantic perspectives, generative linguists reject two argument structures but seek to find a single underlying representation for English PD and DO. Larson's (1988) VP-Shell is presented as the solutions. Although those retrospective solutions could solve the puzzles, they posed another new problem. The next section (2.4) provides solutions under the MP framework; by means of the MP, no further problems arise. Both English PD and DO are constructed in a step-by-step and bottom-up fashion. The computations are demonstrated from the beginning to the final stage of Spell-Out.

In the fourth main section, section 2.5, we turn to the Thai general properties, and analyze the Thai dative constructions, following the guidelines of MP and semantic accounts. The construction types under analysis include prepositional dative, Thai double object, and serial verb constructions. Because Thai PD and DO are comparable to those of the target language, we present the analysis of these structures within the MP framework. Comparisons between Thai and English PD and DO will also be discussed in respect of Economy Conditions. The comparisons in this section will be crucial grounds for hypothesis formation in Chapter 3. As for the serial verb construction, we will present Thepkanjana and Uehara's analysis, as noted earlier, and assume L1 transfer in making SVC-related predictions.

In the last main section (2.6) the presentation starts from SLA theories, discussing Schwartz and Sprouse's (1996) Full Transfer/ Full Access model and Epstein, Flynn, and Martohardjono's (1996) Full Access model. After that, we put in scope studies related to the acquisition of English dative construction. We present findings from previous studies on the acquisition of the English dative constructions by L1 (Campbell & Tomasello, 2001; Conwell & Demuth, 2007; Snyder & Stromswold, 1997) and L2 learners (Hamdan, 1994; Inagaki, 1997; Oh & Zubizarreta, 2005; Whong-Barr & Schwartz, 2002). As there is scant literature on L2 acquisition of SVCs, we conducted a survey with a group of Thai EFL learners. This survey guided us on how

the serial verb structure would affect the L2 English dative constructions. We report the survey results in the final part of this section.

2.1 Faculty of Language

Chomsky (1995) described a language system, the Faculty of Language (FL), starting off with two components: the computational system and the Lexicon. The computational system, consists of structural rules and lexical knowledge, known as the Lexicon, the component where lexical information is stored. According to a model presented in Radford (2009, p. 16), FL acts as the mediation between the language experience and the grammar of a language, replicated as Figure 2.1 below.

Figure 2.1: Language Acquisition Process

L refers to the language being acquired.
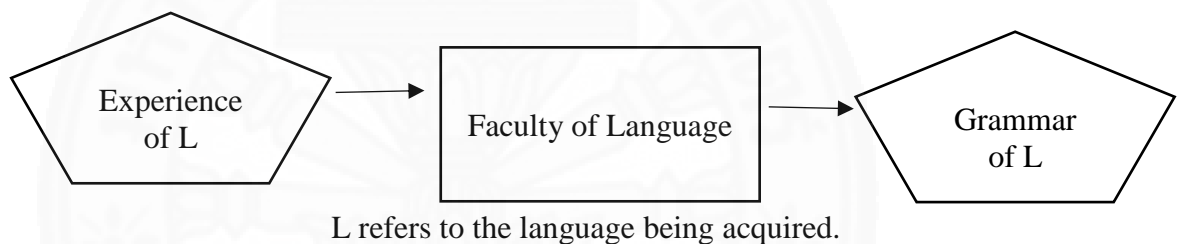
Based on the model in Fig.2.1, Radford (2009) defines experience of a language as a child's observation of how a particular language is used. This experience serves as input to FL, which is incorporated with UG principles. The output from FL becomes the grammar of that particular language leading to the acquisition of the first language. As part of cognitive and perceptual system, Chomsky (2015), in the preface, describes that FL, which is perfect and language-independent, is fully operated through the principles of minimal computation (p. IX). These principles are, for example, bottom-up Merger and Feature-checking (to be discussed 2.2). The Minimalism approach to the Faculty of Language is postulated to account for the first language acquisition; nonetheless, this present study intended to examine whether such Minimalism approach was also applicable to the second language acquisition. The Minimalism approach to the Faculty of Language is illustrated in Chomsky et al.'s (2013, p. 91) language design, reproduced below as Figure 2.2.

Figure 2.2: Design of Language Facility
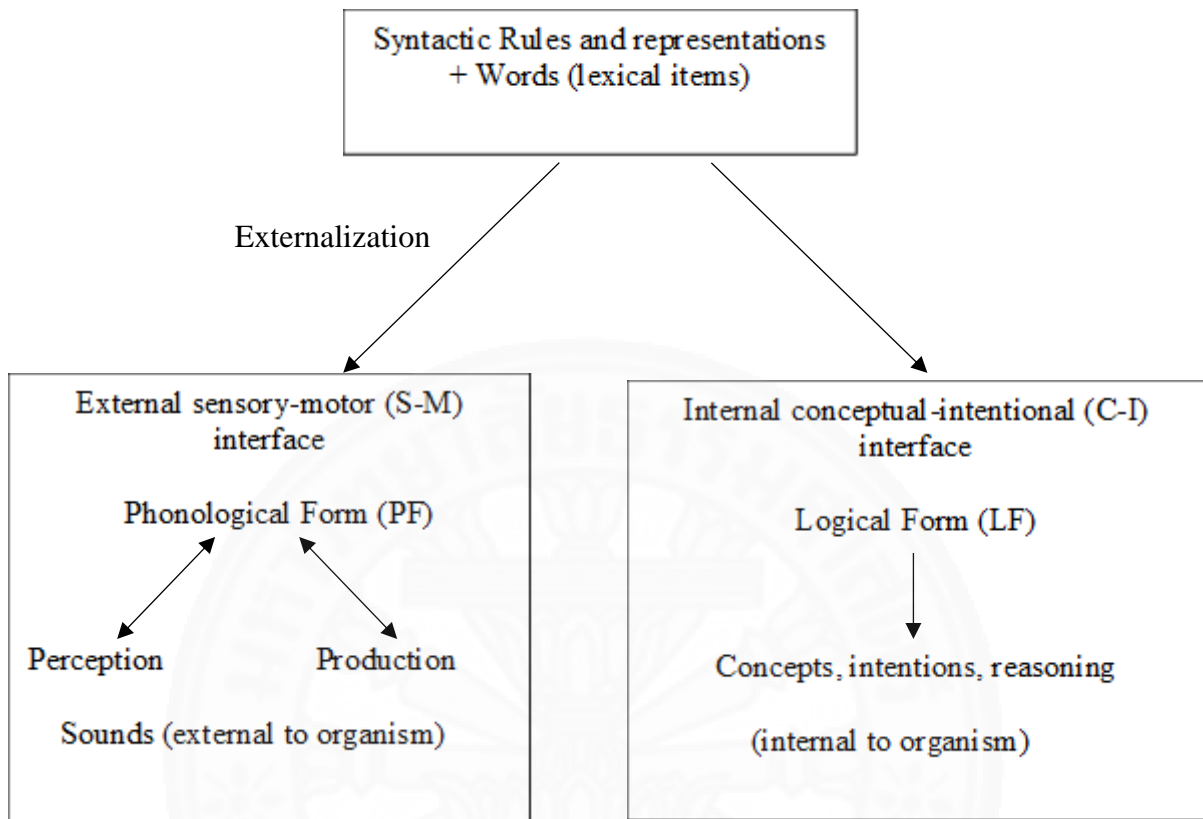
According to the language design (Fig. 2.2), the computational system feeds the outputs into two interfaces: LF and PF. At the internal C-I interface, there is no difference among human languages. The grammar at C-I conforms to MP, and therefore, it is perfect in the sense that only the simplest operation, namely Merge, is required (Chomsky, 2015, p. IX). Contrary to C-I, the externalized S-M interface is considered imperfect because words are displaced from their internal C-I position (p. XI). Chomsky (2001a) refers to C-I as the computational efficiency because lexical items are mapped into the logical process in a form of proposition.

At the C-I interface, the computational system takes two lexical items and merges them to a larger unit in a bottom-up recursive operation. According to Chomsky (2001), building up from smaller units should reduce the computation burden to active human memory. A unit only merges to another unit as a syntactic object (i.e. AGENT, THEME, or GOAL), required by the computation (Radford, 2009). This computation is considered an efficiency system, constrained by one of the UG principles, the

principles of economy conditions. This principle bars other operations except Merge to reduce the computation complexity. Unlike C-I, the S-M or PF interface is less perfect because lexical items are displaced from their propositional object positions. According to Chomsky (2001a), the system bars free displacement at PF, but only displacement required by empirical motivation is allowed. As a result, such displacement causes grammatical variations among languages.

Referring to Fig. 2.1, the experience of L by children is considered including the observation of and the exposure to the displacement of lexical items in a particular L. With the endowment ability of FL together with UG principles, the grammar of L is acquired and attained as the output of child's observation to the displacement of that particular language.

So far we have pointed out that the output of computational system consists of two interface levels, i.e. LF with the minimal thought process and PF with the phonological displacement. This system is known as Computational System of Human Language (CHL). In the sense of perfect and minimal design of FL, CHL operates in the simplest computational system. According to Fitch, Hauser, and Chomsky (2005), this simplest computational system is attributed to human ability to merge lexical items in a recursive fashion.

In conclusion on the design of FL, Chomsky (1995) mentions that Merge of a lexical item to its semantic position occurs in the conceptual interface (C-I) or LF. This merger is universal across languages. As a result, it is more preferred by the language design than displacement, Move[7]. Displacements are motivated by language specific properties and only allowed as the Last Resort to save the derivation at the phonetic interface (S-M) or PF.

As aforementioned that the computational system under MP is operated through bottom-up or recursive mergers, Chomsky (2000), then, denies the "look-ahead" representational approach, which is based on a top-down model. Consequently, the computational system under MP contrasts sharply to its predecessor, GB, under the Principles-and-Parameters (P&P) framework, whose target are predetermined or "looking-ahead" (Yang & Roeper, 2011).

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[7] Chomsky (2001a) uses the terms external Merge for the sense of Merge of the 1995 edition and internal Merge for the sense of Move.

Because using a different model (i.e. top-down or bottom-up) results in different research predictions and inevitably leads to divergent interpretations, it is important to point out, in this sub-section, that recent findings in language acquisition support the MP bottom-up approach, and some even disprove the P&P framework.

For example, wh-fronting is a parameter of English, but not in Chinese. The native speakers of English should have acquired the wh-fronting parameter to all instances involving such parameter, which is a property in an upper phrase of CP. With the supposition that English speakers acquire a wh-fronting parameter as part of UG, such parameter should have been instantiated in every wh-question being produced. However, Legate and Yang (2007) found that although English native children had demonstrated a wh-fronting parameter in simple questions at the very early age, the acquisition of long-distance wh-question occurred after the age of four. These findings correlated with the frequencies of the input. The former was more frequent than the latter, 25% and 0.2%, respectively. Thus, the "looking-ahead" parametric acquisition was not supported by Legate and Yang's (2007) findings. Furthermore, another evidence from Legate and Yang's (2007) also supports the MP bottom-up merger. The evidence involved the obligatory subject noun or pronoun of English, known as the Extended Projection Principle (EPP), the operation of which operates in an upper phrase of TP. Assuming English native speakers acquire this obligatory subject parameter of English, the instantiations of subject should have be found in every English sentence produced by native speakers when they reach a certain age. However, Legate and Yang's (2007) study found inconsistency of such parameter involving EPP. The English native children had acquired the EPP parameter at early age, but expletive or dummy subjects such as it and there[8] were found in the later stage at the age around 3. These findings collocated with the lower expletive input frequency at 1.2% compared to other constructions. The research suggested that if the EPP parameter had existed, the acquisition of expletive subjects would have occurred at the same age as other constructions.

In another study, Lebeaux (2000) interpreted some of children's expressions like "it big" that these expressions represented a small clause without core

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[8] Expletive subjects can only appear in non-θ positions i.e. in positions where no θ -role is assigned.

functional categories of T and v. With evidence supported from these findings, the children acquired their native language in the bottom-up fashion, leaving out the abstract and complex functional features such as T and v. These functional features are projected in phrases upper to the phrases of lexical heads, and they were absent from the early stage of acquisition.

With the findings from the studies mentioned above, the MP framework emerges as a plausible solution to capture the language acquisition process. We, then, further explore the operations under the MP framework for precise predictions on how Thai learners acquire the target English dative construction.

The following section will demonstrate and explore how MP syntactic operations; namely Select, Merge, Agree, and Move, operated in the computational system.

2.2 Operations in Computational System of Human Language

This section aims to demonstrate syntactic operations, employed by the computational system of human language. In 2.2.1, the operations operated at C-I are highlighted. These operations involve the selection of lexical items and categorical features from the Lexicon. The bundled features of the selected elements are tabulated and schematized in this sub-section. In 2.2.2, the operations constrained by economy conditions are discussed. According to Chomsky (1995), as part of UG, economy conditions function optimally to prevent unnecessary operations. The section, Economy Conditions and Syntactic Operations, focuses on strong features that trigger overt-movements.

2.2.1 Numeration and Selection

According to Chomsky (2000), the role of UG is involved during the initial stage (S0) in the selection process for permissible items and features from the Lexicon (p. 90). Each selected item is represented as an expression (EXP) in a pair of <sound (λ), meaning (π)>. It is also bundled with its features, to be discussed later in 2.2.1. This selection occurs at the outset of computation as the process of Numeration (N). The process refers to the selection of lexical items and their properties from the Lexicon to construct a sentence (Lasnik, 2002), and each lexical item is subscripted

with a number indicating the tokens of each item. It is important to stress that Numeration (N) is the one-time selection of expressions (EXP) from the Lexicon. Chomsky (2000) mentions that the role of UG is connected to Numeration (N), which is only accessible during the initial state (S0). After Numeration (N), UG becomes inaccessible. In other words, selection from the Lexicon is barred after Numeration (N). In addition to the selection at S0, the other type of selection is the selection through drawing an expression (EXP) from Numeration (N). These selections, considered as one of the MP operations, are disconnected from the Lexicon but operated within a subset of lexical array drawn from the Lexicon by Numeration (N). This operation Select can be performed multiple times as part of computation until every elements in the array is exhausted. Figure 2.3, a Minimalist T-Model of the Grammar, below depicts two selection operations: a one-time selection from the Lexicon as Numeration (N) and operation Select applied to the course of computation.

Figure 2.3: Minimalist T-Model of the Grammar

<div align="center">

Lexicon
one-time selection
Numeration (N) = {A, B, C, D, ...}

Syntactic operations: Select, Merge, Agree

Spell-Out

Move

PF   LF

</div>
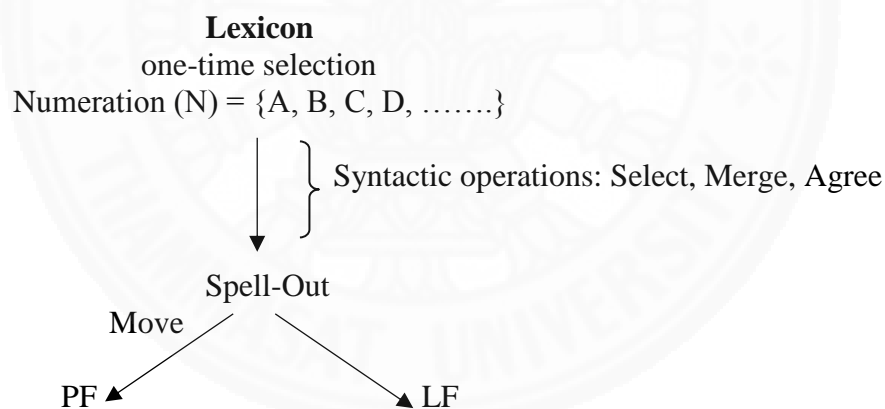
According to Fig.2.3, the computation begins with Numeration (N) by drawing lexical items required as syntactic objects (SO), and other functional elements such as C, T, and v from the Lexicon. The lexical items are mapped into a pair of sound and meaning, as an expression (EXP) <sound, meaning> bundled with their features.

Turning to another type of Selection, a syntactic operation Select co-operates with another operation Merge. As the theoretical imperative, two units must merge to a larger unit from a bottom-up recursion (Chomsky, 2000). Initially, an

expression (EXP) is selected from N, and its features motivate another selection of an associated expression (EXP) to satisfy the features. Following these selections, an operation Merge applies to construction a larger unit.

     In reference to recursion, the computational system will render operation Select to draw expressions (EXP) from the Numeration (N) to construct larger units via operation Merge until the Numeration is exhausted (Hornstein, Nunes, & Grohmann, 2005). Upon the exhaustion, the computational system will reach the Spell-Out, the point where the computations spilt into two interfaces: PF and LF (to be discussed in section 2.2.2).

     Regarding to the role of UG, these Select/Merge operations reduce some explanatory roles of UG because all subsequent operations after the initial stage (S0) are no longer constrained by UG (Radford, 2009). As Chomsky (2000) mentions that the computation blocks the derivation to return to the initial stage (S0) and subsequently prohibits choosing any new EXPs from the Lexicon (p. 111), the selected EXPs, represented in N, must be sufficient to drive the derivational process to Spell-Out; otherwise, the derivation will crash.

     The next sub-section will focus on the selection process and the demonstrations of how features of an EXP motivate a merger of another EXP to check off associating features of both EXPS. A step-by-step demonstration is presented under the theoretical framework of recursion.

2.2.2 Features and Derivations

     Before the presentation of a step-by-step recursion, it is important to understand the technical aspects, which serve as the operational core of computation. From the Numeration to Spell-Out, the computation selects a subset of lexical array (LA), comprising lexical items from the Lexicon, as syntactic objects (SO), which are independent from the interfaces but rather related to a proposition (Chomsky, 2000, p. 106). When the Numeration (N) is complete, the EXPs in the array must be mapped to a specific syntactic system in the mind, to which Chomsky (2000) refers as narrow syntax (p.106). In MP, the derivation will crash if the array is exhausted before the derivation is complete, or if any outstanding element remains in the array from the Numeration (Hornstein et al., 2005).

The MP perspectives of the array of N from the Lexicon are very crucial to the central idea of this present study. According to Hornstein (2018), these perspectives have totally replaced the notion of sub-categorization and θ-criteria in the former generative Government and Binding framework (GB). The usefulness of sub-categorization in GB in barring too few or too many arguments entering into the derivation is substituted by the exhaustion of elements in the array in MP.

To point out how radically the MP perspectives impact the central idea of this present study, we concisely present assumptions of sentence (12) based on sub-categorization and θ-criteria in GB. After the retrospective flashback, we will present the assumptions of the same sentence (12) but in the MP perspective.

(12) John loved Susan.

In GB narrative, the verb *love* requires two participants, namely AGENT and PATIENT. The three lexical items, responding to the θ-criteria, are traditionally tabulated in a theta-grid of *love* as in Table 2.1.

Table 2.1: Theta-grid of *love*

AGENT	VERB	PATIENT
John	love	Susan

At this point, no functional categories, namely C and T, are presented. This means that the recourse to the Lexicon for new selection is still available through the derivation. As a result, a prediction on the GB narrative is theoretically satisfied to include such multiple access to the Lexicon and UG. Supposed a second language learner produced 'John love Susan.' instead of 'John loved Susan.' one possible assumption in GB could be that the speaker did not acquire T because the tense was absent from his production. Another possible assumption could be that the speaker did select T from the Lexicon but failed to apply T-to-V, a specific property of English. The two aforementioned assumptions are merely examples of several possibilities, permissible from the 'looking-ahead' and the recourse to the Lexicon.

Within the MP perspectives, both of the 'looking-ahead' and the recourse are barred. As a result, an assumption about the absence of T is theoretically impossible because, along with the lexical items, the functional categories of T and v must be selected as the requirements of the UG[9]. A more precise assumption could be that the speaker failed in operation Agree.

Up to this point, the crucial reasons why the present study abandons the notions of sub-categorization and θ-criteria in GB in favor of the less ambiguous explanatory perspectives of MP have been briefly stated. The following parts are emphasizing the demonstrations of sentence (12) in the MP perspectives, starting from the Numeration as the selection from the Lexicon, presented in Table 2.2 and schematic representations of (12) step-by-step from (12a) to (12f).

Table 2.2: Labels and Features

N = {John, love, Susan, v (a light verb), T$_{PAST}$}

Label	Features		
	Category	**Inflectional**	**Selectional**
John	[N]		
love	[V]		[uN] <THEME>
Susan	[N]		
v	[v]	[V*, [uInfl:___]	[uN, uV] <AGENT>
T	[T]	[Infl: PAST]	[uN, N*]

Notes: 1) u refers to an uninterpretable feature that needs checking-off with a matching category.

2) < ____ > indicates a semantic role associated with Selection.

3) * indicates a strong feature which triggers Move of a matching category.

---

[9]Chomsky (2001b) includes C, T, and v in Core Functional Categories (CFCs), but only T and v must be presented in the computation and C is optional.

4) [: ____] represents operation Agree, where the feature agrees with its counterpart.

   According to Table 2.2, {John, love, Susan} are lexical items containing categorical features, while {v, T/ are Core Functional Categories (CFCs)}. According to Chomsky (1995), CFCs contain a strong feature, which must be visible at PF.

   The following examples, (12a-12f), illustrate the derivation of N = {John, love, Susan, v (a light verb), T$_{PAST}$} in Table 2.2, focusing on operation Merge driven by Selectional and the deletion of uninterpretable features.

   (12a) Merge (love, Susan) → VP

$$
\begin{array}{c}
\text{VP} \\
\diagup\diagdown \\
\end{array}
$$

       love   Susan
      [V; uN̶]   [N]

       <THEME>
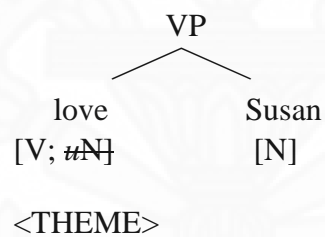
The uninterpretable selectional N feature on *love* is checked off with a categorical feature [N] on *Susan*. In addition, *Susan* becomes THEME upon Merger.

   (12b) Merge (v, VP) → $v\acute{}$

$$
\begin{array}{c}
v\acute{} \\
\diagup\diagdown \\
\end{array}
$$

v VP
[V*, uInfl:____ ; uN, uV̶]

          love Susan
         [V; uN̶] [N]
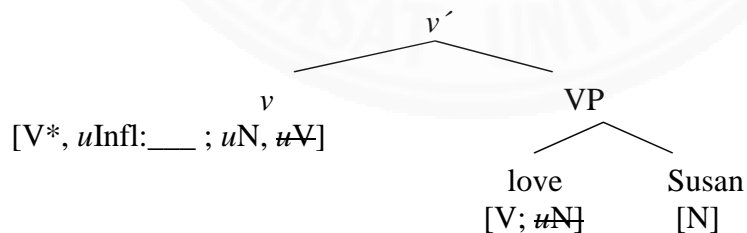
The uninterpretable selectional V feature on *v* is checked off with a categorical feature [V] on *love*.

(12c)   Move (love, *v*) and adjoin to a light verb

v´

v   VP

v   love [V] ◄——— <love>   Susan
                              [V; *u*N̶]   [N]

[V̶*̶, *u*Infl:___ ; *u*N, *u̶*V̶]
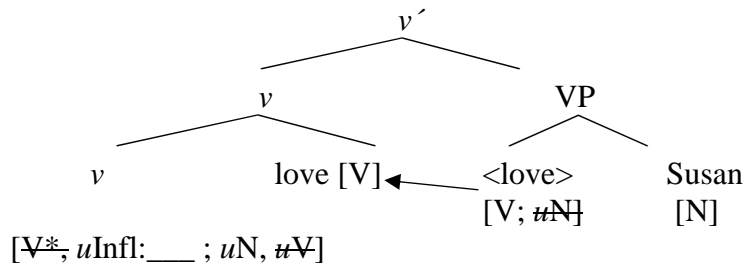
The strong V feature of *v* triggers V-movement to adjoin a light verb. After the

movement, this strong feature is checked.

(12d)   Merge (John, *v*´) →   *v*P

*v*P

John   *v*´
[N]

              v   VP

      v   love [V]   <love>   Susan
                               [V; *u*N̶]   [N]

[V̶*̶, *u*Infl:___ ; *u̶*N̶, *u̶*V̶]

<AGENT>
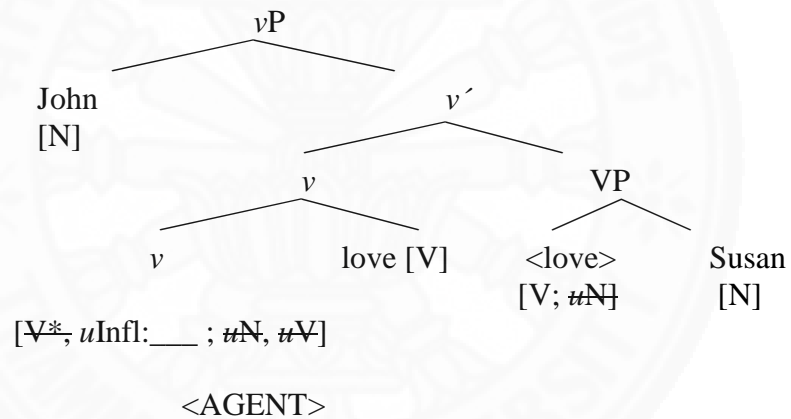
The uninterpretable selectional N feature on *v* is checked off with a categorical feature

[N] on *John*. In addition, *John* becomes AGENT upon Merger.

(12e) Merge (T_{PAST}, *v*P) → T´

```
                          T´
              ┌───────────┴───────────┐
          T_PAST                      vP
    [T; Infl: PAST; N*]        ┌───────┴───────┐
                            John              v´
                            [N]        ┌───────┴───────┐
                                       v              VP
         AGREE                   ┌─────┴─────┐   ┌─────┴─────┐
                                 v      love [V] <love>    Susan
                                                 [V; uN]    [N]

              [V*, uInfl:PAST ; uN, uV]
```
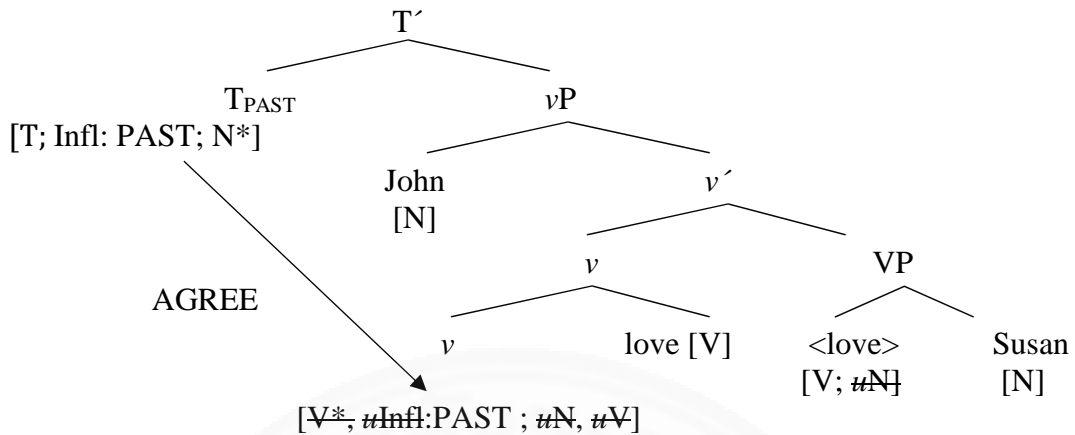
The feature of PAST on T agrees with that of *v* AGREE (PAST, *v*) thereby the uninterpretable feature Inf on *v* is checked off as well.

(12f) Move John to [Spec, TP]

```
                          TP
              ┌───────────┴───────────┐
          John                        T´
         ▲[N]                ┌─────────┴─────────┐
                          T_PAST                 vP
                    [T; Infl: PAST; N*]     ┌─────┴─────┐
                                        <John>          v´
                                         [N]      ┌─────┴─────┐
                                                  v          VP
                                            ┌─────┴─────┐ ┌────┴────┐
                                            v     love [V] <love> Susan
                              [V*, uInfl:PAST ; uN, uV]  [V; uN]   [N]
```
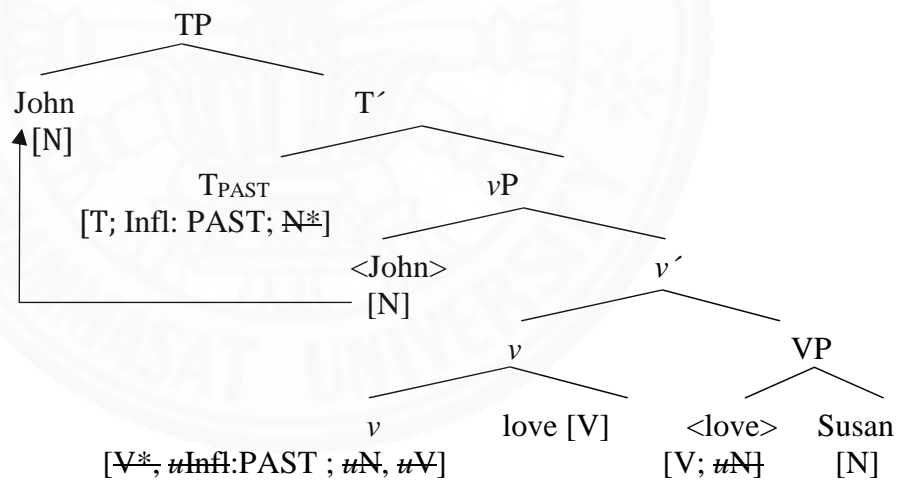
The strong N feature of T triggers N to move to [Spec, TP]. After the movement, this strong feature is checked. At this point in the derivation, all lexical items and features in the Numeration from Table 2.2 are exhausted, and all uninterpretable [*u*X] and all strong [*X] features are checked, and value T agrees. The convergence has been reached.

In addition to the Numeration (N) and Select, other operations, namely Merge, Agree, and Move, are theoretically operative. The following section will discuss these operations in detail.

2.2.3 Economy Conditions and Syntactic Operations

In MP, the syntactic operations, namely Merge, Agree, and Move, have been developed based on the notion of economy conditions from the 90's. Subsequently, the economy conditions, presented in Chomsky's (1991) *Some notes on economy of derivation and representation* as an approach to reconsidering the language system, have become part of the optimal design of FL under the Minimalism.

As one of the UG principles under MP, the economy conditions are discussed in detail to establish a foundation that the syntactic operations, namely Merge, Agree, and Move, are based on. This sectional content starts with the importance of economy conditions by reviewing Chomsky's (1991) contrastive guidelines of UG before and after the incorporation of economy conditions as part of UG. After the guidelines in Chomsky (1991), the section continues presenting the chronological development of economy conditions to the point that all of the syntactic operations, namely Merge, Agree, and Move, are sufficiently motivated and explained by unified economy conditions.

Through P&P, prior to the introduction of the economy condition in 1991, a specific language system was considered as a set of parameters permissible under UG. Different languages were believed to utilize a different set of parameters, and the tasks in language study were analogous to those in taxonomy of a vast collection of languages with diverse parameters. Without the departure from taxonomic parameter analyses, the guidelines and characteristics of UG would have been vaguely defined. The economy conditions proposed what the guidelines of UG should be and such guidelines must apply to every language (p. 53-54).

During that time, the early version of the economy conditions consisted of two main categories: economy of derivation and economy of representation. The economy of derivation is on a basis of a "least effort" condition. The condition that prefers the D-Structure over the S-Structures; in other words, any movement from D-Structure to S-structure has a "cost". Such movement is only

allowed as the "last resort" condition, which is language-specific intended to save the derivation. This notion sets the distinction between the intuitive UG avoiding any "cost" and a specific language that has "cost" from "last resort" (p. 72). Another "costly" operation is about a length of movement. The movement must be local in successive-cyclic steps, barring a one long movement. Despite having more steps for a series of successive-cyclic movements, the number of steps is not counted as 'cost' (p. 68). Besides the economy of derivation, it is the economy of representation that stipulates superfluous symbols, projections, and rules. It contains a full interpretation (FI) condition, which holds that an element can appear in a representation only if it is properly "licensed" in the mind-brain system (p.72).

As mentioned, the economy conditions have been further developed in MP as the ideal conditions for language design. A number of radical changes from the notions in Chomsky's (1991) have been emerging as follows: First, unlike GB which allows both derivation and representation, MP is solely derivational, a bottom-up fashion; therefore, part of the economy of representation becomes incompatible with the program, which stipulates these superfluous representations by its own virtue. The representational levels of D and S-structures are also eliminated. Second, due to the eliminations of D and S-structures, the "least effort" condition that was once connected to the effort to map elements to the positions at D-structure has been linked to the positions of elements in narrow syntax at LF. Third, the "Last Resort" condition, according to Radford (2009), was reminiscent to the Transformational rules in that both can powerfully move, with language-specific constraints, elements from D to S-structures. Since S-structure was abandoned in MP, the "Last Resort" condition has operated as the last option to prevent the derivation from crashing at PF.

In addition to the changes of interfaces to which the economy conditions have attached themselves, MP renounces principles in GB that language-specific properties, known as parameters, trigger a "costly" movement. Instead, operation Move in MP is motivated by the strong features of CFCs: C, T, and *v*. The differences in strengths of these CFCs result in grammatical differences among languages. Furthermore, the "least effort" condition was sparsely mentioned in Chomsky's Minimalist Program (1995) and virtually absent from the Minimalist Inquiry (2000) onwards. As this condition resides in the "perfect" condition at LF,

where no languages at PF have ever come close. In contrast, the critical question in MP has been shifted from how languages are parameterized into taxonomies to how far a specific language is beyond the perfect design.

In sum, the notion of economy conditions has already been incorporated into the MP architectural core. The following part will provide the information on how economy conditions underlie the syntactic operations.

The diversified economy conditions are re-organized. Chomsky (2000) purposes that economy conditions must universally conform to four operative complexity conditions in (pp. 104-105), presented as (13a-d)

(13)   a. Simple operations preempt more complex ones.

b. Search space is limited (locality).

c. Access to the feature set [F] is blocked by LA (Lexical Array).

d. Computation is locally determined (without looking-ahead).

Regarding the operative complexity in (13a), there are three syntactic operations, namely Merge, Agree, and Move[10]. Chomsky (2000) defines each operation as follows:

- Merge: "takes two syntactic objects (α, β) and form K (α, β) from them".
- Agree: "establishes a relation (agreement, Case-checking) between an LI (Lexical item) and a feature F in some restricted search space (its domain)".
- Move: "combines Merge and Agree". (A-movement if motivated by a φ-feature; A-bar if motivated by a P 'peripheral'-feature.)

As the FL design is perfect, the operative complexity regarding Move is more complex than its subcomponents: Merge and Agree, or even both of them

---

[10] Chomsky (2001a) mentions operations external Merge, internal Merge, Copy, and Transfer.

combined. Move involves an additional step of pied piping. Therefore, according to (13a), Merge/ Agree preempt Move.

The operative complexity (13b) causes an imperfect design because it triggers LI Move out its Merge position. Once CFCs (obligatory T and *v*) enter the computation, they bear uninterpretable feature, which must probe for Goal that has a matching feature to check off. For example, T contains φ-features probing for Goal with matching features and within locality, the closest c-command. Then, Goal moves to a phrase "pied-piping" in [Spec, TP]. As soon as a feature or features of Goal are deleted, they are all deleted at once and Goal is "inert" not moving any further.

Since the uninterpretable features of CFCs causes overt movement at PF, world languages are far from the perfection. Chomsky (2015) then raises a new question how far each language is away from perfections. Language can come to an optimal design, constrained by the operative complexity in (13a-d), which prevents unnecessary or freely movements. Language is optimal to legibility conditions and Full Interpretation (FI), requiring that every element must receive an interpretation and satisfying all interface levels. Since languages are different at PF, the conditions that satisfy PF may vary from one language to another.

2.3 English Dative Puzzles and Solutions

In this section, we are presenting what have been the puzzles of the English dative constructions, challenging linguists for decades. We are raising the semantic puzzles in the first sub-section. In semantic perspectives, section 2.3.1, linguists (Goldberg, 2002; Malchukov et al., 2010) aim to answer two important questions. The first question is whether the two constructions, PD and DO, are originated from the same semantic concept. If both constructions are originated from different semantic concepts, the second question is what the argument structure of each construction should be.

The English dative construction does not only pose semantic puzzles but also cause unsettled debates in the Generative Grammar paradigm, outlined in 2.3.2 by purposed solutions and refutations. The main issue under investigation involves how these two constructions, i.e. PD and DO, are related, and which construction is the underlying structure. For example, Larson (1988) purposes VP-Shell nesting

movements. Despite being considered as a breakthrough, this VP-Shell solution is roundly criticized by several linguists such as Jackendoff (1990a).

However, the analyses of the dative constructions under GB, especially Larson's (1988) VP-Shell, have great influence on the development of syntactic theories, including MP. In Section 2.4, the puzzles relating to the English dative construction are summarized, and then the MP solutions will apply to solve those puzzles. The MP solutions to the puzzles of each construction are presented in detail.

2.3.1 Semantic Analyses of Dative Constructions

This framework focuses on the semantic properties of lexical items. According to (Pinker, 1989), Dative alternation (DA) between PD and DO is constrained by phonological and morphological rules. The phonological rule allows verbs with the primary stress on the first syllable to alternate, and the morphological rule allows the alternation of non-Latinate verbs. Alterable verbs that satisfy both rules are, for example, *give*, *tell*, and *build*, while non-alterable verbs such as *donate, present,* and *construct* are constrained by the rules. Most non-alterable verbs are Latinate with the primary stress on second syllable. When the DA constrains (phonological and morphological rules) apply to a verb such as *give,* the semantic structure of 'cause THEME to go to GOAL' is connected to another semantic structure of 'cause GOAL to have THEME.' Each of the syntactic structures has its corresponding argument structure. The semantic structure of 'cause THEME to go to GOAL' functions as the first representation of a verb input, and is argument structure is V THEME PP (GOAL). The second semantic structure of 'cause GOAL to have THEME' is converted to the argument structure of V GOAL THEME. To illustrate Pinker's (1989) DA constrains, two verbs are chosen as inputs: *donate* and *give*. When *donate* enters the first semantic structure, it is barred by the DA constrains to reach the second semantic structure, and thus, the argument structure of *donate* is the prepositional construction. On the other hand, when *give* enters the first semantic structure, it also satisfies the DA constrains. Then, *give* can reach the second semantic structure; as a result, *give* can be alternated from the prepositional to double object constructions. Figure 2.4 is adapted from Pinker's (1989/2013) 3.2 (p.74) to illustrate how the semantic structures are connected to their argument structures.

Figure 2.4: Pinker's Semantic Structures

Input verb   DA constrains (Phonological and Morphological Rules)

Semantic structure #1 — cause THEME to go to GOAL	→	Semantic structure # 2 — cause GOAL to have THEME
↓		↓
Argument structure #1 — V THEME PP (GOAL)		Argument structure #2 — V GOAL THEME
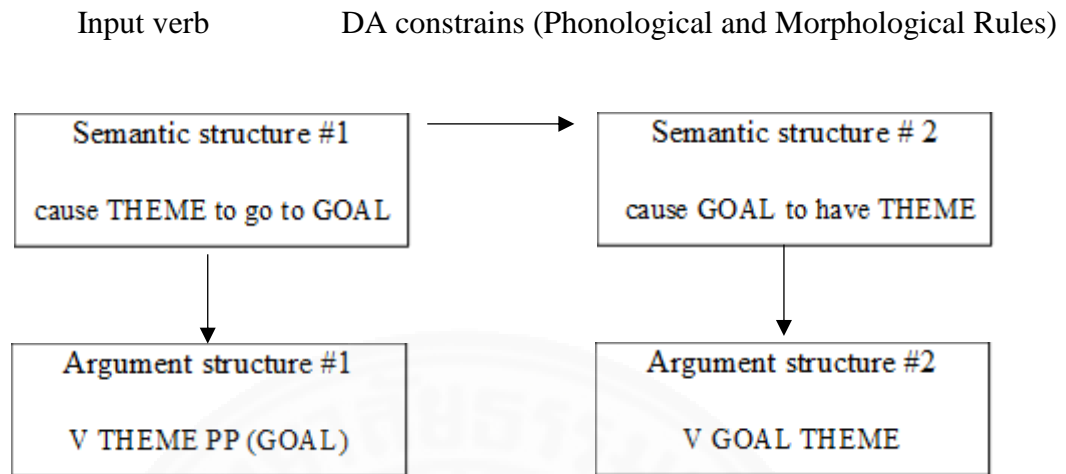
Based on the semantic representations in Fig. 2.4, the DA constrains prevent the non-alterable verbs, shown in square blankets as shown below, to enter Semantic structure#2 although these verbs have similar meanings to the dative verbs, labelled in front of the square blankets. As a result, the verbs in the blankets cannot be alternated to the double object construction.

give: [donate, present]

tell: [report, explain]

build: [construct, design]

Pinker (1989) mentions that English L1 children must learn the DA constrains. Phonologically, children learn that verbs without the primary stress on their first syllable are not allowed for DO. Morphologically, they also learn that verbs with a noun suffix –ion are not possible for DO. At the initial stage, it has been found that English L1 children overgeneralize DA to non- alterable verbs. In later stage, this overgeneralization gradually disappears as the children acquires the DA constrains.

Even though Piker's (1989) semantic structures are convincing in the alternation between PD and DO, these semantic structures are open to criticism of a violation of a single verb with one semantic structure. Piker's (1989) semantic

structures was challenged by Groefsema (2001), who provides semantic analyses to prove that both PD and DO are in fact originated from a single argument structure. Groefsema (2001) speculates that DA is the result of different conceptual event encoding. The encoding of dative constructions is further investigated by Malchukov, Haspelmath, and Comrie (2010). They attempt to explain dative constructions cross-linguistically by means of Coding Properties of Ditransitive Constructions. They contend that Dative constructions in any language can be mapped in three alignments— T (THEME), R (RECIPIENT), and P (PATIENT of transitive). According to Malchukov et al. (2010), English DO is the result of an encoding process where R is treated as P, but T is encoded differently ($R = P \neq T$). Sentences (14a) and (14b) are constructed based on the English translation of Icelandic from Malchukov et al.'s (3a) and (3b) (2010, p. 4).

(14) a. John killed Bill$_{patient}$.

b. John gave Bill$_{recipient}$ (patient-like) some money.

They conclude that when speakers encode R equally to P, they will produce R, as in (14b) in the same position of P, as in (14a). Margetts and Austin (2007) propose similar encoding concepts, stating that speakers have strategies in treating arguments differently whether speaker will treat THEME or GOAL as a patient-like object. When speakers treat THEME as a patient-like object, they will produce PD, but when GOAL is treated as a patient-like object, the speakers will use DO.

While the majority of linguists (Malchukov et al., 2010; Margetts & Austin, 2007; Pinker, 1989), who analyze the dative alternation through semantic perspectives in the aforementioned studies, support the semantic connection between PD and DO, Goldberg (2002) insists that each dative construction be considered as its own class without connection between PD and DO. In contrast to the conventional assumption, Goldberg (2002) substantiates her assumption with evidence from surface generalizations as shown in (15) and (16), adapted from Goldberg's (16), (9), and (10) respectively, pp. 330-331.

(15)   a.   John gave it to Bill.   PD

         b.   ??John gave Bill it.   DO

(16)   a.   Q: What did John give Bill?

                                        (Wh-question asking for THEME)

         b.   Q: ??Who did John gave a book?

                                       (DO:Wh-question asking for GOAL)

         c.   Q: Who did John gave a book to?

                                       (PD: Wh-question asking for GOAL)

         d.   A: John gave a book to Bill./ John gave Bill a book.

Goldberg (2002) remarks that DO, compared to PD, is less acceptable when the THEME is 'it' shown in (15b), and when GOAL is asked in a question in DO, shown in (16b), this DO question causes a semantic anomaly. However, when a question in PD, as in (16d) is asked, such semantic anomaly does not occur. On the evidence of these surface generalizations, Goldberg (2002) suggests that both PD and DO constructions must be interpreted as two independent constructions.

2.3.2 Government and Binding Theory

In the long history of generative grammar, researchers propose that English dative verbs require their complex predicate, which takes another VP-internal object. NP-movement, according to this approach, is involved in the derivation of one construction to another. To date, since the inception of GB in 1981, the discussion as to what is a governor of the oblique, and as to where and how Oblique Case, including Dative, is assigned has been widely debated. Chomsky (1981) resorts to an explanation of Inherent Case as the properties of certain verbs; nonetheless, he suggests two possibilities, i.e. either an empty V or a zero preposition governs an indirect object in DO and accounts for dative Case assignment. Apparently, the underlying structure of an empty V-governor differs from that of a zero preposition-governor in DO. Larson (1988) proposes two different underlying structures for PD and DO, both of which are involved with additional VP Shells.

It is argued that although PD and DO render the same semantic property, PD is a basis of DO since the transformation of the former is less complex.

The derivation of PD results from a single operation of V-head movement from the lower to the upper V-Shell. In the underlying structure (17a), there are two layers of VP. The upper VP contains no heads but takes another VP as its complement. The lower VP contains head V, filled by *send*, and PP *to Suda*, while [Spec,VP] is occupied by NP, *a diary*. In (17b), send raises from the lower V to the upper V, resulting in *'send a diary to Suda.'*

(17)   send a diary to Suda

(17a)   VP — underlying structure
(17b)   VP — derived structure
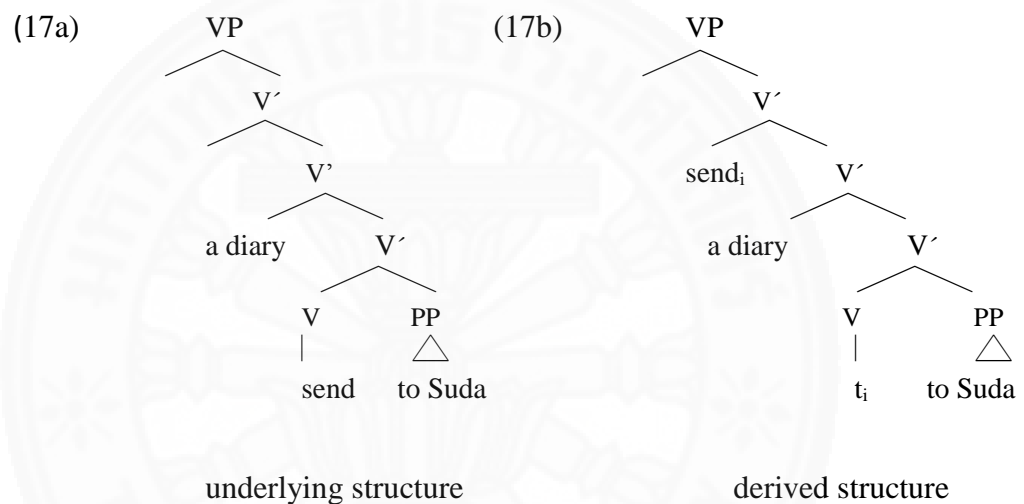
On the other hand, despite the same basis of two layers of VP, the derivation of DO, requires an additional operation- NP (indirect object) movement. See (18a) and (18b).

(18)   send Suda a diary

(18a)

```
                              VP
                              /
                            V´
                            /
                          V´
                         /  \
                   a diary    V´
                             /  \
                            V     NP
                            |     △
                          send    Suda
```

underlying structure

(18b)

```
                         VP
                        /
                      V´
                     /  \
                sendᵢ    V´
                        /  \
                   Sudaⱼ    V´
                           /  \
                      a diary   V´
                               /  \
                              V     NP
                              |     △
                             tᵢ     tⱼ
```
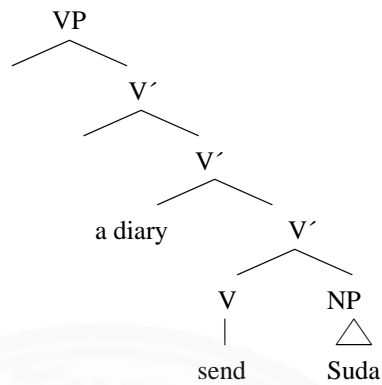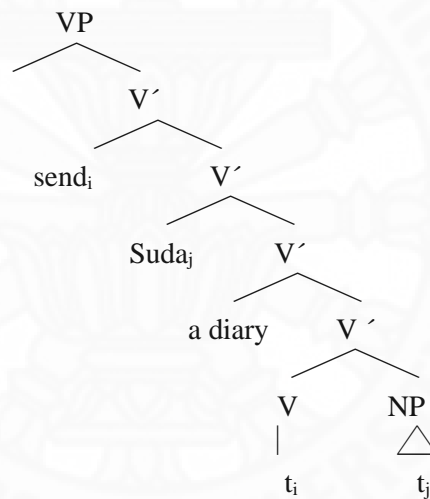
derived structure

In the underlying structure of DO (Larson, 1988), there are layers of VP. The lowest VP structure is similar to the lowest VP of PD in (18a); it accommodates both an external and an internal argument. In (18a) *send* takes GOAL, *Suda*, as its internal argument, and the VP takes THEME*, a diary*, as the external argument. Larson (1988) mentions that GOAL in the Double Object construction inherently bares dative Case, which requires a preposition as its Case assigner in the same manner as other oblique Cases. Due to the absence of a prepositional Case assigner, GOAL*, Suda*, is forced to move to the specifier of the lower VP as illustrated in (18b). After NP-

Movement, according to Larson (1988), *send* raises to the specifier of the upper VP to c-command both GOAL and THEME, an operation that is a violation as Jackendoff (1990) points out. After the NP-Movement, *send* raises to the specifier of the upper VP to c-command both GOAL and THEME. After VP-Movement, the Case Filter is satisfied by means of c-command, which assigns Dative to GOAL and Accusative to THEME. At S-Structure, Case Filter helps yield the desirable DO word order: V GOAL THEME *'send Suda a diary.'*

While the VP layers and the movement operations may enable the desirable word order patterns, this concept was challenged by Jackendoff (1990) on three grounds:

1)   the asymmetry between the THEME and GOAL in term of the binding domain[11,]

2)   illicit operations of certain verbs in Dative Alternation (DA) such as *donate* and *spare*, and

3)   a violation in the principle of NP-Movement, where NP is forced to move to a Case marked position to satisfy Case Filter. In Larson's (1988) VP-Shell, the V-head moves to an empty [Spec, VP] to assign Case to NP, as illustrated in (15b) and (16b).

From the semantic perspectives and the syntactic analyses, the English dative constructions have been an unsettled issue in linguistics. The main question from the semantic analyses in section 2.3.1 is the violation of a single semantic concept. In GB perspective, the puzzle is in Case-relation issues, raised by Jackendoff (1990a).

In the following sections, we will demonstrate how these debating issues are resolved in the MP. The framework supports a single semantic structure; thus, the semantic question is addressed. As to the puzzle in Case-relation issues, MP unifies diversified Case assignments in GB into a common mechanism to check all structural

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[11] According to Jackendoff's (1990) views of no dative derivations, he posits that NPtheme asymmetry c-commands NPgoal, in that only NPtheme properly c-commands NPgoal. In other words, NPgoal is within the binding domain of NPtheme, not vice versa. He questions whether the DO is derived from PD because of the violation of the binding domain.
However, Larson (1990) defends that antecedent-anaphor analysis is relevant to discourse analysis, which is beyond his concern in the alternation at a sentential level.

Cases (i.e. Nominative, Accusative, Dative, and others). Furthermore, Larson's (1988) VP-Shell is revisited and adapted to accommodate additional elements in MP, and this revised VP-Shell is a key to solve the puzzle of English dative constructions. These solutions are demonstrated in next section.

2.4 MP Solutions to Dative Puzzles

The puzzles relating to the constructions of English dative verbs are the semantic and syntactic connections between PD and DO. In terms of semantics, the puzzle is solved with the conceptual and intension (C-I) interface, which is one of the architectural components. With the notion that a similar concept mapped into the C-I interface can diverse into two constructions, both PD and DO can be construed as one semantic proposition at C-I.

The syntactic aspect cannot be straightforwardly solved by the architectural components. Moreover, it contains various questions. In this introductory section, the solutions to a very crucial question about the evidence supporting the order of mergers are addressed, while other questions relating to movements and Cases will be dealt with in the explanations of each construction.

The crucial question is what evidence supports a GOAL merger with V, and then a merger of VP with THEME. If the order were the other way around, the analysis would yield different derivations. According to Hornstein et al. (2005), English dative verbs take GOAL to form a constituent as a fixed idiomatic expression, the semantic elements of which are already mapped to the positions at LF. This idiomatic expression claim is substantiated with a property of antecedence. It states that a pronoun must be c-commanded by the quantifier. (19a) and (19b) illustrate this property.

(19) a. I sent [every check]$_i$ to [its]$_i$ owner.
      b. *I sent [his]$_i$ check to [every owner]$_i$.

In (19a), when THEME dominates GOAL, the property is not violated because the quantifier every check c-commands the pronoun. In (19b), when GOAL dominates THEME, the property is violated, resulting in ungrammaticality.

Another piece of evidence supporting the initial merger between GOAL and a dative verb is from the analysis of Radford (2009). He compares the dative argument structure to that of the causative construction. The example in (20) is adapted from Radford's 66 (p. 346).

(20)   He [*v* made [the ball [V roll [PP down the hill]]]].

According to Radford (2009), the contentful verb roll takes GOAL [PP down the hill] complement, and then THEME, the ball, as in (20). When a light verb position (*v*) is filled with another contentful verb made, the light verb is inert and incapable of attracting roll. The word order of VP is [VP THEME [V GOAL]] for every verb requiring THEME and GOAL. This VP structure is also applicable to other verbs under the similar requirements including dative verbs.

2.4.1 Prepositional Dative

In this section, we illustrate the C_{HL} of the English Prepositional Dative (PD) construction. We begin with the process of the Numeration (N) by demonstrating steps in the Numeration in (21) as an example below.

(21)   N = {Mary$_{CASE}$, send, money$_{CASE}$, to, John$_{CASE}$, v (light verb), T$_{PST}$ (tense)

In the first step, *John* and *to* are selected from the lexical array. Both elements are merged into PP, where *John* receives a θ-role (GOAL) from *to* and Case is deleted.

John + to (Merge) → [PP to John]

send is selected and merged with [PP to John]

[PP to John] + send (Merge) → [send [PP to John]]

money is selected and merged with [$_\text{VP}$ send [$_\text{PP}$ to John]]. The merger is VP. When *money* merges to VP as an external argument. It receives a θ-role (THEME) from *send*, but Case is not deleted because V do not carry a matching feature as follows:

[send [$_\text{PP}$ to John]] + money (Merge) → [$_\text{VP}$ money [send [$_\text{PP}$ to John]]]

A light verb (v) is selected and merged to VP. The Case features of (*v*) and *money* are matched and deleted.

[$_\text{VP}$ money [send [$_\text{PP}$ to John]]] + *v* (Merge) → [*v* [$_\text{VP}$ money [send [$_\text{PP}$ to John]]]]

Mary is selected and merged to into *v*P. *Mary* receives a θ-role (AGENT) upon the merger.

[*v* [money [send [$_\text{PP}$ to John]]]] + Mary (Merge) →
[$_{v\text{P}}$ Mary [*v* [money [send [$_\text{PP}$ to John]]]]]

T is selected and merged. The Numeration is exhausted after this selection.

[$_{v\text{P}}$ Mary [*v* [money [send [$_\text{PP}$ to John]]]]]+ T (Merge) →
[T [$_{v\text{P}}$ Mary [*v* [money [send [$_\text{PP}$ to John]]]]]]

Up to this point of computation, both operations Select and Merge are considered costless. Then, the internal representational interface or LF is presumably to be similar to (22)

(22)   LF = [T [$_{v\text{P}}$ Mary [*v* [money [send [$_\text{PP}$ to John]]]]]]

Although (22) is legitimate at LF, it is not at PF because (22) is not the form that English speakers articulate at the S-M interface. The derivation as in (20) is crashed at PF because there are two uninterpretable features from T and *v* still remain unchecked. These uninterpretable features probe for Goal within its locality. T contains a φ-feature

[Case] and the closest Goal is *Mary*, which is still eligible for movement because its feature is not checked off. Then, a φ-feature [Case] of T attracts *Mary* to overtly move to [Spec, TP], where the uninterpretable feature is deleted. Turning to a light verb, its uninterpretable feature has no phonetic component, which fails a mapping into the interfaces of EXP <sound, meaning>. The feature then attracts *send* to adjoin with it. Thus, it satisfies the S-M interface at PF. Another operation, applied before Spell-Out, is Agree, which is "costless". The [Infl: PAST] of T in English agrees with the uninterpretable feature of a light verb [*u*Infl:____] adjoining to a contentful verb *send*, and then instructing the S-M interface to pronounce *send*+PAST as 'sent'. Sentence (23) summarizes operation Agree[12].

(23)　PF = [TP Mary[TPST [vP Mary [*v*+send [VP money [send [PP to John]]]]]]]

　　　　　　　　　　　　　Agree

PD, as in (23), requires two costly operations Move, namely DP to [Spec, TP], and V adjoining *v*.

2.4.2 Double Object

Similar to the computation of its PD counterpart, we begin with the process of the Numeration (N) by demonstrating steps in the Numeration in (24) as an example below.

(24)　N = {MaryCASE, send, moneyCASE, JohnCASE, *v* (light verb), TPST (tense)}

In the first step, *John* and *send* are selected from the array. Both elements are merged into a unit, where *John* receives a θ-role (GOAL), but its Case is not checked off.

John + send (Merge) → [send John]

---

[12] (Chomsky, 2000) applies Agree to both T-to-v (downwards) and v-to-T (upwards) on instead of Move as widely discussed in the earlier version. Thus, the unsettled question that which one is more costly is evaporated. Both are equally costless since Goal c-commands Probe either downwards or upwards without Move.

money is selected and merged into VP as an external argument. It receives a θ-role (THEME) from *send*.

[send John] + money (Merge) → [$_{VP}$ money [send John]]

After a light verb (*v*) is selected and merged with VP, Case in *money* is deleted with a matching feature of a light verb.

[$_{VP}$ money [send John]] + *v* (Merge) → [*v* [$_{VP}$ money [send John]]]

Mary is selected and merged into *v*P. It receives a θ-role (AGENT) upon the merger with the light verb.

[*v* [$_{VP}$ money [send John]]] + Mary (Merge) →
[$_{vP}$ Mary [*v* [$_{VP}$ money [send John]]]]

T is selected and merged. The Numeration is exhausted after this selection.

[$_{vP}$ Mary [*v* [$_{VP}$ money [send John]]]] + T (Merge) →
[T [$_{vP}$ Mary [*v* [$_{VP}$ money [send John]]]]]

During the computation, Select and Merge are applied. Both operations are considered costless and similar to the C-I interface at LF. Then, the internal representational interface or LF is presumably to be similar to (25).

(25)   LF = [T [$_{vP}$ Mary [*v* [$_{VP}$ money [send John]]]]]

Although (25) is legitimate at LF, it is not at PF because there are two uninterpretable features from T and *v* that still remain unchecked. These uninterpretable features must probe for Goal within its locality. Similar to overt movement in PD, T contains a φ-feature [Case] probes for DP. The closest Goal is *Mary*, eligible for movement. Then, a φ-feature [Case] of T attracts *Mary* to overtly move to [Spec, TP], where the uninterpretable feature is deleted. Another overt movement similar to PD is an adjoined

v the V. Because the uninterpretable feature of a light verb has no phonetic component, it then attracts *send* to adjoin to it to satisfy the S-M interface at PF. When the verbs are adjoined, T$_{PST}$ agrees to the adjoined *v+send*. This agreement between a tense feature in T and the verb is pronounced *sent*. Turning to the overt movement unique to DO, triggered by the multiple-Case checking of the light verb, although one of the light verb [Case] features is deleted covertly with *money*, the light verb still contains a strong feature, requiring another DP to delete it. Thus, in order to save the derivation, the computation is forced to check the outstanding Case with *John* by Last Resort, a condition that forces α to move to save derivation from crashing, and it only applies when there is any other possible option (Chomsky, 2000). Therefore, DP *John* has to overtly move to another layer of an empty [Spec, *v*P] to check off the uninterpretable features. Sentence (26) summarizes the overt movements at PF of DO.

(26)   PF = [$_{TP}$ Mary[T$_{PST}$ [$_{vP}$ Mary [*v*+send [John [*v* [$_{VP}$ money [send John]]]]]]]]
                                    Agree

Compared to PD, the derivation of DO is more complex. Firstly, there are three overt movements, namely DP *Mary* to [Spec, TP], V adjoining *v,* and DP *John* to [Spec, *v*P]. According the economy conditions, the derivation of DO is far less perfect than its PD counterpart.

2.5 Thai Dative Constructions

As Thai is different from the target language, English, in many respects. This sub-section aims to provide general information on the properties of the Thai language before the detailed descriptions of dative constructions in Thai.

To understand structures of Thai, two characteristics of Thai are noteworthy. Firstly, from the Generative perspective, Thai Cases can be considered abstract and structurally marked. Secondly, in Thai, Serial Verb Constructions (SVC) are prevalent, and most of Thai dative verbs are expressed by means of SVC.

In respect of Cases, Thai nouns and pronouns are not phonetically and morphemically marked for Cases, as shown in Sentence (27).

(27) a.   Malee (DP)/ tʰɤː (PRN)   tɕɤː   Somchai (DP)/ kʰǎw (PRN)

         Malee / She   meet   Somchai / him

         'Malee/ She met Somchai/ him.'

      b.   Somchai (DP)/ kʰǎw (PRN) tɕɤː   Malee (DP) / tʰɤː (PRN)

         Somchai / He   meet   Malee / her.

         'Somchai/ He met Malee/ her.'

As shown in (27), different Cases cannot be distinguished in Thai pronouns; *tʰɤː* (she/her) and *kʰǎw* (he/him) are identical in form across nominative and accusative Cases. Nor are DPs *Malee* and *Somchai* marked for nominative and accusative Cases.

The second characteristic of Thai, crucial to the hypothesis formulation of this study, involves the presence of serial verbs (Muansuwan, 2002; Sudmuk, 2005). According to Muansuwan (2002) and Sudmuk (2005), serial verb constructions consist of a string of verbs, and the subject of the first verb also serves as the subject of the following verbs. The shared-subject occurs only once with the first verb, and there are no overt conjunctions between VPs. Sentence (28) represents Thai SVCs with each VP in square blankets.

(28)   [Suda dɤːn] slot A   [tʰɯ̌ː nǎŋ.sɯ̌ː] slot B [klap bâːn] slot C

        Suda   walk   hold book   return home

        'Suda is walking to her home and holding a book.'

In (28), there are three slots of [VP] without any conjunctions. The subject *Suda* is the subject of the first slot of [VP]. Without the overt subject, it can be interpreted that *Suda*, the subject of the first verb, is also the subject of the following [VP].

Sudmuk (2005) classifies SVCs into various types according to the functions of the SVCs[13]. She proposes that a Thai verb *hâj* the counterpart of *'give'*,

---

[13] According to Muansuwan (2002), SVCs are classified into three groups – Directional, Aspectual, and Sequential – based on the meaning of a verb in a consecutive VP

when functioning as the main verb, denotes the transfer of possession. The predicate *hâj* requires three arguments: AGENT, THEME and GOAL. The order is fixed, i.e. THEME precedes GOAL, as shown in (29a), reproduced from Sudmuk's (91), p. 55. The reverse order of the two NPs results in ungrammaticality, as in (29b).

(29) a.   Nuan   hâj   kʰanǒm   Jum

               Nuan   give   sweet   Jum

               'Nuan gave Jum the sweets.'

      b.   * Nuan   hâj   Jum   kʰanǒm

               Nuan   give   Jum   sweet

When *hâj* is not the main verb, Sudmuk (2005) classifies the construction with this instance of *hâj* as Give-SVCs. In Give-SVCs, the first verb varies as it is an open-class verb, but the second verb is strictly *hâj*. Sentence (30), reproduced from Sudmuk's (88), p. 53, exemplifies this particular pattern. In (30), the first verb is *súː 'buy'* (an open-class verb) and the second verb is *hâj 'give'*, marking BENEFICIARY. In (30), there is no overt subject of serialized VP. The omission of overt subjects of the following members of verb is common in Thai.

(30)   Kanda   súː   nǎŋ.sǔː   hâj   nɔ́ːŋ

        Kanda   buy   book   give   sister

        'Kanda bought a book for her sister.'

As mentioned in the beginning of this sub-section, the general information essential to the better understanding of Thai have been briefly discussed. The following sections are the detailed descriptions as well as the analyses of Thai dative constructions within the framework of Minimalist Program. Since Thai dative constructions have yet to be analyzed in MP, we are trying to describe properties of Thai dative constructions based on the analyses of the English counterparts. Consequently, only PD and Thai DO,

which are comparable to the L2 target constructions, will presented in the MP perspectives, which SVC is discussed with a separated means.

2.5.1 Prepositional Construction of Thai Dative verbs

A few Thai dative verbs are expressed in PD. These verbs are *hâj*[14] *'give'*, *bɔk 'tell'*, and *pɔ̂n 'feed'*. These verbs are used in a structure with NP (THEME) and PP (GOAL). The prepositions used in this structure are either *kɛ:* or *kap 'to/with'* as presented in (31) below.

(31)	Somchai	hâj	nǎŋ.sǔː	kɛ:/ kap	Suda
	Somchai	give	book	to	Suda

'Somchai gave a book to Suda.'

Before we analyze the construction, as in (31), within the MP framework, it is imperative that the constituent be tested because the status of prepositions in Thai has been controversial. For example, Warotamasikkhadit (1990) claims that there are no prepositions in Thai and all prepositions are the derivations of verbs, nouns, and conjunctions. While, Indrambarya (1995) mentions that the number of Thai prepositions is limited. She chose *kap 'to/with'* to test under the lexical analysis and found that it failed a noun-stranding test and a negation test but passed a topicalization test. She concluded that there are prepositions in Thai; however, she rejected the idea of non-existence together with the board inclusion from traditional grammar.

Since Indrambarya's test employed non-dative verbs, we are using a dative verb to test that both *kɛ:* and *kap 'to/with'* are in fact prepositions in Thai. Sentence (32) is an example of a noun-stranding test[15], which extracts NP from PP leaving a stranded preposition.

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[14] as the main verb

[15] (Indrambarya, 1995) used *khuy 'talk'* and found that a preposition *kap* cannot be stranded, nor can a negation be added in front of the second PP.

(32) Suda   naʔ   Somchai   hâj   nǎŋ.sɯ̌ː   kɛː/ kap

      Suda   TOP   Somchai   give   book   to

      'Suda was the person to whom Somchai gave a book.'

In (32), both prepositions can be stranded; thus, they passed a constituency test in the condition of a dative construction. In (33), we conduct a negation test in the context of a dative construction. A negation *mâːj.tɕâːj* is placed in front of PP.

(33) Somchai hâj   nǎŋ.sɯ̌ː   kap   Suda   mâːj.tɕâːj   kap   Malee

      Somchai give book   to   Suda   NEG   to   Malee

      'Somchai gave a book to Suda but not to Malee'

        Sentence (33) proves that a negation can be placed in front of the second PP, confirming the existence of both prepositions in the dative construction. Since we have proved the existence of a preposition in Thai PD, we apply the analysis of PD under the MP framework to the structure of Thai *hâj* in (29), shown in Figure 2.5 below. The CFCs of C and T are omitted from the schema.

Figure 2.5: Schema of Thai PD
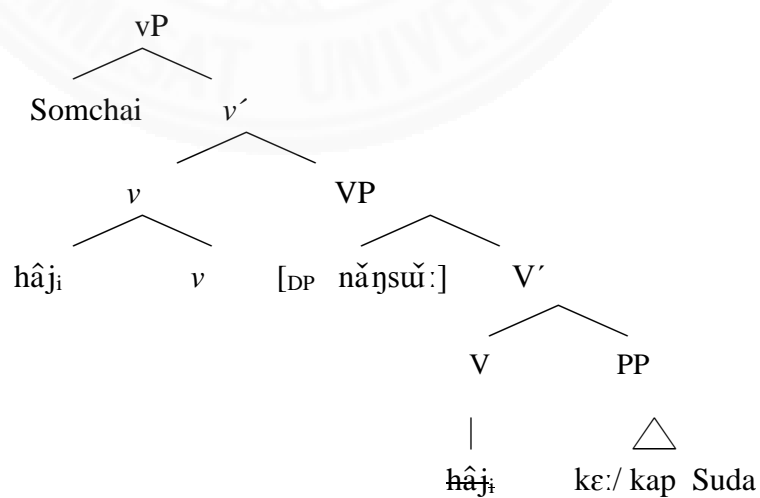
According to Fig. 2.5 from the bottom-up derivation, *Suda* merges a preposition, where the unvalued Case is checked off. Then, PP merges a verb, where GOAL is discharged. Another DP *năŋsŭ: 'book'* merges with VP and receives a θ-role THEME. After that, a light verb (*v*) merges and check the unvalued Case of *năŋsŭ:* THEME. The light verb, in turn, merges DP *Somchai* and discharges a θ-role AGENT to *Somchai*. Then, T merges to the derivation. Since both T and *v* are CFCs and carry a strong feature, which triggers an overt movement. T attracts AGENT *Somchai* to [Spec, TP] and checks of the unvalued Case, and a light verb attracts a contentful verb *hâj* to adjoin it. The derivation of Thai PD is in the same manner with the derivation of English counterpart.

2.5.2 Double Object Construction of Thai Dative Verbs

Regarding Thai dative verbs that can occur in Thai DO, the number of these verbs is limited and duplicated with those that can be expressed in PD. These verbs are *hâj 'give'*, *bɔk 'tell'*, and *pɔ̂n 'feed'*. Since the word order of Thai DO is VERB THEME GOAL, which is similar to that of PD, there is a question asking whether Thai DO exists or it is actually PD with an omitted preposition, as in (34).

(34) Somchai   hâj   năŋsŭ: Suda
Somchai   give   book   Suda
'Somchai gave Suda a book.'

In the following analyses, we employ a series of constituency tests: a co-ordination test in (35), a negation test in (36), and a topicalzation test in (37), to confirm that DP can act as GOAL in Thai. Thus, a construction of Thai DO exists.

(35) Somchai   hâj   năŋsŭ: Suda   lɛʔ   Malee
Somchai   give   book   Suda   and   Malee
'Somchai gave Suda and Malee a book.'

In (35), another DP *Malee* can coordinate with the preceding DP *Suda*.

(36) Somchai   hâj   nǎŋsɯ̌ː   Suda   maːj.tɕaːj   Malee

Somchai   give   book   Suda   NEG   Malee

'Somchai gave Suda but not Malee a book.'

In (36), a negation can be placed in front of the second DP *Malee*.

(37) Suda   naʔ   Somchai   hâj   nǎŋsɯ̌ː

Suda   TOP   Somchai   give   book

'Suda was the person to whom Somchai gave a book.'

In (37), DP *Suda* can be topicalized. All of these constituency tests confirm that the second DP is a constituent in Thai DO.
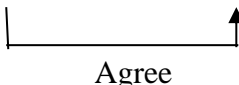
As the word order of Thai DO is different from that of English, the Minimalism describes the variation among languages attributed to the strengths of functional features. The functional category responsible for the DO word order is a light verb (*v*). The primarily strength of a light verb is to attract a contentful verb to adjoin it. This feature occurs in both English and Thai. However, because GOAL in DO of both languages has no element to check off its unvalued Case, known as Dative, a light verb is forced to render an additional case checking. Despite its primary Accusative checking, a light verb checks off the unvalued Case of GOAL to save the derivation. According to the MP perspective, a movement in a pied-piping fashion to [Spec, XP] is considered overt and must be applied before the Spell-Out. The analysis of English DO in (38) is reiterated below.

(38) PF = [TP Mary[TPST [vP Mary [v+send [John [v [money [send John]]]]]]]

Agree

DP *John* moves to pie-pipe [Spec, *v*P]; thus, it is a strong feature of a light verb in English.

In Thai, GOAL does not move to pie-pipe [Spec,*v*P]; thus, the Case-checking of GOAL is considered covert. Unlike English, a feature of a light verb in Thai DO probing for GOAL is not a strong feature. Sentence (39) represents Thai DO.

(39)   PF = [$_{TP}$ Somchai[T$_{PST}$ [$_{vP}$ Somchai [*v*+ hâj [năŋsɯ̌ː [hâj Suda]]]]]

Agree

In (39), DP GOL *Suda* is in its position where it merges to the computation. As a result, the word order of Thai DO is V THEME GOAL.

2.5.3 Serial Verb Construction of Thai Dative Verbs

As mentioned in the previous sections, very few Thai dative verbs can undergo alternation between PD and Thai DO constructions. The majority of Thai dative verbs are expressed in SVC, and those verbs do not possess the alternation property. It is important to establish a distinction between one group of Thai verbs that can occur in alternation between Thai PD and Thai DO and the other group that can only be expressed in SVC. The theoretical accounts of the first group of constructions are straightforward as both have comparable counterparts in the target language, English. Following the MP framework, the comparisons between Thai PD and English PD and those between Thai DO and English DO in terms of feature strengths can lead to theoretical predictions. Unlike Thai PD and DO, SVC is a unique construction without a counterpart in the target language. Thus, the Minimalist approach is inapplicable. As mentioned in Chapter 1, one argument involves whether two largely different constructions from different languages are the derivations from basically the same structure (Kremers, 2003). [16]

Given the aforementioned reasons, the analysis of SVC below is intended for a better understanding of the construction without resorting to the MP operations. Sentence (40) is an example of SVC.

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[16] Kremers (2003) argues against a strictly minimalistic approach by raising a question as to whether two English possessive forms: Saxon genitive vs. Romance possessive, have basically the same structure.

(40)   Somchai   jɯːn / soŋ   nǎŋsɯ̌ː   hâj   Suda

       Somchai   hand/send   book   give   Suda

       'Somchai handed/ sent a book to Suda'.

As mentioned in 2.5, a serial verb construction consists of two VPs sharing either an internal or external argument with each other, and both VPs are serialized without a conjunction. The construction of sentence (40), by such a definition, is entitled to an SVC. The first VP consists of the main verb and THEME, and the second VP consists of a serialized verb *hâj 'give'* and GOAL. It must be noted that the function of *hâj* as a serialized verb differs from the function of *hâj* as the main verb in Thai PD and DO. According to (Thepkanjana & Uehara, 2008), *hâj* as a serialized verb is a polysemy as a benefective marker. [17] The category of *hâj* is confirmed as a verb in an embedded clause of benefective verbs such as *suí: 'buy'* and *hǎ: 'search'* (Indrambarya, 1998). An auxiliary *tɕaʔ 'will'* is used in Indrambarya's analysis with a benefective verb *suí: 'buy'* to confirm the status of VP *hâj* as in (41).

(41)   Somchai   suí: nǎŋ.sɯ̌ː   tʰaʔ   hâj   Suda

       Somchai   buy   book   FUT   give   Suda

       'Somchai is buying a book, and he will give it to Suda'.

It must be noted that, according to some Thai native speakers, sentence (41) is considered sub-standard. Thus, Indrambarya's (1998) analysis of *hâj* as a verb in a dative construction is not accepted unanimously.

Another VP constituency test of *hâj* as a verb in SVC was conducted by Sudmuk (2005). The do so test replacing the anaphoric VP was implemented. The English phrase do so was translated to *tʰam.ʔàː.ŋ.diaw.kan*. It literally means *'do the same thing.'* Sentence (42) is reproduced from Sudmuk's sentence (105) (2005, p.63).

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[17] as a verb in a verb in Causative and as a coverb, a coined term referring to a verb behaving as a preposition, in Ditransitive

(42)	Kanda	súː	nǎŋ.sǔː	hâj	Jum	lɛ́ʔ
	Kanda	buy	book	give	Jum	and

	Suri	súː	paːkkaː	tʰam.ʔàː.ŋ.diaw.kan
	Suri	buy	pen	do the same

'Kanda bought a book and gave it to Jum and Suri bought a pen and did the same.'

Like the previous analysis of a serialized *hâj,* Sudmuk's (2005) VP constituency test is not accepted unanimously by Thai native speakers. Due to a lack of compelling evidence from previous studies that fully supports the status of a serialized *hâj*, the constituency test is beyond the scope of this present study; therefore, we adopt the status of a serialized *hâj* as a coverb coined by Thepkanjana and Uehara (2008). A coverb *hâj* is neither a verb nor a preposition, but it has properties of both categories.

Because a serialized *hâj* is part of SVC, which is productive in Thai, it is interesting to examine how Thai leaners would transfer a serialized *hâj* to their English dative constructions. Thai learners would possibly transfer SVC literally, or they would not transfer SVC to the target construction. This assumption will be formulated as a hypothesis in Chapter 3.

2.6 Issues in Relation to L2 Acquisition of Datives

In this section, we will present three main issues that revolve around the acquisition of datives by L2 learners, i.e. UG and the role of L1 transfer (2.6.1), L1 acquisition of datives (2.6.2), and research on L2 acquisition of datives (2.6.3).

2.6.1 UG and the Role of L1 Transfer

In SLA research, the knowledge of L2 learners, especially those in their initial stage, has been a crucial point of discussion. Particularly, it remains inconclusive as to how the existing knowledge of L1 affects L2, and how the new knowledge of L2 is constructed. Based on the Minimalist Program, typological diversity of languages results from different feature strengths, which affect overt or covert movements. However, the Computational System for Human Language (C_{HL}),

permissible by UG, is constant across human languages (Chomsky, 1995). Assuming the Minimalist grammatical architecture, C_{HL} represents singular and universal knowledge in UG, which is available to speakers of natural language. Thus, we assume that UG is fully accessible to L2 learners. The 'Full Access' hypothesis is advocated by Schwartz and Sprouse (1996) and Epstein, Flynn, and Martohardjono (Epstein et al., 1996). Despite their similar stance on Full Access, Schwartz and Sprouse (1996) claim that L1 grammar is entirely transferred to L2 during the initial stage, while Epstein, Flynn, and Martohardjono (1996) oppose the full L1 transfer. The main difference between these two 'Full Access' accounts lies in the role of L1. The following sections present SLA studies supporting Schwartz and Sprouse's (1996) Full Transfer/ Full Access (FT/FA) and other studies supporting Epstein, Flynn, and Martohardjono's (1996) Full Access. Schwartz and Sprouse (1996) propose the Full Transfer/ Full Access (FT/FA) model. They argue that L2 speakers during the initial stage will transfer the knowledge available in their L1 into L2. As L2 speakers use the target language more often, they soon discover that some structures transferred from the L1 are ungrammatical in the L2. They, then, restructure their knowledge of the L2 through UG, which they have full access to. The restructuring progresses as L2 speakers use more target language. Because FT/FA is based on restructuring upon inputs of L2, such restructuring of existing knowledge is not part of L1. Schwartz and Sprouse (1996) claim that L2 speakers never reach the grammar of L1 speakers. Haznedar's (1997) longitudinal study on a Turkish speaking child's acquisition of English confirms the FT/FA model. The Turkish child at his initial stage, during the first three months, transferred Turkish word order (SOV) to English (SVO). Another advocacy of the FT/FA model is Slabakova's (2000) cross-linguistic study on the effects of L1 (Spanish and Bulgarian) on English telicity. The results of each group can be traced back to the structure of their L1. The full access to UG at the initial stage regardless of age-related constraints is found in Montrul and Slabakova's (2003) study. They discover that advanced English speakers of Spanish can overcome the parametric option in L1 as a result of the full accessibility to UG. However, Schwartz and Sprouse's (1996) Full Transfer/ Full Access model is argued whether the entirely knowledge of L1 grammar is transferred to L2.

In another Full Access to UG proposed by Flynn and Martohardjono (1994), L2 learners have access to the cognitive facility or UG, and the learning process constrains their L2. Epstein, Flynn, and Martohardjono (1996) have a similar claim, i.e. UG is fully accessible at the initial stage of L2 acquisition; particularly, Functional Categories such as IP/ CP, which are parts of UG, are readily available. Epstein et al. (1996) found that Japanese speakers of English were able to perform imitations of IP/ CP in English. They found in their experiments that the accuracy of IP (Past Tense, Negation, Modal) was higher than that of CP (Wh-question, Topicalization, Relative Clause), which, according to them, suggests effects from longer movement in the L2 performance of CP. As they did not find any evidence that would suggest L1 transfer in the participants' performance of IP and CP, Epstein et al. (1996) conclude that L2 early stage grammars progress without L1 transfer.

The two different proponents of Full Access notwithstanding, it can be concluded that they agree in UG availability to L2 learners. UG is referred to, in the Minimalist Program, the Computational System for Human Language (C_{HL}). The uniformity of LF is assumed. Hypotheses in SLA research, adopting the MP, are typically formulated on the basis of differences in L1 and L2 feature strengths. For example, Wakabayashi (2002) conducted a study on the acquisition of non-null subjects of English by Japanese and Spanish learners. He categorized L1 (Japanese/Spanish) and L2 (English) features based on the MP perspective. The results showed that the Japanese group performed better than the Spanish group in detecting the ungrammaticality caused by the lacks of overt subjects. In the discussion, he questioned if the classical Pro-drop parameter was applicable. Particularly, if the Pro-drop parameter was required in making predictions, no predictions could be made as a Japanese-type language was absent from Pro-drop related criteria. Regarding the role of UG in the MP, Hopp (2005), who investigated German word orders of English and Japanese learners, claims that UG is directly accessible irrespective of L1, and L1 effects are manifested in gradient grammaticality judgments. These two studies provide us with a better insight into SLA research in terms of UG accessibility and feature strengths of the L1 and L2.

2.6.2 L1 Acquisition of Datives

Within this group, researchers (Conwell & Demuth, 2007; Fischer, 1972; Snyder & Stromswold, 1997; Su, 2010) observe when and how L1 English children have acquired Prepositional Dative (PD) and Double Object (DO). They assert that the construction produced earlier is the underlying structure of the other construction. In terms of interpretation, they also believe that the underlying construction should be easier for L1 children to interpret.

In terms of the sequence of PD and DO, Snyder and Stromswold (1997) compiled the data of the first occurrence of structures of twelve English speaking children whose ages ranged between 1;4 and 2;6 from a corpus, CHILDES. The results show that both structures are significantly correlated; however, DO is acquired significantly earlier than PD.

Moreover, to examine whether or not constructions derived from NP-movement occurred before datives, Snyder and Stromswold (1997) compared the age of the first occurrence of both datives to the first occurrence of structures related to NP-movement: unaccusative[18] and passive. They found no correlation between both datives and the other NP-movement constructions. To confirm the claims that dative verbs are members of a VERB-particle class, consisting of the *put-class* or *causative/ perceptual* class[19], they also investigated the first occurrence of both datives and that of the *put-class* and *causative/ perceptual-class* verbs. Correlation was found between both datives and the verbs belonging to the *put-class* and causative/perceptual constructions.

Campbell & Tomasello (2001) employed corporal data from Snyder and Stromswold's (1997) study. Their main objective was to find whether *give* and *show* are pathbreaking verbs that are the prerequisites of the acquisition of other dative verbs. However, the pathbreaking verbs of dative verb class were not found.

In terms of interpretation, Fischer (1972) found that preschool English-speaking children performed in an act out task with PD more accurately than they did the DO. Fischer (1972, p. 104)'s (16) (12) (13) test sentences for acting out tasks are reproduced as (43).

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[18] (Snyder & Stromswold, 1997, p. 294) unaccusative: *break, come, fall, grow, leave*
[19] Snyder & Stromswold, 1997, p. 296) perceptual: *hear, make, see, watch*

(43)   a.   The farmer is feeding the turtle the cookie.

            b.   The farmer is feeding the snake to the turtle.

            c.   The farmer is feeding the turtle the snake.

According to Fisher's (1972) conclusion, the children used animate possibilities to interpret the indirect object as (43a), and a preposition *to* as a cue to mark the indirect object as in (43b). When *to* was missing in DO (43c), the children had difficulty interpreting the meaning.

Conwell and Demuth (2007) had sixteen 3-year-old English speaking children repeat command sentences, and act out in accordance with the commands they repeated. The verbs were newly coined *pilk* and *gorp*. The results indicate that the children could use the dative alternation for both coined verbs. However, a preference on PD was found.

More recently, Su (2010) found that English speaking children at the age of 4 to 6 could interpret both dative constructions of verbs *give, throw,* and *bring* through pronoun references from story-telling tasks as adults could. She, then, concludes that L1 children have knowledge constraining dative as adult knowledge.

In addition to research on L1 children, Bresnan and Hay (2008) conducted a corporal study, on how English adult native speakers in the U.S. and New Zealand use verb *give*. The data were analyzed by means of regression. Following Bresnan's regression research methodology, Theijssen et al. (2009) investigate English Benefactive-dative verbs. Both research studies discover that L1 adult pragmatic usage trigger L1 speakers to prefer one type over the other. Both groups found that PD is frequently used when the GOAL or BENEFICIARY is heavy, so is the DO, when GOAL or BENEFICIARY is animate or pronominal. In a later year, Wolk, Bresnan, Rosenbach, and Szmrecsanyi (2013) retrospectively initiated an extensive corporal search of English dative constructions from all possible verbs. From the ARCHER Corpus, which comprises data from 1650-1989, their findings reveal constant results through time: DO has been used approximately 60%, and PD 30%, of the time.

2.6.3 Research on L2 Acquisition of Datives

This section presents research on the acquisition of English dative constructions by L2 learners of different linguistic backgrounds. These studies attempted to examine the role of L1 in illicit English dative alternation (Hamdan, 1994; Inagaki, 1997; Oh & Zubizarreta, 2005; Whong-Barr & Schwartz, 2002) and to ascertain if syntactic priming affects production of dative constructions (Jiang & Huang, 2015; McDonough, 2006; McDonough & Nekrasova-Becker, 2012). In addition to these studies, the acquisition of Spanish (Montrul, 1999) and German (Liamkina, 2008) datives are presented as evidence claimed to support L1 structural transfer.

Hamdan (1994) investigates the acquisition of dative alternation by Arabic speakers. Arabic allows dative alternation to certain verbs, some of which correspond to English dative verbs. The English verbs chosen were those that had Arabic counterparts; there were two groups, those licit and those illicit for alternation. The verbs licit for alternation are *give, tell, grant, show, teach, inform, deliver*, *feed*, and *lend,* while the verbs illicit for alternation are *choose, bake, donate, draw, build*, and *submit*. Of noteworthy is that all of these verbs are licit in the prepositional construction. In the Grammaticality Judgment, Picture-based Production, and Translation tasks, the Arabic speakers accepted the PD of English more frequently than DO. Hamdan points out that the less-markedness of PD accounts for the higher acceptability score. This study also discovers the overextension of Arabic alternation to illicit verbs in English. The study concludes that L1 effects decrease as the English proficiency increases.

Inagaki (1997) also tests licit vs. illicit of two pairs of verbs, i.e. Tell vs. Whisper and Throw vs. Push, using Acceptability Judgment, presented in a 7-point Likert's scale questionnaire. He conducted his research on Chinese and Japanese learners of English. The AJ results were predicted based on L1 backgrounds. The focal point was on the result of *tell* in DO because, only in Chinese, the counterpart of *tell* is allowed in DO. Since DO is very restricted in the learners' native languages, Inagaki predicted that PD would be more favorable than DO in both groups. However, only the Chinese group would accept *tell* in DO because of its availability in Chinese. The

findings revealed that both Chinese and Japanese groups preferred PD to DO, and both groups accepted DO of *tell* at higher rates than any other verb.

Schwartz and Whong-barr (2002) conducted a cross-linguistic experiment to compare the acquisition of English *to-* and *for-* datives by L1 English, L1 Japanese, and L1 Korean. They focus on the dative alternation between PD and DO. They hypothesized that both Japanese and Korean children would accept PD at higher rates than DO because DO does not exist in both Korean and Japanese. The results confirmed this hypothesis. Then, they predicted that both Japanese and Korean children would overgeneralize the dative alternation to illicit verbs as English native children did. They found that native and non-native children overextended DO to Latinate verbs such as *demonstrate*, *explain,* and *whisper*. Another Schwartz and Whong-barr's prediction was that the Korean children would accept the alternation of for- dative (BENEFICIARY) verbs because Korean allows DO in certain BENEFICIARY verbs with an overt marker *cwu-*. On the other hand, the Japanese children would reject BENEFICIARY DO due to the unavailability of a marker in Japanese. However, they found that the Japanese children accepted BENEFICIARY DO at the highest rate (70%), and the Korean children only accepted DO at the same rate as English native speakers (14%). The Korean children also rejected illicit DO of *finish, fix, hold, keep,* and *watch,* despite the fact that all of them are licit DO in Korean. Schwartz and Whong-barr maintained that the Korean children attended to Morphology Transfer (Montrul, 2000) of equivalence to an overt marker *cwu-* in Korean. When they did not hear an equivalent marker to *cwu-,* they rejected the English DO construction.

Oh and Zubizaretta (2005) replicated the set of verbs used in Schwartz and Whong-barr's (2002). They conducted an investigation with Korean and Japanese speakers, whose L1s are overtly marked for dative Case, but differently from English, to determine if L1 would play a role in the usage of L2.In Japanese, the DO construction of GOAL-dative is marked with *–ni*, and in Korean, the DO construction is limited to only three verbs, whose English meanings are *'to give', 'to feed'*, and *'to teach'*. Both Japanese and Korean Benefactive verbs co-occur with a light verb (*agenru* in Japanese and *-cwu* in Korean) meaning '*give'* in English. Oh and Zubizaretta observed L2 learners across language proficiency levels. Their findings confirm the effects of language transfer because both Japanese and Korean groups rejected both

licit and illicit Benefactive verbs more strongly than they rejected the GOAL verbs. This supports the transfer-based explanation since there is no light verb, which means '*give'*, in English Benefactive verbs. Moreover, the more correct judgment of the GOAL verbs is explained through the frequency-based explanation; the inputs of the DO GOAL-verb construction outnumber of those of the Benefactive-verb. In terms of L2 proficiency, the correct rejection was greatest among the advanced, and it gradually drops with the intermediate, and the beginning learners.

As regards syntactic priming, Jiang and Huang (2015) discovered positive effects of priming on the acquisition of the English DO construction by Chinese L2 learners. These DO structural priming effects were found in both short-term and long-term in picture description tasks. In their conclusion, Jiang and Huang pointed out two limitations of their study. Their study did not employ diverse L1 background, and all of the subjects were in the same proficiency level—lower intermediate. They suggested that the DO strutural priming might have different effects on L2 learners of other linguistic backgrounds and other proficiency levels.

McDonough (2006) studied priming effects on English learners from diverse native language backgrounds. He discovered that, during a conversation among L2 speakers, they usually produced either PD or DO, based on the construction that was previously spoken or heard. According to priming results, when both PD and DO were primed, the priming effect was only found in PD. When only DO was primed, the result showed no evidence supporting the effect. In a recent study, McDonough and Nekrasova-Becker (2012) investigated the effects of three priming types on Thai EFL learners. The verbs were tokens from the class of *send, give, make, throw,* and *owe*. The priming types were tokens skewed towards *send*-type, randomly mixed tokens, and balance tokens from all types. After a 2-week intervention, the results showed that priming of the balance tokens was most effective in DO strutural priming.

As regards the acquisition of dative constructions by L2 learners of linguistic backgrounds different from English, the L1 structural transfer was found in the following studies. Montrul (1999) examines French and English learners of Spanish, to see if there would be influence from the L1s on the acquisition of Spanish. With respect to dative case, French and Spanish mark dative case on their pronouns morphologically, while English does not. She found out that the French group

outperformed the English group in Spanish dative case. This study strengthens the transfer-based explanation, since French and Spanish show dative distinctions in their pronominal system, while English lacks this distinction.

Liamkina (2008) observes seven English speakers of German on how they use German dative case since it is semantic related and more complex than the English dative or indirect object. German dative is morphologically marked and expressed in clausal dative. The dative NP refers to the patient who is affected by the clausal action. In a story telling task, except for one advanced speaker, all German L2 participants used the English dative construction with prepositions zu *'to'* and für *'for'* instead of German clausal dative. Liamkina (2008) remarks that although Germans understood the prepositional dative, no native speakers produced this pattern of datives. This study suggests the effect of L1 (English) transfer to L2 (German).

It can be concluded at this point that SLA research on English dative constructions has been done in two areas, i.e. PD/DO alternation and priming effects. The researchers examined if L2 learners would overgeneralize the alternation to illicit English verbs, and their predictions were based on L1 morphosyntax and structures. The other issue involves effects of priming English dative constructions for language teaching purposes. The findings from the acquisition of dative cases in other languages (Liamkina, 2008; Montrul, 1999) reveal L1 influences on the acquisition.

To date, there has not been research on L2 acquisition of dative constructions conducted with learners whose L1s, such as Thai, do not overtly mark dative Case[20]. Studies by Hamdan (1994), Inagaki (1997), Oh & Zubizaretta (2005), and Whong-Barr & Schwartz (2002) explored overgeneralization of illicit verbs, and not the L2 development of dative constructions. Our study will contribute to L2 development in the area of dative constructions exclusively. Methodologically, it will closely assess the learning of datives of learners at different L2 stages. In addition, two different tasks, representing perceptual and productive modes, were used to obtain comprehensive views. Theoretically, our hypotheses were framed within the Minimalist Program, which is able to account for the DO structure, a controversial issue in the GB framework. In terms of L1 transfer, as none of the reviewed studies (Montrul,

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[20] The study by McDonough and Nekrasova-Becker's (2012) with Thai EFL learners sought to find out the most effective method of priming. They did not use L1 properties in their hypotheses.

1999; Liamkina, 2008) were conducted with L2 learners of English, we incorporated English structures predicted to be influenced by L1 into our hypotheses by an empirical means.

We conducted two different surveys prior to the formulation of L1-related hypotheses. The first survey study, conducted in March 2014, aimed to test whether the knowledge of argument structures, Double Object and Prepositional Dative, could be assumed for L1 Thai learners. The subjects were 24 first-year Engineering students, recruited via convenient sampling, from a university in Bangkok. We employed the Grammaticality Judgment (GJ) task, featuring five dative verbs: *give, send, show, hand,* and *throw*, used in Oh and Zubizarreta's (2005) study. The test consisted of 20 target dative structure items and 20 fillers. We predicted that the Prepositional Dative should be judged more accurately than the Double Object since Thai has the (V NP PP) structure corresponding to English PD. The results showed that the students performed PD more accurately than DO. There was a significant difference between PD and DO, (t (1, 23) =3.365, p< .01). In addition, there was a significant relationship between the two target constructions (r=.561, p <.01). The results from the first survey suggest that the availability of PD in Thai might be a favorable factor. The *t*-value indicated that both PD and DO constructions were different but correlated, in line with the MP in the sense that the uniformity at LF of the Computational System for Human Language (C_{HL}) is diverse at PF. In other words, the same knowledge of dative verbs is surfaced in two variations.

The objectives of our second survey were to investigate how Thai learners use the five dative verbs: *give, send, bring, lend,* and *hand* in a translation task from Thai to English, and consequently L1-related patterns would be revealed. Recruited in October 2016, the subjects comprised 39 students in a beginning group and 32 students in an intermediate group from two different universities. The participants were asked to translate 10 Thai dative sentences into English. The Thai dative sentences consisted of one PD, one Thai DO (THEME GOAL), and eight Serial Verb Constructions (SVC)[21]. The results showed that PD was produced at a higher percentage than DO in both groups. The beginning group produced PD (64.7%) and

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[21] These numbers reflected the unbalanced structures in Thai Dative. Among these five verbs, only the counterpart of *'give'* can be used in PD and Thai DO, while the others are exclusively used in SVC.

DO (3.9%), while incorrect constructions accounted for 31.4 %. The intermediate group produced PD (93.1%) and DO (6.8%) without errors. When we looked into the incorrect constructions of the beginning group, we discovered that 85.62 percent of the incorrect constructions were in Serial Verb Constructions (SVC). The results of the second survey suggest that PD is more favorable than DO in the translation task across proficiency groups. In addition, the L1 construction of SVC affects the L2 production among the beginners. From these findings, we were entitled to include SVC as another factor in the formulation of our hypothesis in relation to L1 (to be discussed in Chapter 3).

CHAPTER 3
HYPOTHESES

In the beginning of this chapter, section 3.1, we establish the selection criteria of English dative verbs to be used in hypothesis formulation. The criteria are based on phonological rules (Pinker, 1989) and a regression model for the English dative alternation in corpus data (Bresnan, Cueni, Nikitina, & Baayen, 2007). After that, in section 3.2, we present four English dative verbs that meet the criteria. To better predict the outcomes likely to be influenced by the learners' background language, in section 3.2.1, we summarize the information on the properties of Thai counterparts of the four English dative verbs under investigation.

In the hypothesis formulation section (3.3), we seek to gain insights by using two approaches (i.e. theoretical framework and L1 availabilities) to understand how Thai learners acquire English dative constructions. Firstly, regarding the framework, Chomsky's (1995) Minimalist Program (MP) is the basis on which Hypotheses 1 and 2 are formulated. Adopting the MP framework, we compare the feature strengths of both English and Thai dative constructions, and then, make a prediction based on the economy conditions.

However, the acquisition and knowledge of second language is not as unconscious as the knowledge of learners' background language. The second language acquisition is developed on UG, which has already been instantiated by the first language (White, 2003). For this reason, in addition to the theoretical framework, we also consider possible effects influenced by learners' language, Thai, and formulated Hypotheses 3, 4, and 5 with Thai structural predictions. In this respect, the sub-sections continue to explain how Thai relevant structures are likely to impact the target construction, and how the impacts are expected to be observed in each group of learners with different L2 proficiency levels.

3.1 Selection Criteria of Dative Verbs

The key element we employed in selecting verbs was the ability to alternate between PD and DO. To render this alternation, the selected dative verbs must comply with these properties: i.e. phonological and morphological rules (Pinker, 1989) and the animacy of GOAL, based on a regression model from corporal data (Bresnan et al., 2007).

3.1.1 Phonological Rule

In reference to Pinker's (1989) phonological rules of English dative verbs (discussed in 2.3.1), although some verbs such as *donate*, *explain*, and *construct* share similarities in their meaning and the structure (V NP PP) with those of dative verbs such as *give*, *tell*, and *build*, respectively, these verbs cannot be dativized. In addition to the phonological and morphological rules, Larson (1990) attributes the non-alterable property to the adjunct status of PP. For example, *donate*, whose PP in (44a) behaves as an adjunct, can be understood with absence of GOAL, while *give* is meaningless without GOAL. Sentences (45) and (46) are adapted from Larson's (47a), (47b), p.618.

(44) a. John donated [NP a book theme: complement] [PP to the library beneficiary: adjunct.]

b.*John donated [NP the library beneficiary: adjunct] [NP a book theme: complement.]

(45) John gave that money *(to Mary goal: complement).

(46) John [donated/ gave away/ distribute] that money (to charities beneficiary: adjunct).

Based on the phonological and morphological constrains (Pinker, 1989) and their status as an adjunct (Larson, 1990), this study excluded some verbs like *donate*, *explain*, and *construct* from the experiments because they lack the property of alternation.

3.1.2 Animacy of GOAL

Bresnan et al. (2007) found, in American and New Zealand corpora, that alternation of a dative verb *give* is possible with animate GOAL, and is impossible with inanimate GOAL. Theijssen et al. (2009) produced a regression model on more

dative verbs, besides *give*, and reached the same conclusion about the animacy. In (47), the structure of (47a) resembles the prepositional dative construction (V NP PP). However, GOAL in (47) is inanimate; as a result, such instance cannot be alternated and is excluded from this study.

(47)   a.   Peter sent money to London[22].

         b.   *Peter sent London money.

          Moreover, in (48), although it seems that there is an alternation between PD in (48a) and DO in (45b), GOAL is inanimate. As a result, such instances, alterable with inanimate GOAL, are also excluded from this study.

(48)   a.   John fed data to the machine.

         b.   John fed the machine data.

3.2 Dative Verbs under Investigation

          Based on the selection criteria, these four verbs were chosen: *give*, *tell, hand*, and *send*. In addition to the criteria in section 3.1, we considered the limitation of Thai dative verbs. This limitation is ascribed to the scant number of Thai dative verbs expressed n PD and Thai DO (THEME GOAL), whereas the majority are expressed in Serial Verb Construction (SVC). Thus, the distributions of Thai dative verbs among these three constructions are disproportionate. To balance the tokens representing all Thai dative constructions, we included *tell* as one of the tokens. The Thai counterparts of *give* and *tell* are the representations of PD and Thai DO, while the counterparts of *hand*, and *send* are the representation of SVC. Despite the fact that *tell* is different from the other three verbal tokens, *tell* was included for the purpose of testing hypotheses predicted by L1 effect. Concerning the English constructions of the tokens, *give*, *hand*, and *send* must be exclusively used either in PD or in DO, but *tell* can also be used,

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[22] PP '*to London'* in (41a) is a locative argument, not a recipient.

besides PD and DO, in other constructions, namely *"tell someone about something"* or *"tell someone that…"*

3.2.1 Thai Counterparts of the Selected Dative Verbs

This section summarizes the characteristics, as discussed in section 2.4.1, of the Thai counterparts of *give*, *tell*, *send,* and *hand.* These Thai corresponding verbs to the four English dative verbs are presented in Table 3.1. The structures of these Thai corresponding verbs will be involved in the formulation of our hypotheses in the following section.

Table 3.1: Corresponding Thai Verbs to English Verbs under Investigation

English dative verb	give	tell	hand	send
Thai dative verb	hâj	bɔ̀k	jɯ̂ːn	sòŋ
Thai dative construction	PD and Thai DO	PD, Thai DO, and SVC	SVC	SVC

Remarks: Thai DO refers to Thai Double Object (THEME GOAL) and SVC to Serial Verb Constructions.

3.3 Hypotheses

As discussed in Chapter 2, according to Chomsky (1995), Computational System of Human Language (C_{HL}) operates in two interface levels. At the semantic component (LF), both PD and DO are originated from a single abstract concept. This concept comprises the properties of dative verbs that require three theta-roles; namely, AGENT, THEME, and GOAL. These roles are mapped into a proposition at the semantic component. Furthermore, Chomsky (1995) notes that the differences such as in word order are visible at the phonological level or PF. The displacement of lexical items from positions, mapped in a logical proposition, is considered as 'cost', which is

language specific –one language may require more costly operations than others (p. 346)[23]. These costly operations, known as Move, are triggered by strong features.

In this present study, we assert that L2 learners, including Thai learners of English, would acquire the target construction that is more economical prior to the construction that requires costly operations. Within this theoretical framework, we refer to our analyses of PD and DO in section 2.4.1 and 2.4.2, respectively. Hypothesis 1 is based on the comparison of strong features between PD and DO, singling out one with more costly operations that would be more difficulty for L2 learners. Hypothesis 2 aims to test learners' knowledge of Case-checking. As discussed in the previous chapter, the core functional categories of T and v, which contain strong feature(s), are responsible for Case-checking, one set of test sentences contains a light verb (v) without a strong feature; thus, it fails the property of being a core functional category. The other set of test sentences features the strong core functional categories of T and v, but the word order is arranged in PP (GOAL) and THEME. According to the theoretical framework, the error of a weak core functional category, v, should be considered by L2 learners to be more unacceptable than the error from word order. Hypotheses 1 and 2 are formulated as follows:

Hypothesis 1: Thai learners, regardless of proficiency levels, will accept and produce the PD construction at a greater rate than the DO construction, on the basis that the PD construction requires fewer syntactic operations to convergence at PF.

Hypothesis 2: Thai learners with low proficiency will reject test sentences containing a weak light verb more strongly than test sentences containing an error in word order of V PP (GOAL) THEME. However, such rejection of both types of error will not be significantly different among the high proficiency group.

On the basis of economy condition, we demonstrate in section 2.4.1 that PD is more economical than DO, considering feature strengths. In PD, there is no overt movement of GOAL; therefore, it can be concluded that a preposition *to* does not contain a strong feature, and dative Case is covertly checked off against the preposition. As a result, the target construction of PD would not be difficult for L2 learners to acquire.

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[23] He also uses the terms 'ECONOMY', referring to 'least effort', and his example involves English *do*-insertion, showing this costly operation specific to only English.

In contrast to PD, the Double Object (DO) construction is obviously less economical and technically requires more operations to derive. Thus, DO is theoretically projected to be more difficult to acquire than PD. The costly operations in DO involve overt operations Move of DP (GOAL), bundled with dative Case, to [Spec, *v*P] to check off its feature with a strong light verb (*v*).

Following the property of a light verb (*v*) as mentioned earlier, Hypothesis 2 investigates the learners' knowledge of a strong feature of *v*. Within the Minimalism, Chomsky (2000) considers core functional categories such as T and *v* must contain strong feature(s), and these features are responsible for Case-checking. In Hypothesis 2, it is predicted that L2 learners from all proficiency levels should recognize the error from a weak light verb more easily than the error from the wrong word order. The first type of error is theoretically violated, but the latter is not. The wrong word order is subtle to detect; consequently, the more advanced learners should be able to recognize it. Considering different proficiency levels, the beginners should be able to recognize only the error from a weak light verb, but the more proficient learners should be able to detect both types of errors from a weak light verb and the wrong word order.

In addition to the theoretical framework, the existing structures in the learners' first language would have certain impacts on the acquisition of L2. Hypotheses 3, 4, and 5 are not only built on the MP framework but also on influences from learners' L1 that might affect the acquisition process.

First, due to the similarities in PD between English and Thai in term of feature strengths as discussed in Chapter 2.5.1, Hypothesis 3 examines a possible facilitation from the knowledge of structure in learners' L1 to the acquisition of the target language. From Table 3.1 in section 3.2.1, there are two Thai verbs, namely *hâj* and *bɔ̀k*, which are permissible in PD. The prediction in Hypothesis 3 is that the correlation would be found in the PD acceptance rates of *give* and *tell*, the English counterparts of *hâj* and *bɔ̀k*, respectively. Hypothesis 3 is formulated as follows:

Hypothesis 3: The acceptance rate of PD structure of *give* and *tell* would correlate, regardless of the proficiency levels, due to the similarity of syntactic operations from the Thai counterparts of both verbs.

It is noteworthy that we did not use inferential statistic tools to compare the average scores of PD test sentences between two sets of verbs: *give* and *tell* vs. *hand* and *send*. Because the rejection of *hand* and *send* in PD is not expected, the knowledge of PD is conceptually derived from a single abstract knowledge. This knowledge can possibly be extended to other verbs besides *give* and *tell*. In other words, the learners' Interlanguage might originate from a single concept, and not from word-by-word translations. Therefore, it is untenable to assume that Thai learners would only accept PD of *give* and *tell* and reject PD test sentences of other verbs. Then, differences in the average scores would not have been assumed.

Our next predictions in Hypotheses 4 and 5 are based on the structures not utilized in English— Thai DO (THEME GOAL), and Serial Verb Construction (SVC). Based on more costly operations to derive English DO as illustrated in section 2.4.2, we anticipate that Thai learners in the early stage of L2 development would accept Thai DO at a significantly higher rate than English DO. Considering differences in feature strengths, a Thai light verb (*v*) in DO does not have a strong feature for Case to trigger an overt GOAL movement, while a light verb in English DO does.

Conforming to the economy conditions, a costly operation Move is less preferable to the optimality in language design (Chomsky, 1995). There is a possibility that the beginners would apply the more economical operations from the L1 relevant construction to the target DO. This application should be detectable in the significantly higher acceptance rate of the test sentences, constructed in L1 word order of THEME GOAL, than the acceptance rate of the target DO. In reverse, those who are in the later development would become familiar with L2 input and acquire the strong feature of English. Thus, the acceptance of English DO would increase, and, in turn, the acceptance of Thai DO would decrease. We have solid grounds to formulate the fourth hypothesis as follows:

Hypothesis 4: Thai learners in the early stage of L2 development would accept Thai DO at a significantly higher rate than English DO. When the proficiency increased, L2 learners would accept the target English DO and reject Thai DO.

Our last hypothesis involves effects of Serial Verb Constructions (SVC). Since the syntactic operations of SVC are complex, Thai learners would avoid applying SVC to constructions of another language including English. Considering solely on the

theoretical perspectives, the possibilities of SVC in the course of L2 acquisition would be negligible. However, despite few studies conducted primarily on the effect of SVC on L2 acquisition, the transfer of SVC to the target constructions were found in literature. Helms-Park (2003) investigated effects of SVC transfers on Vietnamese learners of English. The study compared the usage of English causative sentences between Vietnamese and Hindi-Urdu learners. The study found that only Vietnamese learners used their L1 SVCs to construct English causative, but none of Hindi-Urdu learners, whose language is not serialized, used SVC. Helms-Park concluded that the learners, whose L1 utilizes SVCs, would reflect the serialized construction in their Interlanguage. Furthermore, in that study, the use of SVCs in the target English causative decreased among advanced Vietnamese learners of English. The second research that served as a basis for our hypothesis is Witoon and Singhapreecha's (2012) study on the acquisition of English psych verbs by Thai learners. This research discovered that Thai learners used English psych verbs in causative constructions with an additional verb. In the study, the beginners accepted Object Experiencer, such as in the object of a verb *frighten*, with the lowest score. These findings reflected the effects of the SVC utilization in the learners' background language, Thai, on a novel construction in L2. In Thai, the counterpart of *frighten* is expressed in a causative sentence with two verbs.

According to Helms-Park's (2003) findings, it is possible that the costly SVC would be transferred to L2 acquisition during the development learners' Interlanguage, whose L1 is utilized in SVC. In addition, Witoon and Singhapreecha's (2012) findings substantiate the possibilities that Thai learners in the beginning level of English proficiency would insert an additional verb[24] to the target construction in English such as that of psych verbs, for which only one verb is required.

In combination of the MP framework and the empirical data from related studies (Helms-Park, 2003; Witoon & Singhapreecha, 2012), we constructed the fifth hypothesis as follows:

Hypothesis 5: Thai learners at an earlier stage would accept test sentences in SVC, but those at a more advanced stage would reject them. However, regardless of

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[24] In Witoon and Singhapreecha's (2012) psych verb research, Thai learners added an additional verb *<make V_en>* to the target construction.

proficiency levels, *give* SVC test sentences, whose L1 counterpart is not expressed in SVC, would be rejected.

   The next chapter presents the methodology in the present study.

CHAPTER 4
METHODOLOGY

In this chapter, we will describe the methodology of the present study, which includes participants, tasks and test materials, task presentation, scoring, and data analyses.

4.1 Participants

There were two groups of participants: native English-speaking controls and Thai learners.

4.1.1 Experimental Groups

Thai subjects were student volunteers from two universities and one high school in Bangkok. The first institution is a renowned, public university offering degrees in humanities, social sciences, science and technology and health sciences. The second institution is a private institute which conducts vocational training and internships. Student participants in the first and second institutions varied in their English language abilities. On average, those from the first institution were more proficient in English than those from the second institution. The high school student participants were eleventh graders who attended an all-boy missionary school, with a strong program in English language education. Their English proficiency was compatible with those from the first institution.

With respect to the teaching of dative constructions, we interviewed a coordinating teacher at the high school and were informed that the PD and DO structures were taught as phrasal expressions, especially in tutoring sessions, in preparation for exams. There were no independent lessons featuring this class of verbs; nor were there explicit instructions on the individual lexical items that constitute the complements of these verbs (i.e. direct, indirect objects and prepositions). This situation can presumably be generalized to the freshmen's English education background. In this respect, it can be said that the Thai participants' exposure to English dative constructions was largely naturalistic, with slight formal instructions. In line with UG-

based research, which precludes explicit teaching, the Thai participants' naturalistic exposure was beneficial for the investigation.

In total, there were sixty Thai student participants, ranging in age from 18-21 years old. Thirty-two participants from the first institution and twenty-two from the second were freshmen enrolling in Fundamental English courses in the academic year of 2017. Six of the participants were high school students.

Consent forms, stating willingness to participate, were distributed to the students, and collected after they were completed. Payment was provided to compensate for the participants time and cooperation. The subjects took the Macmillan Placement Test (Kerr, Jones, Norris, Jeffries, & Mauchline, 2012), and were placed into three proficiency groups, i.e. beginning, intermediate, and upper intermediate. (Detailed information on score criteria appears in section 4.2.1.)

4.1.2 Control Group

Ten native English speakers participated in both the AJ and EP tasks. Eight faculty members, teaching English to Thai undergraduate students, worked for the first institution. The other two were English teachers in the all-boy missionary high school. In terms of nationalities, there were six Americans, two Canadians, one British, and one Irish. They were recruited via email or in-person invitation; all accepted the invitations and were willing to serve as control participants.

The same procedures that were administered to the Thai subjects also applied to the native English-speaking controls. Specifically, in the AJ task, they were asked to rate their acceptability of the tokens, and in the EP task, they responded to the questions in the video clips, on the one-on-one basis. It took approximately 10 and 20 minutes for them to finish the AJ and the EP task sessions, respectively. The sessions took place during lunch breaks or after class meetings. The AJ task was usually administered before the EP task; there were a few participants who rated the AJ items, outside of the allotted time, and returned the questionnaire copies later.

4.2 Test Instruments

Instruments consisted of the Macmillan Quick Placement Test, the Acceptability Judgment (AJ), and the Elicited Production (EP) tasks (to be discussed in 4.2.1, 4.2.2 and 4.2.3, respectively). The MacMillan Quick Placement Test determined three levels of English proficiency for the Thai participants. Both the AJ and EP tasks were employed to assess the participants' knowledge of English dative constructions. To ensure validity of the AJ and EP tasks, all test stimuli were checked by two native English experts and piloted with five Thai students. Test tokens were designed to ensure that none were biased towards the PD or DO structure. It is noteworthy that test stimuli in both tasks were introduced by a few examples with non- target responses so that the subjects would be familiar with the ways in which the tasks would be implemented.

4.2.1 Placement Test

The Macmillan Placement Test, developed by Kerr et al. (2012), is a test which can be completed quickly (Kerr et al., 2012), and it is available on the Macmillan website. The test consists of 50 questions in the Multiple-Choice format (40 grammar and 10 vocabulary items). The publisher of this standardized test provided a conversion chart with six brandings indicating guided proficiency levels. As only three proficiency groups sufficed in the present study, we adjusted their conversion chart to suit our research design. Thus, we combined two guided brandings, resulting in a chart with three proficiency levels. Table 4.1 represents the conversion chart with the publisher's brandings and our adaptation.

Table 4.1: Conversion Chart

Total score	Publisher's branding	This study's criteria
0 - 15	Beginner	Beginning
16 – 24	Elementary	
25 – 32	Pre-intermediate	Intermediate
33 – 39	Intermediate	
40 – 45	Upper Intermediate	Upper Intermediate
46 - 50	Advanced	

We conducted the placement test in a paper-based format. There were, at the beginning, 113 participants from the three institutions who took part in the placement test. The participants were given 20 minutes to complete the test. The results showed that 21 participants were in the beginning group, 59 in the intermediate group, and 33 in the upper intermediate group.

Since an equal number of participants per group was desirable for statistical reasons, 20 participants who completed both the AJ and EP tasks were selected per group. The average placement test scores of the beginning, intermediate, and upper intermediate groups were 18.5 (SD=3.1), 32.15 (SD=3.94), and 43.4 (SD=2.48), respectively.

4.2.2 Acceptability Judgment (AJ)

In the present study, the subjects were asked to rate the acceptability of 50 sentences, consisting of 32 target sentences and 18 fillers. The number of syllables in the test sentences ranged from 7 to 12 and commonly used English words were chosen. It is noteworthy that the subjects were reminded that they should judge test sentences based on their grammatical knowledge, not their semantic comparisons. For example, when both sentences 1 and 2 were grammatical, they should rate both sentences as equally grammatical. Although they felt that the context of a given sentence was more sensible than the context of another, they were reminded to rate both sentences with an equal score. As shown in (49), the subjects were to choose only one option out of five on a scale of -2 to 2. The target test sentences were constructed around four dative verbs, i.e. give, tell, hand, and send. There were eight tokens per verb. Among these tokens, four sentences, i.e. 2 PD and 2 DO, were correct. The incorrect test sentences involved the presence of a given verb in the Wrong Merger (V PP NP), Weak light verb (v), Thai Double Object, and SVC contexts.

(49)   Michael told a secret to his wife.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

Eight sentences (50-57) below illustrate the entire AJ stimuli that were constructed on *send*.

1. PD

 (50) Edward sent a check to his wife.

 (51) Peter sent the orchids to his girlfriend.

2. DO

 (52) Carol sent her husband a message.

 (53) Lisa sent her teacher a document.

3. Wrong Merger (V PP NP)

 (54) Betty sent to her boss a report.

4. Weak light verb (*v*)

 (55) Jimmy a postcard sent to his uncle.

5. Thai Double Object

 (56) Vanessa sent a long memo her staff.

6. Serial Verb Constructions

 (57) Tom sent a poster give his customer.

All of 50 test sentences were checked by a native speaker. We found that the sentences were rated on the acceptability gradients that we expected.

Typically, an AJ task is used to assess grammatical knowledge within a certain period of time and the knowledge should be accessed quickly. In line with the customary practice, the Thai subjects were asked to make judgments on a first-come-to-mind basis, without returning to revise the items they had judged. The subjects' first answer was assumed to have come from their intuition and had not to be changed. The time allocation for the 50-item test was 25 minutes (approximately 35 seconds per item on average). The 50 test items were randomized to prevent the participants from being aware of the grammatical points under investigation and two different batteries (i.e.

Forms A and B) were created. Form A is provided as an example in Appendix A. These different forms were given to ensure that there were no effects imposed by item numbering.

By the nature of a test instrument constructed with Likert's scales as in AJ from this present study and other survey research, an internal consistency of the test is crucial to confidently interpret the results. This internal consistency can be achieved by ruling out the inconsistency arising between items that are dependent on the same underlying knowledge. The general statistic tool used to confirm internal consistency is Cronbach's alpha reliability coefficient, and the value above .8 is considered reliable with good internal consistency (Croasmun & Ostrom, 2011; Gliem & Gliem, 2003). The Cronbach's alpha reliability coefficient of AJ of the PD and DO test items were **.812** and **.823**, respectively**.** The AJ test instrument is considered reliable, and any contradictions that arose from the target sentences can be ruled out**.**

4.2.3 Elicited Production

The Elicited Production (EP) task was conducted to test the first hypothesis. From our pilot study, we found a high percentage of L1 structures in our elicited translation task. However, we decided to use animated stimuli, instead of translation, because translation tasks cannot fully reflect the knowledge of L2 learners' Interlanguage.

According to Richards (2015), translation depends on the setting of L1 and involves a process of literal translation, which differs from the setting of Interlanguage.

There were, in total, 32 video clips featuring four target verbs: *give, tell, hand*, and *'send.'* Eight clips were created per verb. (See Appendix B. for photo illustrations of the 32 video clips.) The video clips were randomized in a way that those expressing the same verb were not adjacent to one another. All of video clips were moving animation dubbed with text-to-speech voice synthesis on https://acapela-box.com (Acapela-Group, 2017) . The speeches were set to be -5 slower than the default speed on the website, which is set for English native speakers' usage. Each video clip was designed to be concise to keep the subjects' attention and not to bore them with too

much detail. The average length is 17.93 seconds. There was a sufficient context, which was not a bias to a specific construction.

According to Bresnan et al.(2007), animacy of the subject and the recipient is important in the dative constructions. Our test stimuli presented all animate participants. In terms of preferences by native English speakers, the English Double Object construction is more preferable than PD when pronouns are used. In contrast, PD is used more frequently when a recipient conveys new information; in other words, the recipient is not accessible by the discourse, and it is usually used with indefinite articles. To reduce any possible bias, we did not use pronominal references to recipients, who were accessible by the context, in all of our test stimuli. However, we were aware of one issue regarding the concreteness of THEME. Because the dative alternation are related to the transfer of ownership of THEME (Levin & Hovav, 2002) , all of our THEME stimuli, except those in *tell*, were concrete nouns. We chose *tell* because we attempted to balance the test tokens among possible dative options in Thai, i.e. PD, Thai DO (THEME GOAL), and SVC. Only a few Thai verbs can be expressed in both the PD and Thai DO contexts, while almost all can appear in serial verb constructions. As a result, the option of the English dative verbs that matched our L1 criteria was limited.

To ensure that the context was not too lengthy, the stimuli allowed two possibilities (PD and DO), and the expressions were clearly pronounced, we asked two English native speakers to check these aspects. After adjustments of these aspects, the native speakers approved all 32 video clips. The EP tasks had also been piloted with five Thai learners before they were administered with the actual subjects.

Figures 4.1-4.5 below are screen shots of one of the *give* test stimuli. Above each figure is the audio caption.

Figure 4.1: Screen 1 *'give'* EP
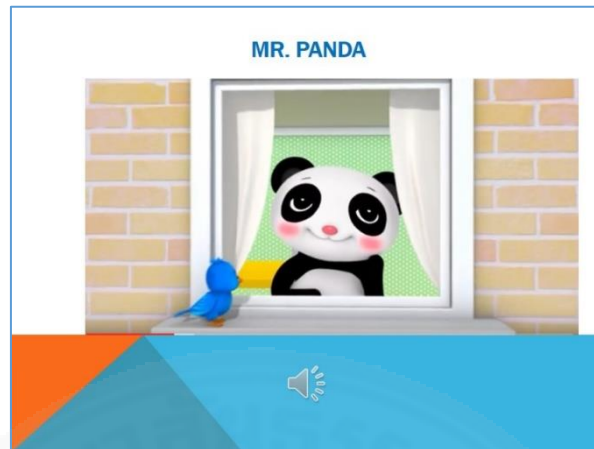
Figure 4.2: Screen 2 *'give'* EP
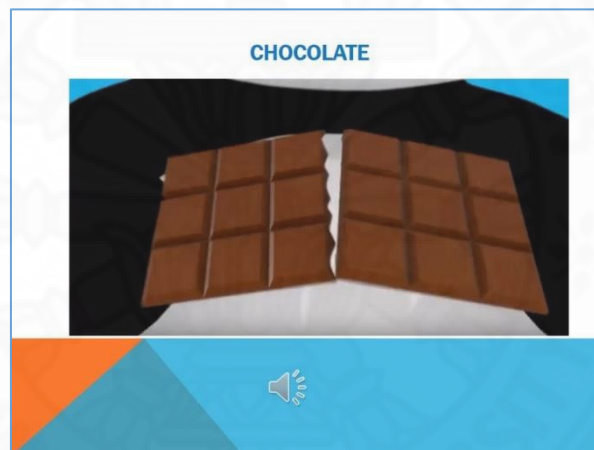
Figure 4.3: Screen 3 *'give'* EP
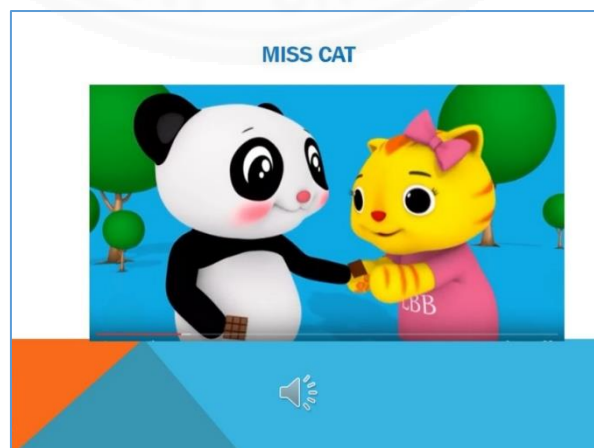
Figure 4.4: Screen 4 *'give'* EP
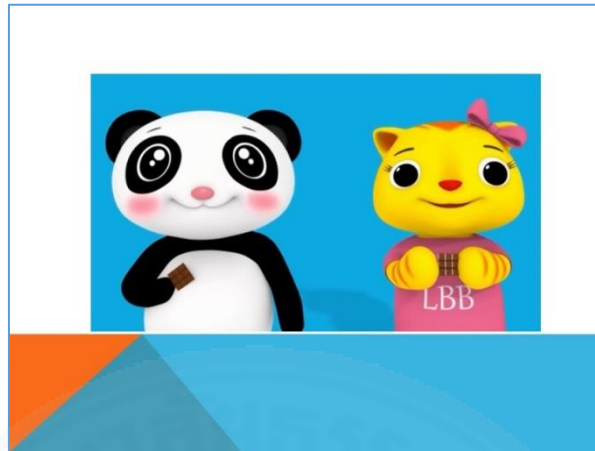
Figure 4.5: Screen 5 *'give'* EP
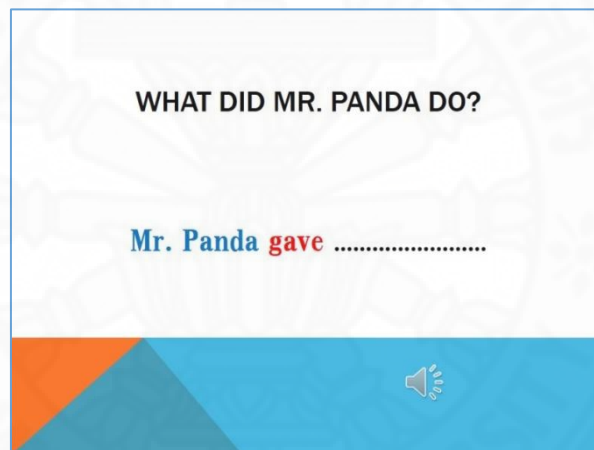
The expected answers were *'Mr. Panda gave chocolate to Miss Cat.'* or *'Mr. Panda gave Miss Cat chocolate.'*

In respect of timing and administration, the EP task was conducted in two methods. First, the test was conducted on a one-by-one basis. The average session lasted 20-30 minutes. The time varied because the researcher replayed test stimuli upon subjects' requests. The responses were recorded or noted by the researcher. All of the native controls participated in a one-by-one basis. The second method was a group testing. The researcher played all the videos on a classroom projector. Each group consisted of four student subjects, the researcher and two research assistants. Each

subject sat separately at each corner of the classroom. Three subjects sat with the researchers, and one subject, chosen from the upper intermediate group, was holding an audio recorder. All of the subjects were instructed that they could raise their hand if they wanted to have a video clip repeated. All of the responses were recorded or noted.

4.3 Task Presentation

The Macmillan Placement Test was administrated first. After the test, we recruited a total of 60 student volunteers with each proficiency level represented by 20 students. Meetings between the experimenters and the subjects were held to inform the relevant procedures and distribute consent forms. The AJ and EP tasks were conducted on different occasions. Interview appointments were arranged for the EP task, according to the availability of the subjects. For the EP tasks, two research assistants were recruited and trained to help collect data in the method of group testing mentioned earlier.

4.4 Scoring

In AJ, the scores of all 50 items, including fillers, ranged from -2 to 2, representing the following degrees of acceptability: -2 = highly unacceptable, 0= unable to decide, and 2 = highly acceptable. As shown in (1) above in 4.2.2, we did not label -1 and 1, leaving the decisions to the participants' discretion (similar to Oh and Zubizaretta's (2005) acceptability scale). The subjects were told to do the test in chronological order and not to skip items or return to revise the items that they already marked.

In EP, we recorded how many times a student participant produced the individual targets and other expressions different from the targets. On our paper, we noted down responses that deviated from the target PD or DO. Before the EP session, the subjects were reminded to use as much information as possible from the video clips to answer the questions. This was reiterated during the first few video clips if they did not use all of the information available. Our second reminders occurred in some cases to ensure that the missing part was intentionally left out or originated from learners' knowledge. In a few cases when the second reminders occurred, the subjects still

continued to use only one thematic role, especially THEME. We thus concluded that the missing part originated from the learners' knowledge.

Nonetheless, we were highly aware of priming effects as these could possibly change the response structures. Jiang and Huang (2015) found positive effects of priming on Chinese L2 learners. It facilitated, in both short-term and long-term, the acquisition of the English DO construction. McDonough & Fulga (2015) investigated the priming effects of the Esperanto transitive construction on Thai and Farsi learners. They found that priming on Thai learners had an inverse prefer effect; in other words, Thai learners produced a less familiar and less preferred word order of the target language after priming. The Farsi learners, on the other hand, could use both more and less preferred Esperanto transitive construction after priming.

Based on the results of those two studies, we could relate the effects of priming to our research that priming had certain effects on English dative constructions and Thai learners might perform in an inverse fashion after being primed. Therefore, we refrained from asking the subjects with some questions that could lead to priming; for example, *"What about Miss Cat?"* or *"Who did Mr. Panda give chocolate to?"* (as regards the stimuli in Figures9-13). Instead of giving information that would potentially enable GOAL in research subjects' responses, this study opted for a substantial number of test tokens (8) per verb, which allowed ample opportunity for us to observe subjects' performance and assess their L2 knowledge. If any subject failed to attach GOAL to all or nearly all of his/her responses, we would be able to conclude that the relevant knowledge was missing in his/her L2 grammar.

4.5 Data Analyses

To give an overview of participants' production and judgments, we report descriptive statistics, including percentages, average scores, and standard deviations, prior to individual sets of results. In addition to descriptive statistics, inferential statistics were performed. With regard to the EP task, Chi-square (χ^2) analyses were employed to find out whether or not the distributions between PD and DO from Thai learners were in accordance with those of the native controls. The AJ data were

analyzed by means of t-test, Repeated Measure ANOVA, and Pearson's product-moment correlation coefficient to test the four hypotheses.

CHAPTER 5
RESEARCH RESULTS

As discussed in Chapter 4, this study employed two research instruments: Elicited Production (EP) and Acceptability Judgment (AJ). The findings from both tasks will be used to confirm the research predictions in Chapter 3. In this chapter, the presentation results were organized as follows:

In section 5.1, we compared the production and acceptance of Prepositional dative (PD) construction to that of the Double Object (DO) construction. The comparisons were analyzed by proficiency level and by the verbs in the stimuli. In section 5.2, we compared the acceptance rates of weak light v to wrong Merger. The former is a phenomenon that occurs in SVO languages, of which English and Thai are members, while the latter is considered an expression of English (i.e. NP_{theme} merges VP as an external argument). In section 5.3, we reported the results from the dative structures of L1. The L1 structures similar to L2 dative structures are PD of *give* and *tell*. The L1 structures different from L2 are the order of DO and the usage of Serial Verb Construction (SVC) in Thai.

5.1 Prepositional Dative vs. Double Object Dative

In the first hypothesis, we predicted that the Thai learners would accept and produce PD at a greater rate than they would the DO structure. As information relevant to this hypothesis involves both the EP and AJ data, we presented results from the tasks consecutively. In section 5.1.1, the results from EP were used to show the distributions of PD and DO responses by proficiency level, along with those of the native speakers. In Section 5.1.2, to assess whether the Thai learners used PD and DO Dative constructions in a pattern parallel to the native speakers, we presented the distributions of both structures produced by the Thai learners and the native speakers, and comparisons between the two groups' responses, using Chi-square ($\chi2$). In section 5.1.3, to determine whether there is a discrepancy between perception (represented by AJ) and production (represented by EP), we compared the responses of those who accepted both PD and DO with the responses of those who produced PD and DO.

5.1.1 EP Results

The EP results were obtained from thirty-two stimuli, constructed on four verbs *give*, *tell*, *hand*, and *send*, featured in the video clips. Table 5.1 shows the distributions of PD and DO responses from the controls and Thai L2 participants in percentages[25].

Table 5.1: Percent Responses of PD and DO by Controls and Thai Learners

Participants	PD	DO	others
Native n=10	49%	40%	10%
Upper intermediate n=20	72%	14%	14%
Intermediate n=20	46%	3%	50%
Beginning n=20	10%	0.6%	88%

The EP results support part of our prediction that Thai learners would produce PD at a greater rate than they would produce DO. From percent results in Table 8, Thai learners from all proficiency levels produced far more PD responses than DO responses.

Other responses produced by the native speakers and the upper intermediate group were mostly *'told someone about something'* and *'told someone clause'* phrases, while the intermediate group produced prepositional *for* (PD_{for}) dative structure (i.e. *'gave something for someone'*), and the beginning group produced only the structure with THEME (i.e. *'The mother gave apples'*).

Details of responses from the native speakers are presented in Table 5.2 in Section 5.1.2.

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[25] It is noteworthy that as the number of L2 subjects per group was 20 and there were eight stimuli per verb, the total number of expected responses was 160 per verb/group while the total number expected from the control was 80.

5.1.2 Distributions of PD and DO

As predicted, results from the control participants revealed that the native speakers used PD in a manner quite similar to DO (illustrated in Table 5.2), suggesting that there were no preferences over either structure.

Table 5.2: Control Participants' Responses to EP Stimuli

VERB	PD	DO	THEME	GOAL	Sb about	Sb that
GIVE n=80	41	37	2	-	-	-
TELL n=80	10	45	5	1	11	8
HAND n=80	48	28	4	-	-	-
SEND n=80	59	19	2	-	-	-
Total occurrences n=320	158	129	13	1	11	8

Notes: The abbreviations THEME, GOAL, *Sb about* and *Sb that* represent different types of phrases that appear after the subject and verb in various responses. THEME and GOAL refer to phrases containing an inanimate direct object, or a human indirect object, only; *sb about* and *sb that* refer to phrases of the types 'someone about something', and 'someone clause,' respectively.

Overall, although the numbers of PD and DO responses were not equal (158 and 129 respectively), the usage of the two structures can be considered relatively comparable. This consideration is viable, given the fact that the other possibilities of *tell*, i.e. *'tell somebody about'* and *'tell somebody that'* account for 23.75% (19) of the actual number of responses of *tell* (n=80).

In respect of the individual verbs, the distributions of PD and DO vary. *hand* and *send* occurred more frequently in the PD context than they did in the DO context. *give* alternated at nearly the same rate between the two contexts, while *tell* occurred in all six possible contexts, among which the DO context was most preferable.

As each verb triggered different types of responses from the control group, we conducted our analyses between Thai learners and the native speakers on a verbal basis, with the production of the native speakers serving as the expected outcome

of each verb. Table 5.3-5.6 present the observed outcomes from each proficiency level against the expected outcomes from the native speakers.

Table 5.3: Responses to EP *give* Stimuli

Group	PD	DO	THEME	GOAL	THEME GOAL	PD for	SVC
Native N=80	41	37	2	-	-	-	-
Upper intermediate N=160	131	20	6	-	1	2	-
Intermediate N=160	96	3	30	-	7	24	-
Beginning N=160	30	1	110	2	5	11	1

Notes: The abbreviations THEME GOAL, *PD for, SVC* represent different types of phrases that appear after the subject and verb in various responses. THEME GOAL refers to phrases containing two noun phrases: an inanimate direct object and a human indirect object; *PD for* refers to phrases containing an inanimate direct object and a *for* prepositional phrase accommodating a human indirect object; and *SVC* refers to phrases containing an additional verbal attachment to the main verb response, respectively.

Table 5.4: Responses to EP *tell* Stimuli

Group	PD	DO	THEME	GOAL	THEME GOAL	PD about	Sb that	SVC
Native N=80	10	45	5	1	-	11	8	-
Upper intermediate N=160	80	33	18	-	-	3	26	-
Intermediate N=160	21	10	53	6	6	4	58	-
Beginning N=160	1	1	105	1	2	-	46	4

Table 5.5: Responses to EP *hand* Stimuli

Group	PD	DO	THEME	GOAL	THEME GOAL	PD for	SVC
Native N=80	48	28	4	-	-	-	-
Upper intermediate N=160	116	19	21	-	-	4	-
Intermediate N=160	71	4	63	-	6	14	2
*Beginning N=159	14	2	136		-	7	-

Note: One response was excluded from the beginning group data due to irrelevancy to the contexts.

Table 5.6: Responses to EP *send* Stimuli

Group	PD	DO	THEME	THEME GOAL	PD for	PD in
Native N=80	59	19	2	-	-	-
Upper intermediate N=160	135	15	9	-	1	-
*Intermediate N=159	109	1	31	5	13	-
*Beginning N=159	19	-	133	1	5	1

Note: Two responses were excluded from the beginning group data due to irrelevancy to the contexts.

It is noteworthy that in Table 5.2, we computed responses from the control subjects' as expected values. Therefore, the Thai participants' responses deviating from those of the control subjects were excluded from the Chi-square (χ^2) analyses. In addition, the number of L2 subjects per group was 20 and there were eight stimuli per verb, resulting in the total number of 160 expected responses (160 per verb/group) while the total number expected from the control was 80.

From Tables 5.3 to 5.6, the responses from the upper intermediate group showed that they could produce both PD and DO. The total PD vs. DO responses were 462: 87, out of the stimuli of all four verbs (n=640); the PD structure was produced approximately five times more often than the DO. From the intermediate group, the overall responses involved PD, rather than DO. The total PD vs. DO responses were

297: 18; the PD structure was produced approximately 16.5 times more often than the DO. In addition to the target PD and DO responses, the majority of other responses to *give*, *hand*, and *send* appeared in an ungrammatical structure of PD with the preposition *for*. The intermediate group produced non-target PD$_{for}$ and THEME GOAL responses more frequently than any other group. In particular, they produced 51 PD$_{for}$ responses, which accounted for 69.98%, and 22 THEME GOAL responses, which accounted for 30.13%, out of all other responses (n=73), excluding the target PD and DO. Lastly, from the beginning group, the total PD vs. DO responses were 64: 4, out of the stimuli of all four verbs (n=640); the PD structure was produced approximately 16 times more often than the DO. In addition to target PD and DO, which were rarely produced, the beginning group produced responses with only NP$_{theme}$ more frequently than any other group. They produced 484 NP$_{theme}$ responses, which accounted for 85.66%, out of all other responses excluding the target PD and DO (n=565).

With respect to the serial verb construction, the upper intermediate group did not produce any responses in SVC, while a small number of SVC were used by the intermediate and beginning groups. In total, both groups produced 7 SVC responses to *tell, hand*, and *give*. None of the subjects used SVC responses to *send*. When the nature of SVC responses was analyzed in detail, we found that the subjects in the beginning group produced all 4 SVC responses to *tell* by repeating the information in the embedded clause without the subject (e.g. '*the monkey told have a plan[26].'). Unlike SVC responses to *tell*, the subjects inserted verbs not provided in the contexts, in their SVC responses to *hand* and *give* (i.e. '*the monkey handed give a rat to miss cat.', and '*the girl gave borrow pencil.').

Up to this point, the detailed data distributions supported our first hypothesis that Thai learners across proficiency levels would produce PD at a greater rate than they would produce DO. All the student participants used PD approximately five times more frequently than they used DO. The number went up among the intermediate and the beginning groups as they produced PD responses approximately 16 times more frequently than DO responses.

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[26] In this particular video clip, the monkey said, *"I have a plan,"* to his friends.

Nonetheless, the results from the Elicited Production tasks were not in agreement with our fourth and fifth predictions (to be discussed in detail in Section 5.3.2 and 5.3.3) in that we predicted that the L1 dative structures, which are Thai Double Object (THEME GOAL) and Serial Verb Construction (SVC), would be traceable in the early stage of L2 acquisition, represented by the performance of the beginning group. With respect to THEME GOAL, as discussed in Chapter 2, only the Thai counterparts of *give* and *tell* are permissible. The results showed that the subjects used not only THEME GOAL, in response to *give* and *tell* stimuli, but also extended it to *hand* and *send*. The L1 counterparts of both verbs are not allowed in the THEME-GOAL word order. Concerning SVC effects, we discovered that Thai learners produced SVC responses to *tell* and *hand*, both of which can be constructed in SVC by their Thai counterparts (as previously discussed in Chapter 3.2.1). These responses might be explained by the effects of L1. However, despite that fact that the Thai counterpart of *give* is not allowed in SVC, while the counterpart of *send* is, the SVC response to *give* and the absence of SVC responses to *send* revealed that SVC might be used beyond the boundary explicable by L1 transfers. The Thai dative structure of Serial Verb Construction might be used as one of the tools available in the early stage to produce L2 dative constructions. As the proficiency level increases, SVC are no longer considered an acceptable tool for L2 dative constructions. This was evident in the absence of SVC responses among the upper intermediate group.

The aforementioned data showed that the performances of Thai learners in the Elicited Production tasks differed by proficiency level. First, the upper intermediate groups used more DO responses than the other two groups. Moreover, any responses suggesting L1 effects were negligible. Second, the intermediate group used far fewer DO responses than the former group. The L1 effects were noticeable. However, the majority of ungrammatical responses they produced were PD$_{for}$. This suggested the intermediate learners were aware of the nature of dative verbs that requires three argument structures: AGENT, THEME, and GOAL, though they still had difficulty selecting a correct preposition. Third, the beginning group produced the lowest number of DO responses. Unlike the intermediate group, they did not demonstrate an awareness of the nature of dative verbs that requires three argument

structures: AGENT, THEME, and GOAL, as they overwhelmingly responded to the stimuli with only THEME, neglecting to attach GOAL to complete their responses.

The frequencies and qualitative data above provided us with key details that generally outlined the achievements of each proficiency group. In the following section, we shifted our focus to a set of statistical analyses, examining whether Thai learners used all four dative verbs; namely *give, tell, hand*, and *send*, differently from the native controls.

We used Chi-square ($\chi2$) to report how Thai learners performed in comparison to the performance of the native controls. Across proficiency levels, Thai learners did not use *give* in a manner similar to the native controls. The expected values (determined by the controls' data) were different from those obtained from the upper intermediate, intermediate, and beginning groups ($\chi^2 > 70.95$), ($\chi^2 > 289.60$), and ($\chi^2 > 3560.72$, respectively).

The Chi-square ($\chi2$) values also confirmed that Thai learners used *tell* inconsistently when compared to the native speakers' usage. The expected values were different from those obtained from the upper intermediate, intermediate, and beginning groups ($\chi^2 > 247.11$, $\chi^2 > 397.53$, and $\chi^2 > 1128.95$, respectively). In respect to *hand*, the expected values were different from those obtained from the upper intermediate, intermediate, and beginning groups ($\chi^2 > 50.90$, $\chi^2 > 473.30$, and $\chi^2 > 2302.66$, respectively). In terms of *send*, the expected values were different from those obtained from the upper intermediate and intermediate groups ($\chi^2 > 22.74$, and $\chi^2 > 245.8$, respectively)[27].

Based on the above findings, we concluded that Thai learners did not use PD and DO in a manner similar to the native controls, but rather preferred PD over DO. The results helped confirm our prediction of PD preference by Thai learners. Moreover, when the proficiency levels increased, the performances were close to that of the native speakers. When we evaluated the results by verb, Thai learners, especially the upper intermediate group, were able to use verb *send* closest in comparison with the native speakers, followed by *hand*, *give*, and *tell*, respectively. The intermediate group also used *send* closest in comparison to the native controls, followed by *give* and *tell*,

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[27] The result from the beginning group could not be computed because one observed frequency (DO) was equal to zero.

respectively. However, unlike the former group, the performance of *hand* was remotest in comparison to native usage. Among *give, tell*, and *hand* responses, the beginning group was able to use *tell* closest in comparison to the performance of the native controls, followed by *hand*, while the responses to *give* was most deviated from the expected values of the native controls.

From the Chi-square ($\chi2$) values, across the proficiency levels, we observed variation in the learners' performance by verb. Excluding the results from the beginning group since the performance of *send* could not be computed; we discovered that, despite *give* having the highest tokens of all four verbs in the British National Corpus[28], Thai learners from two proficiency levels were able to use *send* in a manner closer to the native speakers.

From the overall EP results, this might suggest that the acquisition of English dative constructions by Thai learners is subtle and cannot be explained solely by means of syntactic structures and/or by L1transfers as a result of these findings. First, the learners produced some responses that were unavailable in both L1 and L2 grammar (e.g. the extensions of Thai Double Object (THEME GOAL) to *hand* and *send*[29]; and the insertion of *for* in PD). Second, among the beginners, an underuse of GOAL by the majority was possibly caused by a deficient knowledge of Theta-roles required by dative verbs. Despite a standard assumption that Theta-criteria are semantic properties of a verb cross-linguistically, the beginners had difficulty with these properties. Third, frequencies of target inputs from L1 speakers should facilitate L2 learners to use the targets with ease. However, *give*, despite being the most frequently used verb, came after *send* as a verb that Thai learners in this study could use closest in comparison to the native speakers.

In the next section, we used the results from AJ to confirm whether PD was more accepted than DO and reported the results of other hypotheses about the impacts of syntactic properties and L1 influences on the acquisition of the English dative constructions.

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[28] ranking in brackets: give (188), hand (238), tell (278), and send (1284), ranging from the most to least frequently used word (British National Corpus, 2018)

[29] Thai verbs, *'juːn'* and *'soŋ'*—the counterparts of *hand* and *send*, respectively— cannot be used in the word order of Thai Double Object (THEME GOAL).

5.1.3 PD and DO Results from Acceptability Judgment Tasks

As mentioned at the beginning of this chapter, we introduce each section with data from the native speakers as background information to the data from Thai learners. The average of PD and DO acceptance scores of the control group were 1.96 ($SD =$.084) and 1.90 ($SD =$.098), respectively.

As discussed in section 2.4.1, from the theoretical perspective, Case checking in PD is straightforward, i.e. Dative in Spec-head domain of P. Case-checking in DO is enabled in a complex manner via multiple Case-checking of an adjoined verb and v. Therefore, PD across levels of learners' proficiency, is predicted to be accepted more readily than DO.

We report results from the participants' judgments in the AJ task by proficiency levels below.

Table 5.7: Mean Acceptance Scores of PD and DO by Proficiency Level

| | **English Proficiency** | | | |
	Beginner	**Intermediate**	**Upper Intermediate**	**Average**
PD	.41$_{(.76)}$	1.24$_{(.66)}$	1.70$_{(.37)}$	1.12$_{(.81)}$
DO	.21$_{(.80)}$	.46$_{(.81)}$	1.60$_{(.68)}$	.76$_{(.97)}$
N	20	20	20	

Notes: Numbers in the parentheses represent standard deviations.

Figure 5.1: Mean Acceptance Scores of PD and DO
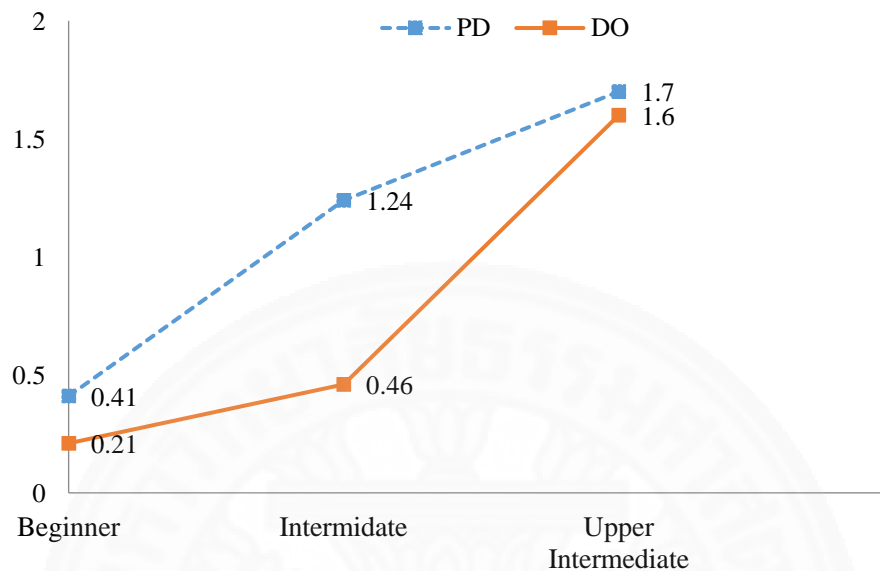
On the grounds that acceptability represents knowledge, we found that the knowledge of PD was substantially different from that of DO. As shown in Table 11 and Figure 12, PD started minimally at the initial stage (0.41) but developed markedly in the intermediate and upper intermediate stages (1.24 and 1.70). Unlike PD, DO progressed slowly across the beginning and intermediate stages (0.21 and 0.46) but rose strikingly at the latest stage (1.60).

Results from ANOVAs show that the participants' acceptance of PD was significantly greater than that of DO (F (1, 57) = 11.96, $p < .002$), confirming the first hypothesis. There was a main effect of level of proficiency (i.e. group) in a comparison of PD and DP (F (2, 57) = 28.02, $p < .001$). The interaction between the two structures and the proficiency level was significant (F (2, 57) = 4.05, $p < .03$). The slight interaction effect resulted from a decline in accuracy in DO vs. an increase in accuracy in PD at the intermediate stage and subsequent accuracy in both structures at the latest stage.

Post-hoc tests comparing mean acceptance scores revealed significant differences between proficiency levels on PD and DO. The beginners'

judgments were different from the intermediate and the upper intermediate (at $p < .02$ and $p < .001$, respectively), confirming the role of proficiency.

Up to this point, the EP results from Section 5.1.1 confirmed that Thai learners did not produce PD and DO equally, but PD outnumbered DO production. The AJ results also confirmed that Thai learners accepted sentences with PD higher than they did for DO.

5.1.4 Comparisons of Target Constructions from AJ and EP

This section presents data from the comparisons of the knowledge represented by the acceptance rates in AJ and the production in EP. This was to find out whether the subjects knew the constructions but did not produce them, or whether they neither knew nor produced them in any quantity.

Table 5.8 shows the numbers of learners who accepted PD and DO test sentences and the numbers of those who produced PD and DO. The learners whose average rates of acceptance were above zero were considered knowledgeable in PD or DO constructions. In terms of production, when a learner produced a response in PD or DO, it was counted as the learner producing the target structure(s).

Table 5.8: Accepted vs. Produced PD and DO by Thai Participants

Proficiency Level	PD		DO	
	accepted	produced	accepted	produced
Beginning n=20	12	9	9	3
Intermediate n=20	19	18	14	9
Upper intermediate n=20	20	20	19	13

The data in Table 5.8 reveals a difference in number between the participants who accepted and produced PD vs. those who accepted and produced DO. Within the former group, most of the more proficient learners accepted and produced

PD (18-20); while only about half of the less proficient ones (9-12) did so. In the latter group, while the number of learners accepting DO increased steadily (9, 14, 19), the number of learners producing DO instead rose slowly, and did not attain the total (3, 9. 13), unlike the PD data.

Aside from the slow progress in the DO structure, the increase in both acceptance and production by proficiency level supports our initial prediction that PD would be more accepted than DO. In Section 5.1, we compared the production between PD and DO responses by means of distributions of occurrences. In Section 5.1.3, we used scores on a 5-point Likert's scale to compare the acceptance rates between PD and DO test sentences. In this section, 5.1.4, we presented the numbers of learners accepting and producing PD and those with respect to DO. The findings from frequency distributions, *t*-tests, Chi-square analyses, and manual counts confirmed that the English Prepositional Dative construction was more frequently produced and accepted with a higher average score than the Double Object construction.

With regard to a discrepancy between perception and production, it has been customarily held that one's language perception is superior to one's language production. The data presented in Table 5.8 can be considered supporting evidence for this idea. We will further elucidate this point again in Chapter 6.

To sum up, the results from all tasks confirmed our first hypothesis that, on average, PD was preferred to DO by Thai learners. In EP, both the item and subject analyses indicate that PD occurred far more frequently than DO. In AJ, the average scores of PD acceptance were higher than those of DO.

5.2 Strong Feature Checking

In this section, we predicted that the error from a non-deleted strong feature of a light verb would be more easily to detect that properties that are specific to the English language would be challenging for Thai learners, especially from low proficiency levels. The specific property of English dative used here was the treatment of NP_{theme} as an external argument of VP with a head dative verb and an internal argument, PP_{goal}. This schematic representation is considered an idiomatic expression because PP in the dative construction is the complement of a verb, while PP in other constructions is an adjunct.

In computation, V and PP merge to become VP constituent, and VP and NP$_{theme}$ merge subsequently (discussed in Chapter 2). This V PP expression is considered idiomatic because it occurs with a head dative verb. Since this dative Merger is different from other PPs in the target language, these ordering steps of Merger would be complex, and more difficult to acquire than constructions that involve simpler properties of the language. To prove our prediction, we used one property; a strong light verb (*v*) which attracts V to its position (discussed in section 2.4.1) as a benchmark in comparison to the English V and PP$_{goal}$. The beginners would easily recognize the ungrammatical relation to a property of a light verb but have difficulty recognizing it in the expression of V and PP$_{goal}$. Thus, significant acceptance rates between the ungrammatical relation to the idiomatic expression of V and NP$_{goal}$ and a light verb would be found.

We hypothesized that Thai learners with low proficiency would reject test sentences of a weak light verb more strongly than test sentences of wrong Mergers, and the rejection of a weak light verb would be higher than the rejection of wrong Mergers across the proficiency levels.

Before we report the results from Thai learners, the findings from the native controls are presented as a baseline to the Thai learners' data.

From the results of the native speakers, the average score of accepting weak *v* was -1.5 (*SD*=.44) and the average score of V PP NP .05 (*SD* =.823). This result showed that weak *v* was considered highly unacceptable. Theoretically, weak *v* adversely affects the SVO pattern, which is a stronger violation than the wrong Merger (V PP NP). The native speakers could have internalized this theoretical sense.

In Table 5.9, we report results from the participants' judgments in the AJ task across groups below.

Table 5.9: Mean Acceptance Scores of Weak *v* and V PP NP by Proficiency Level

	Beginner	Intermediate	Upper Intermediate	Average
Weak *v*	-.64$_{(.99)}$	-1.40$_{(.67)}$	-2.00$_{(0.00)}$	-1.35$_{(.88)}$
V PP NP	-.25$_{(.77)}$	.34$_{(.95)}$	-.83$_{(1.04)}$	-.47$_{(.95)}$
N	20	20	20	

Notes: Numbers in the parentheses represent standard deviations.

Figure 5.2: Mean Acceptance Scores of Weak *v* and V PP NP by Proficiency Level
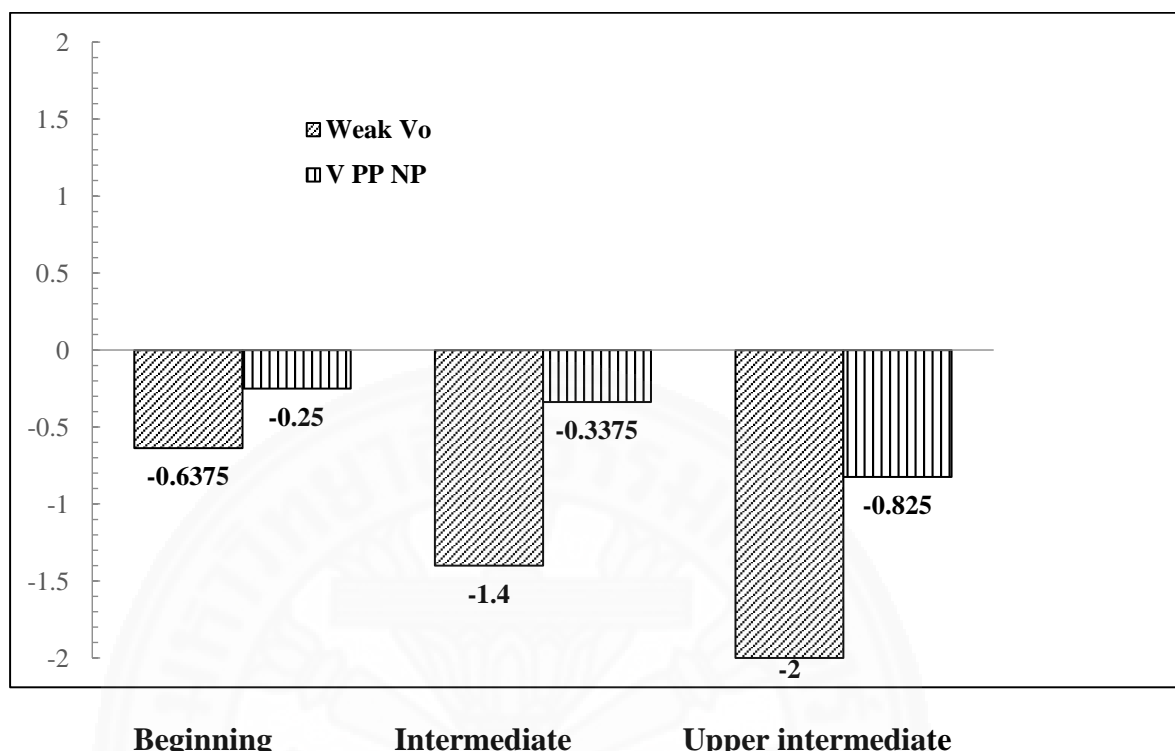
We found that the knowledge of weak *v* was substantially different from that of wrong Merger (V PP NP). All proficiency levels rejected weak *v* at higher rates than wrong Merger (V PP NP). This pattern coincided with the acceptance from the native speakers, who rated V PP NP as more acceptable than weak *v.* In addition, as shown in Table 5.9 and Figure 5.2, weak *v* were rejected minimally at the initial stage (-.64) but considerably higher in the intermediate and upper intermediate stages (-1.40 and -2.00).

Results from a *t*-test showed that the overall participants' acceptance of V PP NP was significantly greater than that of weak *v* (t (59) = -6.38, $p < .001$). However, there was no significant difference in the beginners' acceptance of V PP NP and weak *v* (t (19) = -1.60, $p = .124$).

We performed further *t*-tests with data from the intermediate and upper intermediate groups and obtained results which are in favor of the second hypothesis. In particular, significant differences between V PP NP and weak *v* were found. The intermediate learners' acceptance of V PP NP was significantly greater than that of

weak v (t (19) = -5.63, p < .001), and the upper intermediate learners' acceptance of V PP NP was significantly greater than that of weak v (t (19) = -5.57, p < .001).

Although there was no statistical difference between the beginners' judgments of weak light verb and V PP NP, the mean score data strictly indicate the difference. Referring to Figure 5.2, the average scores of weak light verb were lower than those of V PP NP across proficiency levels. In addition, a further tendency could be observed from Figure 5.2, which is that although the rejection of both weak light verb and V PP NP increased by proficiency level, the rejection of weak light verb outpaced that of V PP NP. When the proficiency increased, weak light verb was completely rejected by the upper intermediate learners. The average score was -2 (SD=0), while the rejection of V PP NP was far behind (-.825).

The indication of the results at large suggested that the learners were more sensitive to errors from weak light verb than they were to errors from wrong Merger. Theoretically, this finding is substantiated by Case-checking within the Minimalist Program (MP) framework. In a weak light verb test sentence, a strong feature of v is not deleted; as a result, the derivation crashes at Phonological Form (PF). In contrast, in a V PP NP test sentence, although NP$_{theme}$ and PP$_{goal}$ do not follow the typical PD word order, both Accusative and Dative are checked. As a result, the sentence passes through Spell-Out.

If the ability to recognize an error from unchecked strong features were part of L2 knowledge, such ability would be purported to grow when proficiency develops. We suspected that Move operations among the beginners were not developed on par to with the intermediate and the upper intermediate groups. Because most beginners accepted a non-move contentful verb, violating strong feature-checking of v. This might reflect that the concept of feature checking is challenging for Thai learners at lower proficiency levels.

5.3 Effects of L1 Dative Constructions

As mentioned in Chapter 2, Thai dative structures include three constructions: Prepositional Dative, Thai DO (THEME GOAL), and Serial Verb Construction. Each Thai dative verb selects different types of complements.

There are two Thai verbs in this study that represent the constructions of PD and Thai DO. These are the counterparts of English *give* and *tell*. The counterparts of *hand* and *send* are expressed by Serial Verb Construction (SVC). None of the English verbs are expressed in SVC. In addition, the counterpart of *tell* can be expressed by all the three structures.

According to literature on L2 acquisition (Schwartz & Sprouse, 1996; White, 2003), L1 structures have greater effects on learners in the initial stage, but when the proficiency increases, L1 structures not compatible with those of L2, will disappear. The following sections present the results from the effects of Thai PD, Thai DO, and SVC, respectively.

The results from the native speakers were not reported in this section as those are not relevant to L1 transfers.

5.3.1 Thai PD Effects

In the third hypothesis, we predicted that the acceptance rate of PD structure of *give* and *tell*; hereafter givePD and tellPD, would correlate, regardless of the proficiency levels, due to the similarity of the Thai counterparts of both verbs. We present results from the participants' judgments in the AJ task below.

Table 5.10: Mean Acceptance Scores of GivePD and TellPD

Group	givePD	tellPD
Beginning n=20	.50 (1.06)	.10 (1.19)
Intermediate n=20	1.37 (.82)	1.15 (.81)
Upper intermediate n=20	1.90 (.20)	1.60 (.68)
Overall N=60	1.26 (.97)	.95 (1.11)

Note: The numbers in the parentheses represent standard deviations.

Figure 5.3: Average Acceptance Scores of GivePD and TellPD by Proficiency Level
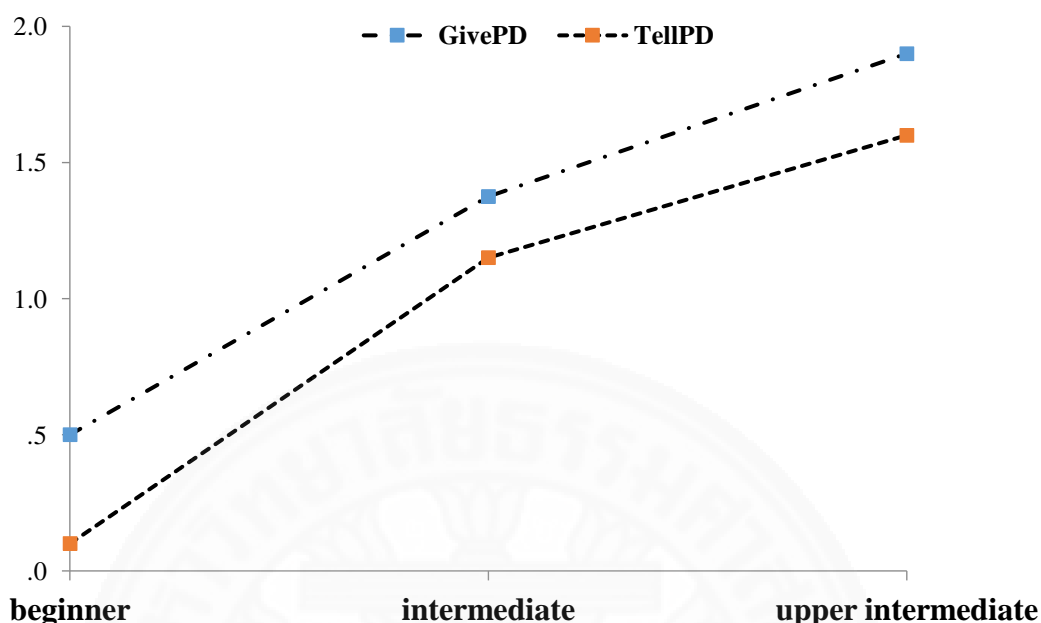
As shown in Figure 5.3, GivePD was consistently accepted at a greater rate than TellPD across proficiency levels, suggesting co-development of the two structures. Based on the data from Table 5.10, the acceptance scores of GivePD were higher than those of TellPD across proficiency levels. A Pearson product-moment correlation coefficient was computed to assess the relationship between GivePD and TellPD, controlling for proficiency. There was a significant relationship between the two variables $(r = .641$, n $= 60$, $p < .001)$, confirming the third hypothesis.

5.3.2 Thai Double Object

The first difference between L1 and L2 dative constructions that we used for our fourth prediction was the word order of Thai DO. In contrast to English, the word order of Thai DO is V NP_{theme} NP_{goal}. In addition, only the Thai counterparts of *give* and *tell* can be expressed in Thai DO. We then hypothesized that Thai DO would be more influential among the beginners; thus, they would accept the test sentences with the Thai DO order at more significant rates than they did the English DO. We present results from the participants' judgments in the AJ task across groups below.

Table 5.11: Average Scores of ThaiDO and EngDO by Proficiency Level

	Pair 1	**ThaiDO vs. EngDO**				
Group		Mean	SD	t	df	sig. (1-tailed)
Beginning	ThaiDO	.363	.547			
n=20	EngDO	.207	.801	.687	19	.250
Intermediate	ThaiDO	.113	.853			
n=20	EngDO	.462	.811	-1.359	19	.095
Upper intermediate	ThaiDO	-1.25	.889			
n=20	EngDO	1.60	.683	-10.525	19	.00

Figure 5.4: Mean Scores of Thai DO and English DO by Proficiency Level
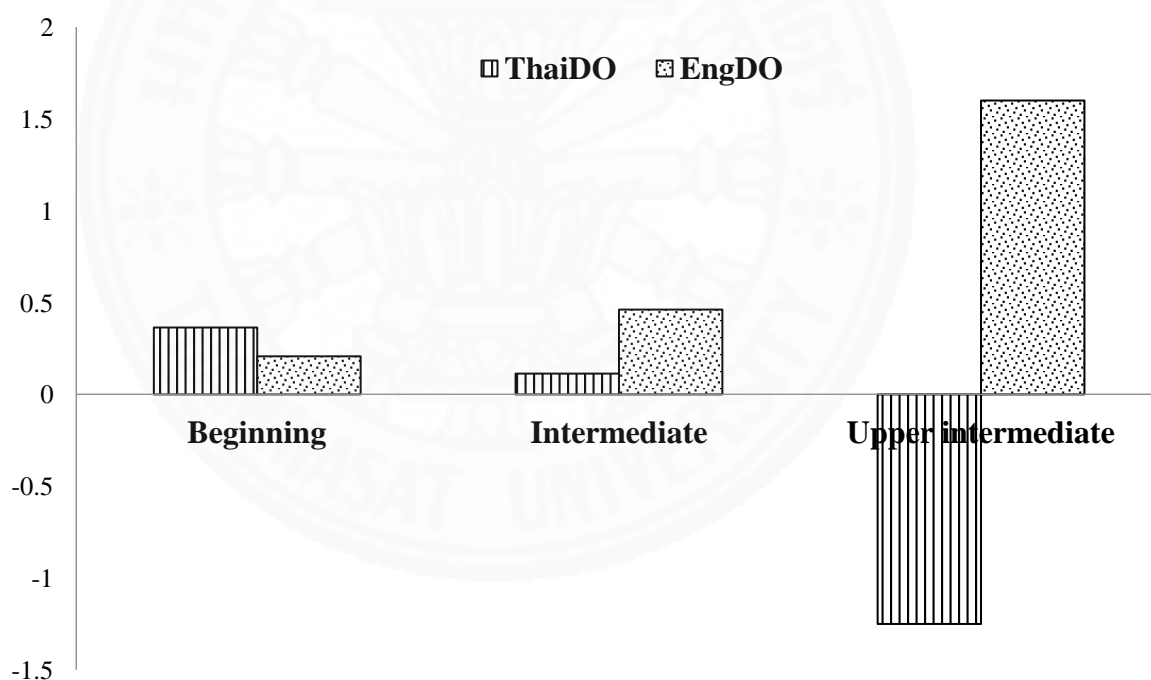
The acceptance rates of Thai DO (V THEME GOAL) were not significantly higher than those of English DO among the beginners and the intermediates (t (19) = .687, p = .251, and t (19) = -1.359, p = .096, respectively). These results rejected the fourth hypothesis. There was no statistical difference; the comparisons of both variables showed that Thai learners could not differentiate between Thai DO and English DO. Thus, they considered both acceptable. On the other hand,

the acceptance rate of Thai DO (V THEME GOAL) was significantly lower than English DO among the upper intermediates (t (19) = -10.525, p < .001), confirming that, when the proficiency increased, the learners were able to differentiate between the two structures and recognized only English DO as acceptable.

We predicted that the beginning group would accept Thai DO and reject English DO. As shown in Figure 5.4, they accepted both structures with a higher score for Thai DO (.363) compared to English DO (.207). In contrast, the intermediate group accepted English DO (.462) with a higher score than Thai DO (.113).

The results showed the influence of L1 by proficiency level. In the beginning, the L1 structure was predominant in the learners' L2 grammar when compared to the L2 structure. When the proficiency increased, the learners realized that L2 structure was a more desirable option than the L1 structure. At this stage, we could see that influence of L2 was greater than L1, but the L1 word order was not wholly rejected. Finally, as the proficiency level increased to the highest level, the learners could reject L1 structure and accept L2 target, as can be seen in Figure 5.4 with Thai DO on the negative side and English DO on the positive.

5.3.3 Serial Verb Construction

As we predicted that the dative structures of L1 would have effects on L2 acquisition, we used another structure in L1, Serial Verb Construction (SVC), which is different from L2, as a tool to test our hypothesis. We predicted that SVC, a construction unavailable in L2, would have selective effects on the English verbs under investigation. Among the beginners, the acceptance rates of *hand* and *send* would be greater than those of *tell* and *give*. In particular *give* in the serial verb context would be least accepted because *give* does not occur as a serial verb in English.

However, as the proficiency increased, all of the test sentences of SVC would be strongly rejected because the learners from the upper intermediate group would have the knowledge that SVC is not acceptable in English and the effects of SVC would disappear. We report results from the participants' judgments in the AJ task across groups below.

Table 5.12: Average Acceptance Scores of SVC by Verb and Proficiency Level

Proficiency Level	give	tell	hand	send
Beginning n=20	-.35 (1.66)	-.35 (1.42)	.05 (1.47)	.65 (1.23)
Intermediate n=20	-1.25 (1.21)	-.70 (1.34)	-.50 (1.24)	-.85 (1.18)
Upper intermediate n=20	-2.00 (.00)	-2.00 (.00)	-1.80 (0.52)	-1.85 (0.49)

Notes: Numbers in the parentheses represent standard deviations.

Figure 5.5: Average Acceptance Scores of SVC by Verb and Proficiency Level
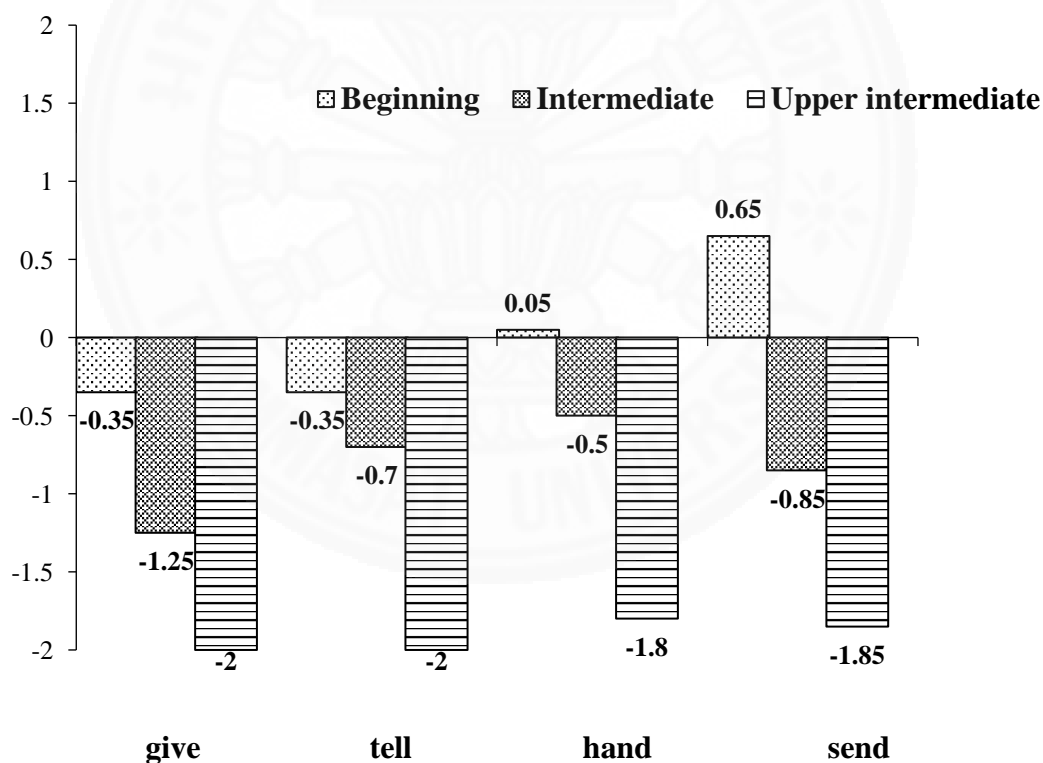
Based on the data from Table 5.12 and Figure 5.5, all 20 upper intermediate learners rejected the SVC of *give* and *tell* at -2.00. The rejection of SVC *hand* and *send* were at -1.80 and −1.85, respectively. The intermediate learners showed their rejection of SVC at the greatest rate with *give* (-1.25), followed by *send* (-.85), *tell* (-.70), and *hand* (-.50). The beginners rejected SVC of *give* and *tell* equally (-.35) but

accepted the SVC of *hand* (.05) and *send* (.65). The SVC rejection of all verbs increased with proficiency. There was a steady decline of the acceptance rates of GiveSVC across the three levels (-.35,-1.25,-2.00).These findings are consistent with the prior Thai and English DO results; when proficiency increased, the unavailable construction of L1; i.e. SVC, would be rejected.

To examine the effects of SVC, i.e. the structural counterparts available in the L1, on each proficiency group, we performed pair-sample *t*-tests to determine whether there were differences between the mean scores of a non- SVC tokens (*give* and *tell*) and the SVC tokens (*hand* and *send).* Results are shown in Table 5.13.

Table 5.13: Pair-Sample *t*-test Values of Non-SVC and SVC Structures

Proficiency Level	n	Pair1 give*tell $t(19)$		Pair2 hand*send $t(19)$	
Beginning	20	0	p=1.00	-1.5	p=.15
Intermediate	20	-1.47	p=.157	.979	p=.34
Upper intermediate	20	n.a.	n.a.[30]	.295	p=.772

The results indicate that there were no significant differences between the acceptance rates of the verbs within the same structure: GiveSVC and TellSVC vs. HandSVC and SendSVC.

Regarding the effects of SVC by Thai learners from different proficiency levels, we did not expect a correlation between GiveSVC[31] and Hand*SendSVC to be found in the beginning group. In Thai, *hâj*, the counterpart of *give*, is not permissible in SVC, whereas *jûːn* and *sòŋ*, the counterpart of *hand* and *send* respectively, are allowed in SVC. With L1 influences, GiveSVC would be on the

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[30] A t-test could not be computed between GiveSVC and TellSVC among the upper intermediates because the means were constant values without standard deviations (M= -2, *SD*= 0).

[31] The result of *tell* was excluded because the L1 counterpart is permissible in both serial and non-serial verb construction

negative side of the axis, while Hand*SendSVC would be in the positive territory. Thus, both SVC groups would not be correlated.

However, when proficiency levels increased, the effects of L1 would gradually disappear. Because SVC are not allowed in L2 regardless of the verbs, more advanced learners would rate all of the test sentences in SVC negatively. Therefore, both SVC groups would be correlated, moving to the negative side of the axis.

Table 5.14: Average Scores of GiveSVC and Hand*SendSVC

Proficiency Level	GiveSVC	Hand*SendSVC
Beginning n=20	-.35 (1.66)	.35 (1.01)
Intermediate n=20	-1.25 (1.21)	-.68 (.91)
Upper intermediate n=20	-2.00 (.00)	-1.83 (.34)

Notes: Numbers in the parentheses represent standard deviations.

Based on the data from Table 5.14, the acceptance scores of GiveSVC decreased as the proficiency levels increased. The upper intermediate group fully rejected GiveSVC (-2.00). The rejection scores of GiveSVC were reduced to -1.25 and -.35 by the intermediate and the beginning groups, respectively.

Although the Thai counterpart of *give* does not occur in SVC, both intermediate and beginning groups showed some acceptance of GiveSVC. The data supported the findings in Section 5.1.1. The results from the Elicited Production (EP) tasks also revealed that the beginning group produced a response to *give* in SVC[32]. The gradual increase in Acceptability Judgment (AJ) scores by the lower proficiency groups, together with the production of *give* SVC in EP, revealed the minimal effects of SVC on the acceptability and production of L2. These findings point to L2 learners' ability to access Universal Grammar and reformulation of interlanguage grammar at a later stage of L2 acquisition.

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[32] The girl gave borrow pencil.

SVC might be a tool that Thai learners initially use to attain the English dative constructions. When the proficiency increases, the initial entry of SVC into learners' interlanguage is constrained by UG to the point that SVC is constantly restructured (White, 2003). The restructuring occurs until the learners rule SVC out as a possible outcome in L2 dative constructions.

From Table 5.14, when we looked into the average acceptance scores of Hand*SendSVC, the effects of SVC from L1 dative counterparts were more apparent than those of GiveSVC. The upper intermediate and the intermediate groups recognized the ungrammaticality of both *hand* and *send* in SVC. The rejection scores of the upper intermediate and the intermediate groups were -1.83 and -.68, respectively. In contrast to their upper peers, the beginning group accepted *hand* and *send* in SVC positively as shown in Figure 5.5.

According to the results from the upper intermediate group, the data suggested that they did not stop the SVC restructuring process at the same time on all four verbs. Every member of the upper intermediate group had already terminated the restructuring of *give* and *tell* in SVC, reflected through the highest rejection score of -2 (*SD*=0). On the other hand, the restructuring of *hand* and *send* in SVC was close to being terminated as can be seen by the average rejection score of Hand*SendSVC as -1.84 (*SD*=.34).

To sum up our findings, we found that Thai learners preferred English PD over DO; the order of operations specific to English dative constructions could not provide a conclusive answer as to how Thai learners acquired the English dative constructions; the L1 effects were not fully predictable based on L1 usage; and the Thai learners did not acquire the target PD and DO constructions at the same time for all of the four verbs under investigation. In other words, not only the target PD and DO constructions that Thai learners were aware of. Thai learners in the beginning level were slightly sensitive to instances of each verb.

In the next chapter, we will discuss the findings to shape the concept of how Thai learners acquire the English dative constructions.

CHAPTER 6
DISCUSSIONS AND CONCLUSION

In this chapter, the first part, section 6.1, presents a summary of the findings from Elicited Production (EP) tasks and discusses the results pertaining to developmental stages by proficiency level in relation to how L1 children acquire dative constructions. In 6.2, the findings from Acceptability Judgment (AJ) tasks are summarized. We start our discussion with possible factors leading to Thai learners' preferences of Prepositional Dative (PD) over Double Object (DO). Then, in 6.3, we demonstrate how well Case-checking in the Minimalist Program (MP) helps predict the degree of grammatical acceptability. In 6.4, we discuss the influences of L1 that would in part determine how Thai learners acquire the English dative constructions. In 6.5, we provide methodological suggestions of both EP and AJ tasks that possibly affected the outcomes. Lastly, in 6.6, we summarize the findings of this research study.

6.1 Elicited Production Findings

To begin this section, we provide a summary of the types and percentages of responses produced by each group in Table 6.1.

Table 6.1: Summary of EP Results by Constructions and Proficiency Level

Types of responses (in percentage)	Proficiency Level		
	Beginning	Intermediate	Upper intermediate
Target			
PD	10.00%	46.00%	73.00%
DO	0.63%	3.00%	14.00%
Non-target			
THEME	74.00%	26.00%	8.00%
GOAL	0.50%	0.80%	-
PD$_{for}$	3.60%	8.00%	1.00%
Thai DO (THEME GOAL)	1.25%	3.75%	0.15%
SVC	0.80%	0.30%	-

Note: the responses of *tell* in *'tell someone about something'* and *'tell someone that..'* were excluded.

With respect to the target structures, these findings suggest that the abilities to produce PD and DO responses were not equal; first, within the same group, and second, between groups. Within the same group, the production of PD responses was markedly higher than that of DO, confirming our prediction regarding PD preferences. Between groups, although the productions of PD and DO responses increased with proficiency level, they did not increase at a steady pace. The increase in DO production from one group to another was far less than the increase in PD, across proficiency levels.

According to research in dative acquisition by L1 children (Campbell & Tomasello, 2001; Conwell & Demuth, 2007; Fischer, 1972; Snyder & Stromswold, 1997), researchers shared a similar assumption that both dative constructions are related and derived from the same knowledge of grammar. As a result, when either construction is acquired, the acquisition of the other construction will subsequently follow. Snyder and Stromswold (1997) and Campbell and Tomasello (2001) found that L1 children used DO before PD, but Conwell and Demuth (2007) and Fischer (1972) found that L1 children were more readily to act and speak out in PD than in DO.

L1 inconclusive results above notwithstanding, we postulate that both PD and DO are related. Our postulation is based on the precedence of THEME in the *give* structure in Campbell and Tomasello (2001) and the role of directional *to* in Snyder and Stromswold (1997). We continue our discussion based on Snyder and Stromswold's conclusion (1997) that although DO occurred before PD among L1 children, the ages of the first occurrence of both correlated. Thus, both PD and DO were part of the same abstract grammatical knowledge supported by findings from other researchers (Campbell & Tomasello, 2001; Conwell & Demuth, 2007) that L1 children at the age of 3 could interpret and use both PD and DO as adults did.

With respect to the L2 production in this study, Thai learners developed the knowledge of PD construction before they developed the knowledge of DO. Moreover, PD and DO did not seem to mutually grow together as they do in L1. The production from the Thai learners was heavily skewed towards PD, while the productions of both PD and DO from L1 children correlate. Thus, our L2 findings suggest that the acquisition of dative-related constructions by L2 learners is different from that of L1 learners.

Based on our findings, we assumed that L2 learners in the present study did not acquire the English dative constructions in the same way as L1 children do. L1 acquisition of dative constructions is enabled by a single abstract grammatical knowledge and the fostering of acquisition of both targets in a correlated development. Such a model of grammatical knowledge is compatible with Chomsky's (1995) Computational System of Human Language (C_{HL}), presented in Chapter 2. According to Chomsky (1995), C_{HL} feeds lexical input into two interfaces – Logical Form (LF) and Phonetic Form (PF). For dative verbs, the computation involving Merge of thematic roles is considered a single abstract grammatical knowledge. The PD and DO variations are derived at the outputs as two available options.

In line with the MP perspective above, L2 learners may apply a single abstract representation along with conceptual information to their computation. The fact that they were unable to produce DO possibly involved the complexity of DO feature-checking (as discussed in 2.4.2). Based on the comparison of strong features between PD and DO, the derivation of DO is more complex. Firstly, there are three overt movements, namely DP to [Spec, TP], DP to [Spec, vP], and V adjoining v. The derivation of DO is, thus, far less perfect than its PD counterpart. The results confirm our prediction that since PD is more economical to derive than DO by L2 learners, they produced predominantly PD responses in accordance with the MP notion of economy of derivation.

Apart from PD and DO responses, other types of responses are commonly found with L1 learners such as the use of dative verbs as transitive verbs either with THEME or GOAL, and the use of PD$_{for}$. With respect to the use of dative as transitive verbs by L1 children, Campbell and Tomasello (2001) found that four, one, and two children used *give* initially in THEME, PD, and DO context, respectively. When the first use of 13 dative verbs was combined, the number of children who firstly used only THEME was 43, followed by 7 and 3 children who used PD and DO, respectively. The first use of dative verbs by L1 children is analogous to the production of THEME by the Thai learners in the early stage. Our findings from the beginners show that they also used THEME predominantly (74%), followed by PD (10%) and DO (0.63%)[33]. When

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[33] The percentages in brackets were the numbers of THEME, PD, and DO as ratios to the total number of responses (n=640).

L1 children reached the age of 3, they were able to use both PD and DO interchangeably. Few L1 children at this age still used dative verbs as transitive ones. This progress found in L1 research is in line with the results from the upper intermediate group, as the majority of their responses (87%) were in the target constructions, leaving only 8 percent of responses involving THEME.

In terms of the exclusive use of GOAL, Snyder and Stromswold (1997) and Campbell and Tomasello (2001) did not find any significant correlations between directional *to* (e.g., *I wrote to my friend*.) and *to* in PD (e.g., *I wrote a letter to my friend*.) in terms of the age of first occurrences[34]– *to* in PD was used before directional *to*. Our L2 findings revealed that the order of Theta-role acquisition was similar to that of L1. The percentage of responses in GOAL, which should appear in a later stage after the production of THEME and PD, respectively, must be the lowest. The results from the beginning groups show THEME was the highest (74%), followed by PD (10%), and GOAL (0.5%). THEME as an object of transitive verbs occurred first. After that, the learners were able to use PD and then GOAL.

Regarding PD_{for}, we found that at Thai learners, especially those in the beginning and the intermediate groups, used *for* approximately 3.6% and 8%, respectively. These percentages of PD_{for} are higher than the percentages of ThaiDO and SVC combined. This phenomenon may not be an instance of L1 transfer as none of the Thai counterparts of these four verbs are used with a Thai preposition *sam.rap*, a counterpart of *for*. When we looked into the responses of those who produced PD_{for}, we found that all of them were also able to use the target PD with *to* as well. In addition, PD_{for} was not used consistently across participants. The unpredictable production patterns of *to* and *for* occurred frequently in some participants. It is possible that the stage of PD usage at large represents a further development from THEME towards PD, as the percentage of PD usage increased dramatically from the beginning group to the intermediate group. The beginning group used target PD (10%) and PD_{for} (3.6%), while the intermediate group used target PD (46%) and PD_{for} (8%). When proficiency increased to another level, the upper intermediate group used target PD (73%), while the use of PD_{for} dropped to only a percent. When other types of responses were

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34 The first occurrence of directional *'to'* occurred on average 4 months after the first occurrence of *to'* in PD.

included, we found that, in fact, the development patterns of dative acquisition of L1 and L2 learners are generally in similar sequences, starting from THEME and then PD.

However, the first occurrence of PD_{for} by Peter, an L1 child in both studies (Campbell & Tomasello, 2001; Conwell & Demuth, 2007; Fischer, 1972; Snyder & Stromswold, 1997) should be regarded. Snyder and Stromswold (1997) ignored the age when PD_{for} was used, as they specifically looked for the target PD with *to* and the target DO. In contrast, Campbell and Tomasello (2001) recorded the first emergence of Peter's PD_{for}, which occurred before the target PD and DO. They pointed out that the exclusion of PD_{for} from Snyder and Stromswold's study led to the question of whether DO is actually the prerequisite of PD. Campbell and Tomasello (2001) suggested that *for,* in general, is more productive than *to* because *for* is not restricted to certain dative verbs. According to them, it was possible that some L1 children learnt how to use *for* before *to,* due to the productivity of *for*. However, Campbell and Tomasello (2001) could not find enough data to support their PD_{for} assumption. Bridging the gap between PD_{for} and the target PD, our L2 cross-sectional findings fit well to Campbell and Tomasello's PD_{for} assumption that PD_{for} might be in a transitional process towards the target PD with *to*.

About other types of non-target responses, surprisingly, the production results did not show as much L1 effect as we expected. We predicted, based on the pilot results, that L1 effects (i.e. a THEME GOAL word order of Thai Double Object (DO) and Serial Verb Construction (SVC)) would be produced in a great number. In our pilot test (as discussed in 2.5), we used translation tasks of 10 Thai dative sentences. The results from 39 learners at a beginning level show that 28.6 percent of their translations were in SVC, and 2.8 percent were in Thai DO. This might suggest that different methodological techniques are likely to incur different effects on eliciting types of responses (to be discussed in 6.5). In other words, the role of L1, as we found, is restricted by task; translation gives rise to L1 structure, while EP and AJ do not.

6.2 Acceptability Judgment Findings

Table 6.2 below presents a summary of result confirmation based on the hypotheses developed in the current study.

Table 6.2: Summary of AJ Results by Points of Investigation and Proficiency Level

Structures	Beginner	Intermediate	Upper Intermediate
PD>DO	PD more accepted than DO: confirmed		
Wrong Merger & Weak Light Verb	NS between Weak Light Verb&Wrong Merger: disconfirmed	Weak Light Verb<Wrong Merger: confirmed	Weak Light Verb<Wrong Merger: confirmed
GivePD & TellPD	Relationship: confirmed		
ThaiDO>EngDO	NS between ThaiDO &EngDO (ThaiDO>EngDO)	NS between ThaiDO&EngDO (ThaiDO<EngDO)	ThaiDO<EngDO confirmed

Note: a symbol (>) means having a higher average score, and a symbol (<) means having a lower average score. NS stands for *no significance.*

The results based on the hypotheses as shown in Table 6.2 can be summarized as follows.

Firstly, it was hypothesized that the PD structure would be produced and accepted more frequently than the DO structure, across proficiency levels. The EP results, discussed in 5.1.1 and 6.1, confirmed the production part. The AJ results also supported this prediction. As presented in 5.1.3, the participants' acceptance of PD was significantly greater than that of DO (F (1, 57) = 11.96, p < .002). When the results from the upper intermediate group were calculated independently, a significant difference in the acceptance scores between PD and DO was not found (t (19) =.818, p=.425). This finding suggested that not only target structures but also proficiency levels had effects on the acquisition.

Secondly, the Weak Light Verb structure was predicted to be rejected more strongly than the Wrong Merger structure (t (59) = -6.38, p < .001) because the ungrammaticality related to a weak light verb (v) was greater in number and more serious than the ungrammaticality of Wrong Merger. The ungrammaticality caused by

a weak light verb (*v*) included, first, a wrong word order, and, second, unchecked NPs. The beginners rejected the Weak Light Verb structure at a higher average score than the Wrong Merger structure, with the difference of .39. Although a moderate difference is evident from the beginning group, the hypothesis was statistically disconfirmed (t (19) = -1.60, p = .124). In the intermediate and upper intermediate groups, there were significant differences (t (19) = -5.63, $p < .001$; (t (19) = -5.57, $p < .001$, respectively). It can be assumed that the beginners' knowledge of Case-checking was not as firmly established as that of the intermediate and the upper intermediate groups. From the MP perspective, the beginners' acceptance of the Weak Light Verb structure suggests that Nominative checking in [Spec, TP] is inconsistent.

Thirdly, a correlation between GivePD and TellPD was found *(r* = .641, n = 60, *p* < .001). This confirmed our prediction that the PD structure in L1 of the counterparts of *give* and *tell* would facilitate the acquisition of PD in L2.

Finally, although there were no significant differences between Thai DO and English DO among the beginning and the intermediate groups (t (19) = .687, p = .251, and t (19) = -1.359, p = .096, respectively), a significant difference was found among the upper intermediate group (t (19) =-10.525, $p < .001$). We predicted that the beginners would reject English DO because they were not familiar with the L2 target structure. However, the beginners accepted both types of DO, with a slightly higher score for Thai DO. This might mean that the knowledge of English DO had been learnt prior to this experiment, and their interlanguage was in progress; as a result, the Full Transfer of Thai DO was not observable as predicted.

6.3 Predictions based on Minimalist Program

As discussed in Chapter 1, 2, and 3, the main reasons why we used the Minimalist Program (MP) as the theoretical framework involved the advocacy of the uniformity in Case Theory, which applied to every abstract Case. First, the uniform operation: Case-checking only occurs by Move operation either overtly or covertly. Second, the uniform position: Case-checking is represented in [Spec, head] configuration, where a Case bearer is Spec, and a Case checker is the head, the core

functional categories (CFCs). The strong features in CFCs, which vary across constructions and languages, cause non-economical overt movements.

In this present study, we assert that L2 learners, including Thai learners of English, would acquire more economical constructions prior to the costly ones in the target language. Within Minimalism (Chomsky, 1995) framework, based on the comparison of strong features between PD and DO, the results confirm our prediction that the more costly construction, DO, is more difficult for L2 learners. To find out whether feature strengths had impact on L2 acquisition, we test the knowledge of different DO in English (GOAL THEME) and Thai (THEME GOAL). Due to more costly operations to derive English DO, we anticipate that Thai learners in the early stage of L2 development would accept Thai DO at a significantly higher rate than English DO. The results from Hypothesis 4 show the influence of L1 by proficiency level. In the beginning, the L1 structure was predominant in the learners' L2 grammar when compared to the L2 structure. When the proficiency increased, the learners realized that L2 structure was a more desirable option than the L1 structure. At this stage, we could see that influence of L2 was greater than L1, but the L1 word order was not wholly rejected. Finally, as the proficiency level increased to the highest level, the learners could reject L1 structure and accept L2 target, as in Figure 3 with Thai DO on the negative side and English DO on the positive side.

In addition to the feature strengths, the findings, which are correctly predicted by the MP, can be summarized as follows. First, Case-checking is logically more sensible than the order of Merger, as shown in the results where the stronger rejection of weak light verb was found. Second, the findings are in favor of the derivational approach to constructing sentences of the MP, and not the representational approach, where D-Structure and S-Structure are posited, in the Government and Binding (GB) Theory, In GB, Case is assigned at S-structure, while in MP, Case is checked throughout the computation by Move operation. Unlike MP, GB only allows all lexical items to enter D-structure at the same time, not in an incremental fashion. The results from our study show that Thai learners, as well as the native controls, understood and accepted wrong Merger. This suggests that Move operation, which accounts for Case-checking, occurs in a correct sequence with Merge operation, which introduces a new lexical item. In other words, Case is checked along the course of the

Numeration, not in a single S-structure in GB. Thai learners recognized Case-checking within the minimal domain of [Spec, head] as purported by the MP. Thus, Case assignment, via c-command and m-command at S-structure in GB is not appropriate for making L2 acquisition order predictions, compared to MP, based on our findings.

6.4 Availability of L1 Dative Constructions

In this section, we will discuss effects of L1, namely Thai learners' preference of PD over DO, the extension of PD knowledge of one verb to other verbs, and a difference between Thai DO and SVC verb classes in the initial stage, respectively

According to Baker's (M. Baker, 1988) UTAH (Uniformity of Theta Assignment Hypothesis), the conceptual structure is aligned by the order of AGENT/Causer>THEME, Patient>GOAL, Path, Location. When thematic roles are aligned by UTAH, they are mapped into a sentence with structural Cases. In the dative constructions, the Thematic roles in PD are aligned by UTAH; therefore, Cases are arranged in consistence with their thematic roles in PD straightforwardly. Particularly central to our study, Dative in PD involves the Case assignment by means of P head, in a similar manner with Case assignment of other oblique materials (cf. Larson, 1988). Baker (1997) ties his UTAH in with thematic arrangement in the Minimalist Program by assuming that UTAH is linked to Logical Form (LF). From the MP perspective, Oblique Cases, including Dative in PD, are no longer assigned by P head but checked in [Spec, PP]. Unlike Case-checking in PD, which involves the domain of [Spec, PP], the Case-checking of DO is more complex. From the perspective of UTAH, Case-checking in DO incurs a violation of the order of Thematic roles, where GOAL precedes THEME. According to Baker (1997), the language and cognitive system go to the optimal interface to fit new environment. In the absence of P head, NP_{goal} moves to an empty [Spec, vP] to check off Dative Case feature. After that, Nominative is checked off by the movement of a light verb (v) in a multiple Case-checking manner (as illustrated in 2.4.2). Therefore, DO requires more syntactic operations than PD.

As regards PD structure, Thai and English exhibit similar PD constructions. We established (as discussed in Chapter 2.5.1), that this pattern of Case assignment applies to Thai PD. The complexity of Case-checking of DO and the unavailability of

it in L1 impose relative difficulty in Thai learners' acquisition of this structure. The beginners' results showed that they mastered neither PD nor DO. They rated both PD and DO in AJ with lower scores (0.41 and 0.2, respectively). They also preformed both structures poorly in EP (with 10% and 0.6% of correct responses). In the intermediate group, the unavailability and complexity of DO were clearly evident. In AJ, the intermediate group accepted PD more readily than DO (1.24 and 0.46, respectively). In EP, their correct production of PD vs. DO targets was substantially different (46% and 3%). In the upper intermediate group, the judgments of PD and DO were nearly accurate (1.7 and 1.6, respectively). However, in EP, we found a large difference between their production of PD and DO (72% vs. 14%). The near absence of DO production is possibly attributed to the complexity of the structure and the unavailability of it in L1, as mentioned earlier.

Despite their unanimous DO acceptance score in AJ, the upper intermediate learners produced minimal DO responses in EP. These findings were in line with findings from other research studies, cross-linguistically, that target-like constructions were less evidenced in complex tasks such as speech production (Berman & Slobin, 2013).

As our findings suggest, PD structure is more preferable than DO. Viewed from Nino (1999), who conducted a longitudinal study with Hebrew-English children, the usage of a few prototypical verbs can be abstractly generalized to other verbs, forming a consolidation of a grammatical relation to a similarity-class of verbs. Similarly to the prototypical concept of Nino (1999), Bresnan and Hay (2008) selected *give* as a prototypical verb in their corporal study on dative alternation. In Thai, *hâj*, the counterpart of *give*, is the most frequently used word among the other Thai counterparts of *tell*, *hand*, and *send*. According to Thai National Corpus (Department of Linguistics, 2018), there were 360,576 tokens of *hâj* and 43,676 tokens of *bòk*, the counterpart of *tell*. As *hâj* is used in PD, the prototypical property of *hâj* in the sense of Nino (1999) possibly extends to other verbs in this study. The Thai counterparts of *hand* and *send* are not used in PD. If L1 transfer occurred, the PD of both verbs should have been rated negatively, especially by the beginners. The results evidently showed

that no verbs were rated negatively in PD. The lowest PD score involved *tell* by the beginners (0.1).

In addition, although the counterpart of *tell* is available in SVC, the overall Thai learners rejected *tell* in SVC quite strongly (n=60, mean =-1.02). This ruled out the possibility of direct L1 transfer. If the acceptance of *tell* was affected by L1 grammar, both *tell* in PD and SVC would have been rated positively. However, only *tell* in PD was positively rated. It can be concluded that the prototypical property of *give* extends to *tell* in PD construction. A significant relationship between *give* and *tell* *(r = .641, n = 60, p < .001)* can be viewed as supporting the prototypical PD extension of *give* to other verbs in the class.

The two issues above were discussed in respect of accounts in the theory. Here in the third issue, the data from the beginners' judgments of the individual verbs in the contexts of Thai DO and SVC suggest that their judgments were moderately influenced by L1 verbal properties. The scores of *give* and *tell* were remarkably higher (0.52 and 0.75) than those of *hand* and *send* (0.25 and 0.02). The scores of *hand* and *send* were considerably (0.05 and 0.65) higher than those of *give* and *tell* (-0.35 and -0.35). As is evident, L1 transfer is restricted to the initial stage; as the learners develop their L2 proficiency, L1 transfer gradually declines.

6.5 Problems from Tasks and Recommendations

The first methodological issue concerns fillers. We did not include fillers in the EP task, due largely to the fact that there were already a large number of test stimuli. We assumed that the diverse and numerous structures were able to prevent them from knowing the structures under investigation. In the EP task, the stimuli demanded quite a lot of elicitation from the participants. As an EP session with 32 video clips lasted 20-30 minutes on average per person, adding fillers could be exhausting for participants. Despite the absence of fillers, the EP task was completed quite successfully.

Secondly, we attempted to avoid bias in constructing the stimuli. We aimed to construct video clips that were unbiased towards either of the target constructions: PD and DO. As discussed in Chapter 3, we adopted Bresnan et. al's findings (2007) to minimize possibilities leading to any bias. We avoided using pronouns and long

contexts as they might favor DO usage. We also avoided using NP recipients that are inaccessible from the contexts; such NPs trigger PD over DO. Additionally, our test stimuli were contextually substantial for the sake of understanding, and the relevant expressions were concise to avoid promoting DO. Nonetheless, another dilemma we faced was how much information in the video clips should be provided to prevent the learners from producing responses which were not from their own comprehension (also known as priming effects).

Finally, it was nearly impossible to create video clips of *tell* with concrete THEME. According to Bresnan et al. (2007), concrete THEME facilitate the alternation between PD and DO. We were aware of this limitation from the outset of the instrument construction (discussed in section 4.2.3). In addition, unlike other verbs in this study, *tell* is not expressed strictly in the PD and DO contexts. The other possibilities include *'tell someone about something'* and *'tell (someone) that ...'*, as shown in the native controls' expressions . Therefore, there were a wider variety of *tell* responses than the possibilities of the other verbs. In addition, the responses with *tell,* especially from the beginners, were mostly repetitions of the information heard from the clips. This kind of responses can be considered correct in respect of *'tell that...'*; however, they can also be thought of as resulting from repetition. Thus, it was difficult to judge whether these responses actually came from L2 knowledge.

In AJ, the overall subjects' performance was satisfactory, and the test instrument is considered reliable. Cronbach's Alpha reliability statistics of the PD and DO test items were .812 and .823, respectively. This means that any contradictions arose from the target sentences can be ruled out.

We recommend multiple tasks, an increase in the number of stimuli, and additional sessions in the EP task for future research. Multiple tasks can capture data in a comprehensive way, e.g. production reveals the type of data that judgment does not, and vice versa. With an increase in stimuli, researchers can gain substantial information, instead of adding context. By means of additional sessions per person in the EP task, fillers can be added to the target set. *Tell* was selected due to L1-L2 correspondence. If the L1 under investigation is different from Thai, researchers might opt for other verbs in the same class, with concrete THEME.

6.6 Conclusion

In this study we investigated how Thai learners acquired the English dative constructions, i.e. Prepositional Dative (PD) and Double Object (DO). Since these constructions are used alternately by English speakers from the age of 3 (Campbell & Tomasello, 2001; Conwell & Demuth, 2007), we formulated hypotheses to check if Thai L2 learners could use the two dative structures interchangeably, if English proficiency played a role in the course of development, and if L1 transfer affected the acquisition.

A cross-sectional approach was adopted with L2 learners from different proficiency levels representing different stages of the acquisition. Our hypotheses were theoretically and empirically based. Theoretically, the PD predictions were based on the standard GB analysis of Jackendoff (1990a), Larson (1988, 1990), and Hornstein et al (2005). The DO predictions were based on Hornstein et al's (2005) recent minimalist analysis. Given these analyses, we predicted that PD would be more preferable than DO in the learners' interlanguage system. Particularly, PD is easier for L2 learners to acquire under Minimalism than DO, if complexity in the derivation and the relevant Case-checking is a crucial issue in L2 acquisition. Our empirically based hypotheses revolve around L1 transfer. We predicted that PD, which is available in the L1, would be easier to acquire than DO, and that the L1 constructions, namely Thai DO (THEME GOAL) and Serial Verb Construction (SVC), which are not utilized in the L2, would have some effects on Thai learners, especially those in the initial stage.

To confirm the above hypotheses, we recruited 60 Thai learners from two universities and one high school. The learners were studying between Grade 11 and their first year college. Ten English native speakers served as control participants, all of whom were international faculty, teaching English as a foreign language to high school and university students in Bangkok, Thailand. The Thai student participants were divided into three proficiency groups by means of the MacMillan Placement Test. Two different tasks, Acceptability Judgment (AJ) and Elicited Production (EP), were administered on the same participants. In respect of task constructions, test stimuli were constructed around four English dative verbs—*give, tell, hand,* and *send.* These verbs were selected based on two conditions: they were able to alternate between PD

and DO, and their Thai counterpart verbs can be expressed in PD, Thai DO, and SVC contexts.

The AJ task employed a 5-point Likert's scale, a customary means to measure gradient acceptability. In the EP task, thirty-two animation video clips were created to elicit responses.

Results with regard to the theoretically based hypothesis revealed that the upper intermediate group strongly accepted PD and DO without any significant differences (t (19) =.818, p=.425). When the results from the beginning and the intermediate were included, a significant difference between the acceptance of PD and DO was found. In terms of production, while the native controls showed an alternate pattern between PD and DO, the Thai student participants did not.

They used PD significantly more frequently than DO. The findings from both tasks confirmed our minimalist prediction based on the complexity of DO, especially among L2 learners in the initial stage. In relation to the crucial role of Case-checking, we set two conditions to test this issue. The first group involved a weak light verb (*v*), containing unchecked Nominative and Dative. The second group concerned wrong Merger, i.e. all NPs were checked for Case but the word order was incorrect— V PP NP. We found that L2 learners across proficiency groups rejected a weak light verb (*v*) more strongly than wrong Merger. This part of the results suggests that Case-checking can be acquired in the course of L2 development.

In terms of the empirically based hypotheses, we found that the availability of PD in Thai counterparts of *give* and *tell* had an effect on the English PD acquisition of both verbs. This was confirmed by a significant correlation between *give* and *tell* in PD by all proficiency groups. In terms of Thai DO, we discovered different stages in acquisition. The beginners' acceptance of Thai DO was higher than that of English DO. The intermediate learners accepted both types of DO with a higher score in English DO. The upper intermediate learners rejected Thai DO and accepted only English DO. The findings in this section illustrated the developmental stages, starting from initial L1 influence, to a more internalized L2 structure in the later stage. Regarding SVC, we also found different stages in acquisition. The beginners barely accepted the SVC of *hand* and *send*, predicted to be minimally influenced by L1 Thai. The intermediate and the upper intermediate learners rejected the SVC instances of all four verbs. These

findings also in part confirmed our prediction that L1 would have influence on L2 learners in the initial stage, and this influence would gradually disappear as proficiency increased.

   The last issue we address concerns methodology in L2 research. We suggest the use of both Acceptability Judgment and Elicited Production to evaluate learners' performance on a given structure because different tasks can potentially yield different outcomes. In our study, the PD and DO results from the upper intermediate group showed task-related effects. If only one type of task had been used, the interpretation would have been misrepresented.

   In all, this research study has established that Case-checking is accessible to L2 learners, L2 development proceeds in consistence with stages that are syntactically determined, and proficiency plays a crucial role in the acquisition of L2 structures. Methodologically, it is suggested that both production and judgment tasks be employed, as they can complement each other in rendering a comprehensive view of L2 syntactic development.

REFERENCES

Books and Book Articles

Chomsky, N. (1995). *The Minimalist Program*: MIT Press.

Chomsky, N. (2000). Minimalist inquiries: The framework. Step by step: Essays on minimalist syntax in honor of Howard Lasnik, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–155. In: Cambridge, MA: MIT Press.

Chomsky, N. (2015). *The Minimalist Program: 20th Anniversary Edition*: MIT Press.

Hornstein, N., Nunes, J., & Grohmann, K. K. (2005). *Understanding minimalism*: Cambridge University Press.

Lebeaux, D. (2000). *Language acquisition and the form of the grammar*: John Benjamins Publishing.

Malchukov, A., Haspelmath, M., & Comrie, B. (2010). Ditransitive constructions: a typological overview. *Studies in ditransitive constructions: A comparative handbook*, 1-64.

Pinker, S. (1989). *Language learnability and language development, with new commentary by the author* (Vol. 7): Harvard University Press.

Radford, A. (2009). *Analysing English sentences: A minimalist approach*: Cambridge University Press.

Richards, J. C. (2015). *Error Analysis: Perspectives on Second Language Acquisition*: Taylor & Francis.

White, L. (2003). *Second language acquisition and universal grammar*: Cambridge University Press.

Articles

Baker, M. (1988). Theta Theory and the Syntax of Applicatives in Chichewa. *Natural Language & Linguistic Theory, 6*(3), 353-389.

Baker, M. C. (1997). Thematic roles and syntactic structure. In *Elements of grammar* (pp. 73-137): Springer.

Berman, R. A., & Slobin, D. I. (2013). *Relating events in narrative: A crosslinguistic developmental study*: Psychology Press.

Berwick, R. C., Friederici, A. D., Chomsky, N., & Bolhuis, J. J. (2013). Evolution, brain, and the nature of language. *Trends in cognitive sciences, 17*(2), 89-98. doi:https://doi.org/10.1016/j.tics.2012.12.002

Bresnan, J., Cueni, A., Nikitina, T., & Baayen, R. H. (2007). Predicting the dative alternation. *Cognitive foundations of interpretation*, 69-94.

Bresnan, J., & Hay, J. (2008). Gradient grammar: An effect of animacy on the syntax of give in New Zealand and American English. *Lingua, 118*(2), 245-259.

Campbell, A. L., & Tomasello, M. (2001). The acquisition of English dative constructions. *Applied psycholinguistics, 22*(02), 253-267.

Chomsky, N. (1991). Some notes on economy of derivation and representation. *Anuario del Seminario de Filología Vasca" Julio de Urquijo"*, 53-82.

Chomsky, N. (2001a). *Beyond explanatory adequacy* (Vol. 20): MIT.

Chomsky, N. (2001b). Derivation by Phase. *Ken Hale: A Life is Language*, 1-52.

Conwell, E., & Demuth, K. (2007). Early syntactic productivity: Evidence from dative shift. *Cognition, 103*(2), 163-179.

Croasmun, J. T., & Ostrom, L. (2011). Using Likert-type scales in the social sciences. *Journal of Adult Education, 40*(1), 19.

Epstein, S. D., Flynn, S., & Martohardjono, G. (1996). Second language acquisition: Theoretical and experimental issues in contemporary research. *Behavioral and Brain Sciences, 19*(4), 677-714. doi:10.1017/S0140525X00043521

Fischer, S. D. (1972). *The acquisition of verb-particle and dative constructions.* Massachusetts Institute of Technology,

Fitch, W. T., Hauser, M. D., & Chomsky, N. (2005). The evolution of the language faculty: Clarifications and implications. *Cognition, 97*(2), 179-210. doi:https://doi.org/10.1016/j.cognition.2005.02.005

Gliem, J. A., & Gliem, R. R. (2003). *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales*.

Goldberg, A. E. (2002). Surface generalizations: An alternative to alternations. *Cognitive Linguistics, 13*(4), 327-356.

Groefsema, M. (2001). The real-world colour of the dative alternation. *Language Sciences, 23*(4), 525-550.

Hamdan, J. (1994). *Language transfer and the acquisition of the English dative alternation by native speakers of Arabic.* University of Reading,

Hauser, M. D., Chomsky, N., & Fitch, W. T. (2002). The faculty of language: what is it, who has it, and how did it evolve? (Review: neuroscience). *Science, 298*, 1569+.

Haznedar, B. (1997). *Child second language acquisition of English: a longitudinal case study of a Turkish-speaking child.* Durham University,

Helms-Park, R. (2003). TRANSFER IN SLA AND CREOLES: The Implications of Causative Serial Verbs in the Interlanguage of Vietnamese ESL Learners. *Studies in Second Language Acquisition, 25*(2), 211-244. doi:10.1017/S027226310300010X

Hopp, H. (2005). Constraining second language word order optionality: Scrambling in advanced English-German and Japanese-German interlanguage. *Second Language Research, 21*(1), 34-71.

Hornstein, N. (2018). The Minimalist Program After 25 Years. *Annual Review of Linguistics, 4*(1), 49-65. doi:10.1146/annurev-linguistics-011817-045452

Inagaki, S. (1997). Japanese and Chinese Learners' Acquisition of the Narrow-Range Rules for the Dative Alternation in English. *Language Learning, 47*(4), 637-669.

Indrambarya, K. (1995). *Are there prepositions in Thai.* Paper presented at the Third Annual Meeting of the Southeast Asisan Linguistic Society.

Indrambarya, K. (1998). The status of the word" hây" in Thai. *Pacific Linguistics. Series A. Occasional Papers, 90*, 79-118.

Jackendoff, R. (1990a). On Larson's treatment of the double object construction. *Linguistic inquiry, 21*(3), 427-456.

Jackendoff, R. (1990b). *Semantic Structures*: MIT Press.

Jiang, L., & Huang, K. (2015). The Efficacy of Structural Priming on the Acquisition of Double Object Construction by Chinese EFL Learners. *Higher Education Studies, 5*(5), 38-49.

Keller, F. (2000). *Gradience in grammar: Experimental and computational aspects of degrees of grammaticality.*

Kremers, J. M. (2003). *The Arabic noun phrase: A minimalist approach*: Utrecht: LOT.

Larson, R. (1988). On the double object construction. *Linguistic inquiry, 19*(3), 335-391.

Larson, R. (1990). Double objects revisited: Reply to Jackendoff. *Linguistic inquiry, 21*(4), 589-632.

Lasnik, H. (2002). The minimalist program in syntax. *Trends in cognitive sciences, 6*(10), 432-437.

Margetts, A., & Austin, P. K. (2007). Three-participant events in the languages of the world: towards a crosslinguistic typology. *Linguistics, 45*(3), 393-451.

McDonough, K. (2006). Interaction and syntactic priming: English L2 speakers' production of dative constructions. *Studies in Second Language Acquisition, 28*(02), 179-207.

McDonough, K., & Fulga, A. (2015). The Detection and Primed Production of Novel Constructions. *Language Learning, 65*(2), 326-357. doi:10.1111/lang.12103

McDonough, K., & Nekrasova-Becker, T. (2012). Comparing the effect of skewed and balanced input on English as a foreign language learners' comprehension of the double-object dative construction. *Applied psycholinguistics, 35*(2), 419-442. doi:10.1017/S0142716412000446

Montrul, S. (1999). Activating AgrIOP in second language acquisition. *Development of Second Language Grammars. A Generative Approach*, 85-111.

Montrul, S. (2000). TRANSITIVITY ALTERNATIONS IN L2 ACQUISITION Toward a Modular View of Transfer. *Studies in Second Language Acquisition, 22*(2), 229-273.

Montrul, S., & Slabakova, R. (2003). Competence similarities between native and near-native speakers: An investigation of the preterite-imperfect contrast in Spanish. *Studies in Second Language Acquisition, 25*(3), 351-398.

Muansuwan, N. (2002). *Verb complexes in Thai.* Faculty of the Graduate School of University at Buffalo, The State University of New York,

Ninio, A. (1999). Pathbreaking verbs in syntactic development and the question of prototypical transitivity. *Journal of child language, 26*(3), 619-653.

Oh, E., & Zubizarreta, M. L. (2005). *The asymmetric behavior of goal and benefactive double objects in the English interlanguage of adult L1 Korean and L1 Japanese speakers.* Paper presented at the Proceedings of the 7th Generative Approaches to Second Language Acquisition Conference (GASLA 2004).

Schwartz, B. D., & Sprouse, R. A. (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research, 12*(1), 40-72.

Slabakova, R. (2000). L1 transfer revisited: the L2 acquisition of telicity marking in English by Spanish and Bulgarian native speakers. *Linguistics, 38*(4; ISSU 368), 739-770.

Snyder, W., & Stromswold, K. (1997). The structure and acquisition of English dative constructions. *Linguistic inquiry*, 281-317.

Su, Y.-c. (2010). Knowledge of structural constraints on the dative alternation in children's pronoun interpretation. *Lingua, 120*(1), 1-21.

Sudmuk, C. (2005). *The syntax and semantics of serial verb constructions in Thai.*

Theijssen, D., Halteren, H. ᵛ., Fikkers, K., Groothoff, F., Hoof, L. v., Sande, E., . . . Zande, P. (2009). A regression model for the English benefactive alternation.

Thepkanjana, K., & Uehara, S. (2008). The verb of giving in Thai and Mandarin Chinese as a case of polysemy: A comparative study. *Language Sciences, 30*(6), 621-651. doi:http://dx.doi.org/10.1016/j.langsci.2007.04.001

Wakabayashi, S. (2002). The acquisition of non-null subjects in English: a minimalist account. *Second Language Research, 18*(1), 28-71. doi:10.1191/0267658302sr197oa

Warotamasikkhadit, U. (1990). *There are no prepositions in Thai*.

Whong-Barr, M., & Schwartz, B. D. (2002). Morphological and syntactic transfer in child L2 acquisition of the English dative alternation. *Studies in Second Language Acquisition, 24*(04), 579-616.

Witoon, S., & Singhapreecha, P. (2012). Psych vs. Causative: A View from Thai EFL Learners. *Language Institute Thammasat University*, 161.

Wolk, C., Bresnan, J., Rosenbach, A., & Szmrecsanyi, B. (2013). Dative and genitive variability in Late Modern English: Exploring cross-constructional variation and change. *Diachronica, 30*(3), 382-419.

Yang, C., & Roeper, T. (2011). Minimalism and language acquisition. Unpublished manuscript, University of Pennsylvania & University of Massachusetts at Amherst. Retrieved from http://people. umass. edu/roeper/online_papers/Minimalism, 20.

Electronic Media

Acapela-Group (Producer). (2017). Acapela-Box: create your text-to-speech messages. Retrieved from https://acapela-box.com/AcaBox/index.php

British National Corpus. (2018). Wordcount. Retrieved from http://www.wordcount.org/main.php

Department of Linguistics. (2018). Thai National Corpus. Retrieved 31-1-2018, from Chulalongkorn University http://www.arts.chula.ac.th/ling/tnc/searchtnc/

Kerr, P., Jones, C., Norris, R., Jeffries, A., & Mauchline, F. (2012). Quick Placement Test: . In Straightforward Second Edition: Macmillan Education. Retrieved from http://www.macmillanstraightforward.com/resources/tests.

APPENDICES

APPENDIX A
AJ TEST FORM A

เลขที่   วันที่   เดือน   ปี

คำแนะนำ

ท่านรู้สึกอย่างไรเกี่ยวกับความถูกต้องทางไวยากรณ์ของประโยคในแต่ละข้อ กรุณาวงกลมหมายเลขที่ตรงกับการตัดสินใจของท่าน โดยให้ **+2** = ถูกต้องอย่างยิ่ง (highly acceptable) **+1** = ถูกต้องอยู่บ้าง (quite acceptable)

0 = เลือกเฉพาะประโยคที่ท่านรู้สึกไม่แน่ใจ (unable to decide) **-1** = ไม่ถูกต้องอยู่บ้าง (quite unacceptable) **-2** = ไม่ถูกต้องอย่างยิ่ง (highly unacceptable)

แบบทดสอบนี้มี 50 ข้อ ให้ท่านทำแบบทดสอบแต่ละข้อโดยเรียงลำดับตามข้อ 1 ถึง 50 โดย**ไม่ข้ามข้อ** หรือย้อนกลับมาแก้ไขข้อที่ทำไปแล้ว ดูวิธีการตามตัวอย่าง (I) และ (II)

Instructions

How do you feel about the acceptability of each sentence in this test? Please circle the number that represents your judgment on the scale, where +**2** is highly acceptable, +**1** is quite acceptable, **0** is only for any sentences that you cannot make a decision for , -**1** is quite unacceptable, and -**2** is highly unacceptable. There are 50 items. Please do the test in chronological order. **DO NOT** skip items or return to revise the items that you have already marked. See examples (I) and (II) below.

(I) Johnny kept his photos in a memory card.

     -2----------------   -1 ---------------0 ------------ +1 ------------------(+2)
Highly Unacceptable   Unable to decide   Highly Acceptable

(II) Monica stored in a mobile phone application.

     -2---------------- (-1)-------------0 ------------ +1 -------------------+2
Highly Unacceptable   Unable to decide   Highly Acceptable

START NOW

1. Frank handed his passport give the receptionist.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

2. Anna gave her brother a ruler.

--2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

3. Kevin loaded onto his pick-up truck.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

4. Carol sent her husband a message.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

5. Amy told a joke to her mother.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

6. Oliver looking out of the window.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

7. Tyler watches often action movies.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

8. Vickie told her address give the salesman.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

9. Ellen handed her brother a screwdriver.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

10. Vanessa sent a long memo her staff.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

11. Billy a pencil handed to his classmate.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

12. Tammy the story told to her roommate.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

13. Rachel is replying to her boss's email.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

14. Bobby told his phone number the operator.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

15. Daniel always cooks Thai food.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

16. Tom sent a poster give his customer.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

17. Helen handed a magazine to her daughter.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

18. Melanie hung a painting on the wall.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

19. Daniel gave his mother a present.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

20. Thomas handed to the officer a form.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

21. Mark his radio gave to his friend.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

22. Matthew is playing with his dog.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

23. Lisa sent her teacher a document.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

24. Tara returned a textbook to the library.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2

Highly Unacceptable   Unable to decide   Highly Acceptable

25. Jane handed her friend a thumb drive.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

26. Julia told her friend the answer.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

27. Ashley wants pass the final exam.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

28. Jacob forgot to do his homework.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

29. William gave some flowers his girlfriend.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

30. Edward sent a check to his wife.

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-2  ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
```
Highly Unacceptable   Unable to decide   Highly Acceptable

31. Jasmine is adding to her music collection.

```
-2  ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
```
Highly Unacceptable   Unable to decide   Highly Acceptable

32. Janet put a bottle on the table.

```
-2  ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
```
Highly Unacceptable   Unable to decide   Highly Acceptable

33. Philip told his staff good news.

```
-2  ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
```
Highly Unacceptable   Unable to decide   Highly Acceptable

34. Sam gave a T-shirt to his brother.

```
-2  ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
```
Highly Unacceptable   Unable to decide   Highly Acceptable

35. Kimberly loves to live with her parents.

```
-2  ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
```
Highly Unacceptable   Unable to decide   Highly Acceptable

36. George handed his credit card to the cashier.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

37. Linda gave to her aunt a coffee cup.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

38. Nancy handed a ticket the staff.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

39. Charles poured some oil into the engine.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

40. Betty sent to her boss a report.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

41. Kristen found her ring in a bathroom.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

42. Jason told to his father the password.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

43. Michelle gave a toy to her son.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

44. Thomas searched on the Internet.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

45. Julia attached to an email to her friend.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

46. Jimmy a postcard sent to his uncle.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

47. Michael told a secret to his wife.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

48. Brian downloaded a song to his phone.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

49. Peter sent the orchids to his girlfriend.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

50. Sharon gave a lipstick give her sister.

-2 ------------------ -1 ------------------ 0 ------------------ +1 ------------------ +2
Highly Unacceptable   Unable to decide   Highly Acceptable

BIOGRAPHY

Name	Mr. Teerawat Pongyoo
Date of Birth	August 26, 1980
Educational Attainment	2003 Bachelor of Arts (English) English Department, Faculty of Liberal Arts, Thammasat University
	2010 Master of Arts in Teaching English as Foreign Language, Language Institute of Thammasat University, Thammasat University
Scholarship	Thammasat University, Ph.D. Scholarship (Academic Year, 2014)