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Control before Raising in Thai EFL Grammar

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Abstract

This study investigated the acquisition of English *control* and *raising* (*over Experiencer*) constructions with three groups of Thai EFL learners (lower intermediate, intermediate, and advanced). Thai and English, with respect to *control*, commonly have PRO and infinitive markers, but Thai does not exhibit (subject-to-subject) *raising*, unlike English. Our hypotheses were based on L1/L2 similarities, access to UG, and previous studies. We hypothesized that Thai learners' performance on *raising* would be above chance, based on UG availability and potentials for the learning of English *raising* suggested in Witoon (2012). In addition, based on L1/L2 similarities and Yoshimura et al.'s (2016) findings, Thai learners' performance on *control* would be more accurate than *raising*. Grammaticality judgment/comprehension trials were employed; results were obtained by ANOVAs. The first hypothesis was confirmed by the intermediate and advanced groups. Tests on the second hypothesis revealed a confirmation; there were ceiling performances across groups on *control* and a development pattern on *raising*. The study's findings suggest facilitation of L1/L2 similarities and restrictions on UG access. Particularly, L2 learners can access linking between PRO and arguments more readily than

	raising of arguments, suggesting UG access is restricted by marked properties of L2 structures, such as English *raising over Experiencer*.

Introduction

This study investigated Thai EFL learners' knowledge of English control and raising structures. Although both control and raising contain infinitival clauses, on a standard assumption in the Generative model, they are crucially different. In control, the matrix subject (controller) is co-referential with PRO, the embedded clause subject that it c-commands, whereas in (subject-to-subject) raising, the matrix subject is derived, motivated by Case. As sentential subjects are arguments (A), the interpretations obtained from A-link and A-movement (represented by control and raising) can be assessed toward determining L2 internal knowledge.

Such knowledge is presumably part of Universal Grammar (UG), the innate language faculty containing invariant principles with accompanying parametric options/rules. In terms of control, UG provides the underlying structure (constructed via the Projection Principle) with an infinitival subject PRO and the A-link mechanism. As for raising, UG makes available the underlying structure with the theta-less and Case-assigned subject position, a raised predicate taking a clausal proposition, and the A-movement mechanism for the derivation.

In L2 acquisition, UG cannot be a sole basis as L2 learners are equipped with their L1 system. Thai possesses control but not raising, which will be discussed in an upcoming section. When viewed from control, L1 transfer can be defined as one's generalization from the presence of PRO and A-link mechanism in the L1 to the relevant L2 structure. English raising, for Thai learners, is independent of L1, as Thai does not use this operation. The learning of raising for Thai learners is thus dependent on their access to UG. The area of control and raising has only recently been a point of investigation in SLA research (Yoshimura et al., 2016; Choe, 2015). In both studies, it is suggested that L1 facilitates the learning of an L2. Japanese, according to Yoshimura et al. (2016), does not have raising while control is present. Similar to Japanese, Korean has control, but it also has a specific raising structure (Choe, 2015). Both studies revealed results that suggest L2 learners' experience difficulty with English raising, but not control.

In terms of similarities and differences between L1 (Thai/Japanese) and L2 (English), Thai is similar to Japanese in that control is available but raising of the *seem/appear* type is not. Despite the availability of previous findings favoring the L1 role, the question of whether Thai learners can acquire these two structures in a similar manner to Japanese and Korean learners remains of interest. If Thai L2 learners exhibit some knowledge of English raising, this evidence can substantiate the argument for their access to Universal Grammar (UG). In particular, the learning of raising can illuminate the extent to which UG is accessible to L2 learners.

As the hypotheses that we formulated are theoretically and empirically based, we present theoretical backgrounds and previous studies on L2 acquisition of control and raising in the next section, followed by two hypotheses. Sections 3 and 4 provide the methodology and results, in response to the two hypotheses. Section 5 discusses the results, which largely support the hypotheses. Finally, sections 6 and 7 present a conclusion and recommendations for future research.

Theoretical Backgrounds and Previous Studies

In this section, we establish the availability of control and unavailability of raised *seem* constructions, by English standards, in Thai. We also discuss previous studies on L2 acquisition of English controls and raising. Both serve as backgrounds for our hypotheses at the conclusion of this section.

Control

It is well-established in the literature that Thai has control sentences (Kobsiriphat, 1988; Hoonchamlong, 1991; Jenks, 2006; Singhapreecha, 2010). Hoonchamlong (1991), Jenks (2006), and Singhapreecha (2010) commonly claim that *yàak* and *phayayaam,* meaning "want" and "try" are control verbs. In terms of markers for infinitival clauses, Jenks (2006) and Singhapreecha (2010) claim that Thai has *càʔ* compatible with English *to,* as shown in (2). This instance of infinitive marker is distinguished from *càʔ,* which conveys future mood, as in (1). When an element expressing finiteness such as a progressive marker *kamlaŋ*, a diagnostic for finite/non-finite determination, is inserted in the embedded clause in (2), the result, as shown in (3), becomes

ungrammatical. The future mood, infinitival and progressive marking elements are abbreviated as FUTURE, INF, and PROG respectively.

(1) Suda càʔ pay talàat
Suda FUTURE go market
"Suda will go to the market."
(2) Suda$_i$ yàak [PRO$_i$ càʔ pay talàat]
Suda want INF go market
"Suda wants to go to the marker."
(3) *Suda yàak kamlaŋ càʔ pay talàat
Suda want PROG INF go market

Given that the embedded clause in (2) is non-finite, PRO, which takes its referent from the matrix clause subject *Suda*, is present. In this respect, Thai control constructions are characterized by a hypothetical verb and an infinitival clause introduced by *càʔ*. We turn next to Thai and English subject and object control sentences, as a basis for our experimental trials.

Subject Controls in Thai and English

Sentence (2) from above takes the entire infinitival as a complement and PRO is identified with the matrix clause subject. This property is part of the subject control pattern by English standards. There is another class of predicates such as *promise* which can be a subject control verb or a verb taking an optional NP and a finite clausal complement. Unlike English, the Thai counterpart *sănya* is restricted to a finite clausal complement; the subject control option is not available.

As the complementizer *wâa* is used with *sănya,* a note on *wâa* is in order. In Thai, finite clausal complements are marked by two complementizers *wâa* and *thîi* (cf. Kobsiriphat, 1988; Hoonchamlong, 1991). According to Ekniyom (1982), cited in Hoonchamlong (1991), *wâa* and *thîi* can be distinguished by their complement types; the former selects assertive clauses while the latter non-assertive/factive clauses, as (4a) and (4b) illustrate.

(4) a. Kanya phûut wâa (thəə) càʔ trúat kaanbâan (phrûŋníi)
Kanya say Comp 3rd.fem.sg FUTURE mark homework (tomorrow)
"Kanya said that she would mark the homework assignments."

b. Kanya sĭadaaj thîi (thəə) mâydây trúat kaanbâan (mɯ̂awannníi)
Kanya regret Comp 3rd.fem.sg Neg mark homework (yesterday)
"Kanya regretted that she did not mark the homework assignments."

The clausal complements marked by *wâa* and *thîi* in (4) are finite; tense or modal elements are required, and the clauses can be extended by time adverbs such as *phrûŋníi* and *mɯ̂awannníi*. As finite clauses, the subject position can be occupied by the pronoun *thəə* or the non-overt pronominal, i.e., *pro*, an available option for Thai, a pro-drop language.

With respect to Thai *promise*, as in (5) below, the matrix verb requires a PP and a finite clausal complement. PP aside, finiteness of the clausal complement is indicated by *wâa* along with the modal *càʔ*, parallel to (4) above.

(5) Kanya sănya kàp Somsak [wâa (*thəə)* càʔ trúat kaanbâan]
Kanya promise with Somsak Comp 3rd.fem.sg FUTURE mark homework
"Kanya promised Somsak that she would mark the homework assignments."

While the Thai *promise* selects a finite clausal complement, the English *promise* can either take a finite clause as in the translation of (5), or an infinitival clause, in (6).

(6) Kanya promised Somsak to mark the homework assignments.

Given the data in this section, Thai subject controls are restricted to the class of *want*, without an intervening object. Thai *promise* (with an intervening object) is different from its English counterpart; it does not take an infinitival complement.

Object Controls in Thai and English

According to Kobsiriphat (1988) and Singhapreecha (2010), there are a class of matrix verbs in Thai object controls which impose an action on the objects in the presence of the complementizer *hâj,* such as (7).

(7) Suda sàŋ Chaiᵢ [[PROᵢ hâj kɛ̂ɛkhăj bòtkhwaam]].
Suda order Chai CAUS revise paper
"Suda ordered Chai to revise the paper."

In (6), the verb *sàŋ* "order" takes an NP object and an infinitival introduced by the causative marker *hâj* as its complements. As non-finite, PRO, which is co-referential with the object *Chai*, is present. The non-finiteness of the clausal complement in (7) is suggested by the ungrammaticality of (8). In (8), the insertion of the preverbal perfective element *dâj* makes the sentence ungrammatical.

(8) * Suda sàŋ Chai$_i$ [[PRO$_i$ hâj dâj kɛ̂ɛkhăj bòtkhwaam]].
Suda order Chai CAUS PERF revise paper

Similar to English, Thai control structures have PRO, and infinitival clauses are introduced by markers in both languages. In terms of differences, the Thai *promise* takes PPs and finite clauses, while the English counterpart takes both finite and infinitival clauses. In Thai object control sentences, a causative marker is required; in English *to* is used to mark clausal complements in both subject and object control sentences. From an L2 perspective, subject control could be more difficult for L2 learners to acquire than object control (cf. Yoshimura et al., 2016). According to Rosenbaum's (1967) Minimal Distance Principle (MDP), there is subject-object asymmetry involved in (6), repeated below as (6′).

(6′) Kanya ordered Somsak$_i$ [PRO$_i$ to mark the homework assignments]

In terms of the distance between PRO and its controller, *Kanya* is a long-distance antecedent for PRO, due to the intervention of the NP *Somsak* in (6), while the distance between PRO and its controller is shorter, without such an intervention in (6′). This subject-object asymmetry issue will be taken into consideration in our hypothesis with regard to control.

Raising

Non-Raising in Thai and Raising in English

That Thai has raising is addressed in Kobsiriphat (1988), who argues that Thai (adversative) passives involves object-to-subject raising, the consequence of a reanalysis of a complex verb form in which *thùuk* is

incorporated (cf. Kayne's (1981) v-v reanalysis). Passives aside, Kobsiriphat claims that Thai *seem, i.e., duu-mŭan càʔ*, is not a raising verb.

A note on *càʔ* is in order at this point. In line with Noss (1964), who considers *càʔ* as part of *duu-mŭan*, we treat it as a clitic, associated with an irrealis mood, due to its hypothetical sense and the ability to separate from *duu-mŭan*, meaning literally "look-like", as shown in (9). This *càʔ* is labelled IrrealisM, distinct from the instance of *càʔ* as an infinitive marker.

(9) a. *e* duu-mŭan John càʔ mây maa
Seem John IrrealisM Neg come
b. John duu-mŭan càʔ mây maa
John seem IrrealisM Neg come
"Apparently, John is not coming." (for both (9a) and (9b))

As Thai is pro-drop, it makes no use of expletives *it* and *there* to fill the subject position (marked by *e*, for an empty category, in (9a)). According to Kobsiriphat (1988), the matrix subject of *duu-mŭan* in (9a) is unfilled and theta-less and *duu-mŭan* takes a clausal complement. He further remarks that the movement of *John* to sentence initial position in (9b) is not motivated by Case because *John* gets Case from the INFL of the S containing it, i.e. *càʔ*, which he considers a modal. Thus, Kobsiriphat considers the clausal complement of *duu-mŭan* as a finite clause, a point with which we agree.

In our view, the finiteness of the clausal complement of *duu-mŭan* can also be confirmed from two more pieces of evidence. The first one is concerned with the fact that *wâa*, an assertive complementizer can occur in (9). With *wâa*, the same reading remains but with an additional formality sense, e.g., a literal reading. If formality and informality are expressed with the overt complementizer and null, respectively, this suggests the presence of CP in the underlying structure, and consequently, finiteness.

(10) *e* duu-mŭan [$_{CP}$ (wâa) [$_{IP}$ Suda càʔ klàp bâan lέεw]]
Seem Comp Suda IrrealisM return home PERF
"It seems that Suda has gone home already."

The second piece of evidence involves the ability of the irrealis modal *càʔ* (a separable clitic of *duu-mŭan*) to be extended by a Tense/Aspect marker, suggesting the finite property of the IP. The embedded IP in (10) is finite; it has a perfective particle *lέεw*, in sentence

final position. It is also possible to insert the prospective preverbal auxiliary *kamlaŋ* "to be going to" preceding *càʔ*, as in (11), suggesting finiteness of the embedded IP.

(11) *e* duu-mŭan [$_{CP}$ wâa [$_{IP}$ Suda kamlaŋ càʔ klàp bâan]]
Seem Comp Suda PROS IrrealisM return home
"It seems that Suda is going to go home."

A question might arise as to the status of the NP that precedes *duu-mŭan*. As Thai has Topic sentences (cf. Hoonchamlong, 1991), it is likely to be a topic phrase. Sentence (12) is slightly modified from (9b), illustrates Thai topic sentences.

(12) John$_i$ (nâ) duu-mŭan [(wâa) [*pro*$_i$ càʔ mây maa]]
John TM seem Comp IrrealisM Neg come
"As for John, it seems he is not coming."

Sentence (12) can be expressed with the topic marker *nâ* and Comp *wâa*. (That the topic marker (TM) is optional is also noted in Ekniyom, 1977 and Hoonchamlong, 1991). The translation is consistent with the way a topic structure is interpreted.

For a constituent to become a topic, it is moved to be adjoined to the sentence initial position, resulting in a gap in the position where the constituent has moved (cf. Chomsky's (1977) relevant formulation). With respect to Thai topic sentences such as (12), instead of a gap in the embedded clause subject, one can assume a null pronominal (*pro*), whose referent is identical to that of the topic phrase, which is adjoined to S (IP). As a result, (12) is a topic structure, where *John* is not the sentential subject, but an adjunct to IP, with *pro* in the embedded clause subject. In this respect, Thai topic sentences could surface as counterparts of English raised *seem/appear* sentences.

In English, the matrix subject, as shown in the derived sentence (13), is filled by the lower clause subject *John*. Raising of *John* from the lower clause to the higher clause arises from the verb *seem*, a one-place predicate requiring a proposition as its complement. *Seem* cannot assign a theta role to the lower clause subject, but the entire clausal proposition. *John* originates as the lower clause subject with a theta role lacking Case as the infinitive marker *to*, being non-finite, cannot assign Case to it. As Spec,IP is the theta-less and Case-assigned position, *John* raises into

Spec,IP to meet the Case requirement for an NP argument, and its theta role is transmitted.

(13) c. John$_i$ seems [$_{IP}$ t$_i$ to not be coming.]

The facts revealed by the Thai (9)-(12) suggest that the movement of the lower clause subject to the matrix subject position, i.e., A-movement, is absent in Thai, but present in English.

It is noteworthy that in the raised tokens employed in our experiment there were prepositional phrases (PP) that included *to* and an Experiencer. As we employed comprehension (following Yoshimura et al.'s (2016) study) as a means, the intervention of PP was deemed crucial to determine whether or not there was raising. While PP remained a diagnostic, this structure, also known as raising over Experiencer, was complex. The complexity of this structure should be addressed as it could impose difficulty on L2 learners. We next present an approach by Hartman (2011) to account for raising over Experiencer as a guide to this specific property of English.

Raising over Experiencer

Sentence (14), one of our experimental tokens, illustrates the English raised *seem* with PP intervention. In (14), *Kim* bears an Experiencer role and *to Kim* intervenes between the matrix verb *seems* and the infinitival clause *to run a car rental business*.

(14) Cheryl seems to Kim to run a car rental business.

Cross-linguistically, a raised structure with PP intervention is considerably marked. Particularly, as Hartman (2011) remarks, raising over Experiencer is grammatical in English, but not in several Romance languages, e.g., Italian, French, Spanish, Icelandic and Greek. Hartman proposes uniformity in c-command relations across D and S-Structure as a means to account for grammaticality that arises in this particular type of structure in English.

His argument for grammaticality of sentences such as (14) is based on a consistency in the absence of asymmetrical c-command relations across D-Structure and S-Structure. Labelled brackets in (15a) and (15b), respectively, illustrate these.

(15) a. [$_{TP}$ seems [$_{PP}$ to Kim] [$_{TP}$ Cheryl to run a car rental business]] DS
b. [$_{TP}$ Cheryl [V-P seems-to] [$_{PP}$ <to> Kim] [$_{TP}$ <Cheryl> to run a car rental business]] SS

Viewed from Hartman's (2011) approach, at D-Structure, neither argument c-commands the other; *Cheryl* is hierarchically lower than *Kim*, and *Kim* is dominated by a PP, which prevents it from c-commanding *Kim*. To derive the S-Structure, P incorporates into V, in a PP-reanalysis fashion, and *Cheryl* raises into the matrix subject position leaving a copy of it <*Cheryl*> in the infinitival complement. According to Hartman (2011), the copy of *Cheryl* is deleted at PF but remains interpretable at LF. As the copy of *Cheryl* is considered a logical entity and taken into account in the derivation, there are both *Cheryl* and <*Cheryl*> that enter into c-command relations with *Kim*. In this respect, *Kim* is both c-commanded by *Cheryl* and c-commands the copy of *Cheryl*. As c-command applies to *Cheryl* in relation to *Kim,* but not *Kim* to *Cheryl*, neither *Kim* nor *Cheryl* c-commands the other. Thus, both D and S-Structures are similar in the absence of asymmetrical c-command relations, resulting in grammaticality.

In Romance languages, at S-Structure the copy of the raised NP is also available, but PP-reanalysis is not; as a result, the Experiencer, as part of PP, cannot c-command the copy of the raised NP. Since there is an inconsistency in the plausibility of c-commands at D and S-Structures, raising over Experiencer in Romance languages incurs ungrammaticality.

With respect to L2 learning, while UG can be assumed to provide the argument structure and A-movement, a marked property (such as PP-reanalysis proposed by Hartman (2011)), may pose a challenge to the learning of the English raised *seem*. We will return to this issue in the results.

To recapitulate, control structures are available in Thai and English; raising structures, particularly the raised *seem*, are available in English, not Thai. Based on these similarities and differences, if L1 Thai plays a role, raised *seem* sentences in English are likely to be more problematic for Thai EFL learners than control sentences. In the next section, we will review previous research that has been done on the acquisition of English raising and control structures by L2 learners. This will provide additional background for the upcoming hypotheses.

Previous Studies

Control and Raising in L2 Acquisition

There have been a few studies examining L2 performance on control and raising. Before Yoshimura et al.'s inspiring research (2016), a series of studies had been conducted by Yoshimura and colleagues on Japanese EFL learners' knowledge of the expletive *it/there* in relation to raising. In one study, Yoshimura and Nakayama (2010) investigated three types of expletive *it* constructions (i.e. weather, *that*-clause with passives, and *seem/appear*). In Japanese, an overt expletive *it* is not available, but it has an adjective or adjectival noun *rashii* and *you/youda,* compatible in meaning to *seem/appear*, at sentence final position. Having employed acceptability judgment, they found that their Japanese participants were able to detect English grammatical and ungrammatical test sentences. Based on the findings, they claim that the learners have the knowledge of the theta-less *it* and consequently the Extended Projection Principle (EPP). To confirm the above findings, Nakayama and Yoshimura (2011) continued their study by adding *it/there* structures with meanings related to price/time/weight in their test stimuli. The participants were divided into High and Low, based on the test of the participants' institution. In the findings, while acceptability rates of grammatical sentences were similarly accurate across the native English speaking controls and Japanese learners, there was a large difference between the two groups in detecting ungrammatical sentences in relation to *place*. The results suggest that EPP-related constructions are simple for Japanese learners, even in the low proficiency-scored learners.

Subsequently, Yoshimura et al.'s (2016) study focused on both control and raising constructions in L2 early states. As claimed by Yoshimura et al. (2016), raising is not available in Japanese while subject and object control are. They questioned if Japanese learners of English would be able to identify the controllers of PROs and the raised arguments (with PP intervention).

As subject controls with object interveners are grammatical in English and Japanese, Yoshimura et al. (2016) assumed that a smuggling operation operates in both languages. Smuggling, proposed by Belletti and Rizzi (2013), resolves blocking effects incurred by object interveners in subject control constructions. Briefly, the grammaticality of subject control structures with *promise* is obtained through incorporation of an infinitival clause introduced by *promise* into a light verb v_{make}, assuming the object is

a benefactive (*ben*) particle-like functional head. Sentences (16)-(18) below, reproduced from Belletti and Rizzi's (21)-(23), illustrate the derivation depicting the underlying representation, incorporation of *promise* and its infinitival complement, and extraposition of the infinitive, respectively. Essentially, PRO in (17) is coreferential with the matrix subject.

(16) John v_{make} [Bill *ben* [promise [PRO to go]]]
(17) John v_{make} [promise [PRO to go]] [Bill *ben* t]
(18) John promise+v_{make} [[t $_{promise}$ t $_{infinitive}$] [Bill *ben* t]] [PRO to go]

Notwithstanding the presumed availability of smuggling, blocking effects might cause English subject control to be more difficult than object control for Japanese learners.

Yoshimura et al. (2016) recruited thirty Japanese high school students who studied English in Japan. They were divided into two groups of Novice High and Novice Low levels (15 each) by their TOEIC scores. Yoshimura et al. (2016) used a questionnaire of three sentence types consisting of five sentences each: subject control constructions, object control constructions and raising constructions. Examples of Yoshimura et al.'s (2016) subject control, object control, and raising items are illustrated in (19).

(19) a. Hanako promised Susan to join the school tennis team.
Q: Dare-ga gakkoo-no tenisu chiimu-ni sankashimasu ka
"Who is going to join the school tennis team?"
A: 1. Hanako 2. Susan 3. both 4. I don't know

b. Tom ordered Kate to return home by six o'clock.
Q: Dare-ga roku-ji made-ni ie-ni kaerimasu ka
"Who goes back home by 6 o'clock?"
A: 1. Tom 2. Kate 3. both 4. I don't know

c. Jake appeared to Steve to have fun on his business trip.
Q: Dare-ga shucchoo-no toki-ni tanoshisoodeshita ka
"Who seemed to be having fun on his business trip?"
A: 1. Jake 2. Steve 3. both 4. I don't know

The student participants were given a paper-and-pencil questionnaire and, after having read a given statement, asked to choose the correct answer among the choices. The language used in the questions to elicit the participants' knowledge was Japanese while English was used in the test stimuli and the answers. Yoshimura et al. (2016) found both groups received high to low scores in accordance with the relative order of object/subject control to raising. According to percent results, they received 86, 71, and 42% on object control, subject control, and raising, respectively. While the high and low proficient groups' performances were not reliably different, their performance (across groups) on subject control was significantly different from raising, as was their performance on object control. The findings largely confirmed Yoshimura et al.'s predictions that the ease-difficulty pattern of control and raising suggests that, in addition to innate knowledge/UG, L1 knowledge can provide either positive or negative effects, supporting Schwartz and Sprouse' (1996) Full Transfer/Full Access (to UG).

Korean learners of English were also investigated in terms of the knowledge of English control and raising. Choe (2015) conducted a study addressing this query. According to this researcher, control and raising constructions are available in Korean. In Korean raised *seem* constructions, the honorific *usi* agrees with the (raised) subject while in non-raised counterparts the word order remains the same but *usi* is absent. Despite the presence of raising, the raising over Experiencer type is not available in Korean, unlike English.

Choe (2015) recruited 30 university students in Korea, aged between 19 and 30, and a control group of 35 native English speakers in the US. All the participants were administered a Truth-Value Judgement task (Crain & Mckee, 1985; Crain & Thornton, 1998). The participants were shown ten stories, consisting of warm-ups, control stories, critical stories and fillers. As for the test stimuli, there were 3 different structures; one control with the verb *think* and 2 other items per story set. The two other items were a test of unraised items with an Experiencer-phrase, and a test of raised items with an Experiencer-phrase.

The results showed that the Korean participants did well on control *think* (81.7%) and unraised (83.3%) which were significantly higher than the chance level. However, they performed below chance on the raised structure (41.7%). Choe attributes the difficulty of raising to the markedness of raising over Experiencer. Similar to Yoshimura et al.'s view,

she remarks that her findings support the Full Transfer/Full Access model, particularly the part that considers the initial state of the L2 as the final state of the L1.

Given the L2 studies reviewed so far, evidently L2 learners can recognize the expletive *it* and the EPP and are more aware of English control than raising constructions. Next, we will present another study which also investigated L2 learners' knowledge of raising, but in psych verb constructions.

Thai L2 Learners' Acquisition of Psych Verb Constructions

Another investigation concerned with English raising is that of Witoon (2012), who conducted a study on Thai EFL learners' acquisition of English psych verb constructions. It was hypothesized that If Thai EFL learners have acquired the system underlying psych verbs, they should be able to map Theme and Experiencer to the relevant syntactic positions, with greater accuracy on EVT (Experiencer Verb Theme) than TVE (Theme Verb Experiencer). Sentences (20a) and (20b), reproduced from Witoon's (2), illustrate EVT and TVE, respectively. In (20a), *the little brother* (Experiencer) and *the tiger* (Theme) occupy the subject and object position at both D and S-Structures. In (20b) *the tiger* (as Theme) occupies the subject position, while in the underlying structure this position is empty and non-theta marked; the (unaccusative) verb *frightened* cannot assign Case to it. Thus, the raising of Theme *the tiger* is driven by nominative Case assignment.

(20) a. The little brother feared the tiger.
b. The tiger$_i$ [$_{VP}$ frightened t$_i$ the little brother].

The Thai counterpart of (20) is shown in (21), a causative construction. In (21), a causative marker *thamhâj*, corresponding to English causative *make*, introduces a small clause consisting of the Experiencer *nɔ́ɔŋ* and the verb *klua*. Therefore, Thai does not have TVE, but causative constructions as an alternative.

(21) sŭa thamhâj nɔ́ɔŋ klua
tiger CAUS little brother fear
"The tiger made the little brother frightened."

In Witoon's (2012) GJ task, ten sets of TVE along with EVT, containing verbs such as *dislike* and *fear* were examined, with three groups of Thai EFL learners (beginning, intermediate, and upper intermediate, determined by the Michigan English Placement Test). He found that the three groups judged EVT remarkably well (7.6, 7.2, and 8 from the scale of 10), while their judgements on TVE were considerably inaccurate (3.7, 3.5, and 5.06 from the same scale), and there was a significant difference between the judgements of the two structures by subjects overall. The minimal to moderate accuracy on TVE can be viewed as L2 learners' inability to acquire it; however, the upper intermediate group revealed quite a large individual difference. According to Witoon (2012), there were a few subjects who did very well on TVE, and their accuracy can be attributed to their more consistent exposure to English than the other group members. This piece of evidence warrants further investigation.

Although the raising structure has been found to be difficult across Japanese, Korean, and Thai L2 learners (with English psych verbs), we will continue to examine raising with Thai L2 learners. We will also compare the Thai learners' performance of English raised sentences with that of control sentences, to obtain comparative data toward L1 perspective. Methodologically, we recruited considerably more volunteers, representing different stages of development, and employed ample test stimuli in control and raising. We anticipated that a cross-sectional study, a substantial number of stimuli, and a new L1 Thai would yield strong evidence to provide insights into the queries of the L2 acquisition of raising and control constructions and consequently the issue of L2 accessibility to UG.

Hypotheses

Two hypotheses for the current study were formulated as follows. Firstly, based on Witoon's results, which show the upper intermediate group's performance above the chance level on TVE sentences, and the assumption that UG is available to L2 learners, if Thai L2 learners have access to A-movement, their performance on English raised *seem/appear* constructions should be remarkably above the chance level (50%). In addition, if low and high proficiency affects performance, the lower proficient learners' performance will be less accurate than that of the higher proficient learners.

Secondly, based on Thai/English similarities on control and the absence of raised *seem/appear* in Thai and findings from Yoshimura et al. (2016) and Choe (2015), Thai learners' performance on control constructions will be more accurate than that of raising constructions. Within control, since object control is less difficult than subject control for Japanese learners (cf. Yoshimura et al., 2016), we expect that Thai learners' performance on object control will be more accurate than their performance on subject control.

Methodology

This section provides information about the participants, task, and the procedure that applied to the Thai L2 and native English controlled participants.

Participants

Thai EFL Participants and MEPT

We recruited a total of 140 student volunteers ranging in age between 12 and 22. They were 100 high school students from an all-boy missionary school and 40 undergraduate students from a public university in Bangkok. The high school students were seventh to eleventh graders; 20 students were recruited per School Grade via the assistance of the Head of the school English Department. The undergraduate students were recruited via an RA and their time slots were obtained via the SignUp application.

As students in a missionary school, the high school group was taught English 6 hours per week. English classes were conducted by means of the Communicative approach, focusing on integrated skills. With respect to control and raising structures, infinitives were taught in association with gerunds, as were finite and non-finite clauses. Raising constructions were not taught explicitly but students could have been exposed to them via audio-visual materials.

The undergraduate students consisted of second-year Business majors. Most of them had completed an upper-level compulsory English course and were attending a Business English course. Some were exempted from compulsory courses due to their exceptional scores in the

English subject of the university entrance examination. It can be said that they had relatively strong English educational backgrounds, compared to the average undergraduate student attending the university. In terms of control and raising structures, given that the lessons in the compulsory and Business English courses were communication-based, the two structures were not taught independently but integrated in class activities.

Overall, the participants were young to late adolescents speaking standard Thai, predominantly male, with a fairly intensive English educational background. They all received a small financial reimbursement for their time and cooperation.

We administered the Macmillan English Placement Test (MEPT), consisting of 50 questions (40 grammar and 10 vocabulary items), to the Thai participants. Based on the MEPT criteria, there were 2 Beginning, 5 Elementary, 18 Pre-Intermediate, 40 Intermediate, 53 Upper Intermediate, and 22 Advanced learners. For statistical analyses, we reassigned the Beginning, Elementary, and Pre-Intermediate participants as the Lower Intermediate group, the Intermediate and Upper Intermediate participants as the Intermediate group, while the Advanced group was identical to the MEPT counterpart. In this respect, there were 25 Lower Intermediate, 93 Intermediate, and 22 Advanced participants, respectively. It is noteworthy that the re-assigned proficiency levels were statistically adequate. Post-Hoc Tests (Bonferroni), performed after the ANOVAs results of the raising structure (in the upcoming Table 2), revealed reliable group differences across the mean scores of the three groups. These results confirmed the adequacy of the reassigned proficiency ranges.

Native English Speakers

Ten native English speakers (NES) served as control participants. They accepted our invitation to respond to an online questionnaire including target stimuli (with English questions), fillers, and demographic questions. Nine were faculty members at a public university in Bangkok and one was an undergraduate student. This group was predominantly male (8), in their thirties and forties (8), and spoke American English (6).

GJ/comprehension Task

We employed a Grammaticality Judgment (GJ) task, adapted from Yoshimura et al.'s (2016), to assess L2 participants' knowledge of control and raising. Consistent with the hypotheses, three types of target sentences were constructed, namely subject control, object control, and raising constructions, with eight target stimuli per sentence type. (See the entire sets of the three structures in Appendices A, B, and C.) Sentence (22) and (23) illustrate the subject control target stimuli.

(22) Emma promised her father Dan to donate the paintings to the art gallery.
Q: khraj càʔ bɔɔricàak rûupphâap hâj.kɛ̀ɛ hɔ̌ɔsǐn
Who will donate paintings to art gallery
"Who will donate the paintings to the art gallery?"
a. Emma b. Dan c. both Emma and Dan d. neither of them

(23) Sandra hoped to buy a Nintendo Switch for her brother Nick.
Q: khraj càʔ sɯ́ɯ khrûaŋ Nintendo Switch
Who will buy device Nintendo Switch
"Who will buy a Nintendo Switch?"
a. Nick **b. Sandra** c. both Sandra and Nick d. neither of them

The verb *promise* is a three-place predicate requiring the main clause subject, the object and the infinitival complement. The verb *hope* is a two-place predicate requiring the main clause subject and the infinitival complement. In both types of predicates, the subject of the infinitival complement has the same reference as that of the main clause. The answers included four choices. The questions were presented in Thai, for clarity, similar to Yoshimura et al.'s (2016). Participants were to identify the infinitival subjects, i.e., *Emma* and *Sandra*, respectively. The subject control target sentences were constructed around *promise, offer, hope, decide, refuse, agree* and *plan*. To ensure ample data for the analysis, we constructed eight tokens in total. Two tokens involved *promise*; the remaining tokens, all treated as two-place predicates, involved the remaining verbs (one each).

To avoid ambiguity in the answer which may arise from partial control, i.e., the sense of togetherness, where both the subject and object could plausibly cooperate in an activity denoted by *promise*, we added seniority, e.g., *her father* to the object *Dan.* Partial control was checked by a syntactician and resolved across our subject and object control experimental sentences.

In terms of object control, eight target sentences were constructed around *order, persuade, train, advise, force, ask, allow,* and *remind* (one each). Sentence (24) exemplifies the set of object control stimuli. The correct answer was Choice *b. Hiro*.

(24) Mutya persuaded her son Hiro to attend summer school in Singapore.
Q: khraj càʔ pen khon paj rian phâak.rɯ́duu.rɔ́ɔn thîi sĭŋkhapoo
Who will be person go study term season hot in Singapore
"Who will attend summer school in Singapore?"
a. Mutya **b. Hiro** c. both Mutya and Hiro d. neither of them

With respect to raising, four tokens contained raised *seem* and the other four raised *appear*. Sentence (25), with Choice *a. Jade* as the correct answer, exemplifies the set of raising stimuli. As shown in (25), the derivation involved the raising of *Jade*, the subject of the infinitival complement, across PP to *Heidi*, into the matrix subject position. Note that NMLZ refers to Nominalizer.

(25) Jade appeared to Heidi to qualify for the final football match.
Q: khraj duu.mɯ̆an.càʔ mii khunnasŏmbàt prɔ́ɔm săm**r**àp
Who look.like. IrrealisM have qualifications ready for
kaan.khɛ̀ɛŋkhăn fûtbɔɔn rɔ̂ɔp.sùtthâj
NMLZ.compete football match final
"Who appeared to qualify for the final football match?"
a. Jade b. Heidi c. both Jade and Heidi d. neither of them

To distract the participants' attention from the point under investigation, we created 18 fillers, some of which had choices c. or d. as correct answers, so that the entire paper had distribution of four correct choices. (See the entire set of the fillers in Appendix D.) The fillers and target stimuli were fully randomized.

Procedure

The 24 target and 18 filler items from the GJ/Comprehension task were randomized. To avoid mention-of-order effects, we produced 2 different forms of the questionnaire, i.e. Form A and Form B, which differed in the randomization of target and filler items. The forms were distributed to the Thai participants in alternation. The Thai participants were administered the GJ/Comprehension task as a pencil-and-paper questionnaire, before the Macmillan Placement Test. The undergraduate students did the task in a language laboratory; the secondary school students in a single one-hour session in a meeting room of the school. It took 25 minutes on average to finish the MEPT and 20 minutes for the questionnaire.

The control group responded to the online questionnaire. They were informed that there were a few demographic questions, and a number of multiple-choice questions to check for accuracy which would take approximately ten to fifteen minutes to complete.

A score of 1 was given to each correct choice; incorrect choices were given zero (0).

Results

This section reports mean percent results, corresponding to the first and second hypotheses. In terms of inferential statistics, we will report results from ANOVAs, performed across the four groups, i.e., Lower Intermediate, Intermediate, Advanced, and native English speakers.

Hypothesis 1

It was hypothesized that the Thai learners' performance on English raised *seem/appear* constructions would be remarkably above chance, and the lower proficient learners would perform less accurately than the higher proficient learners.

The mean percent results of the four groups' accuracy rates on raising were 21, 51, 73, and 100%, respectively, as shown in Table 1. The accuracy rates of the Lower Intermediate, Intermediate, and Advanced were minimal, slightly above chance, and fair, respectively. The

performance above chance (50%) was evident in the Upper Intermediate and the Advanced groups, which partially supports the hypothesis. The data show progress in accuracy in accordance with increase in English proficiency, suggesting the role of proficiency in the learning of raising. The native English speakers' performance was on target.

Table 1

Participants' Mean Accuracy of Raising Structures

Group	Mean Correct Percentage	Standard Deviation
Lower Intermediate N=25	20.50	22.9
Intermediate N=93	51.48	35.59
Advanced N=22	73.30	29.95
NES N=10	100	0

With respect to individual group's performance on raising, in the Lower Intermediate only one person had a score of 100%; the remaining persons' scores ranged between 0-63%. In the Intermediate group, 34 persons scored between 75-100%; the remaining persons' scores ranged between 0-63%. In the Advanced group, 13 participants performed between 75-100%; the remaining persons' scores ranged between 25-63%. These results indicated individual variations, particularly in the Intermediate and Advanced groups.

A one-way ANOVA performed on the four groups' data revealed group effects (F (3, 146) = 19.018, $p < .001$). A Post-Hoc (Bonferroni) analysis indicated significant differences across the Thai group comparisons, particularly in the pairs between the Lower Intermediate and the Intermediate ($p < .001$) and the Intermediate and Advanced ($p < .03$), as shown in Table 2.

Table 2

Groups' Mean Differences of Raising Structures (Post-Hoc, Bonferroni)

Group		Mean Difference	Significance
Lower Intermediate	Intermediate	-30.98	$p < .001$
	Advanced	-52.80	$p < .001$
	NES	-79.50	$p < .001$
Intermediate	Advanced	-21.82	$p < .03$
	NES	-48.52	$p < .001$
Advanced	NES	-26.70	n.s.

The mean percent and ANOVA results suggest that A-movement is not entirely inaccessible to L2 learners but is accessible in a manner relative to developmental stages of proficiency.

Hypothesis 2

It was hypothesized that Thai learners' performance on control constructions would be more accurate than that of raising constructions, and within the control structures, they would find object controls to be easier than subject controls.

Comparison between Raising and Control

Table 3 and Figure 1 display mean correct percentages of the four groups on subject control, object control, and raising.

Table 3

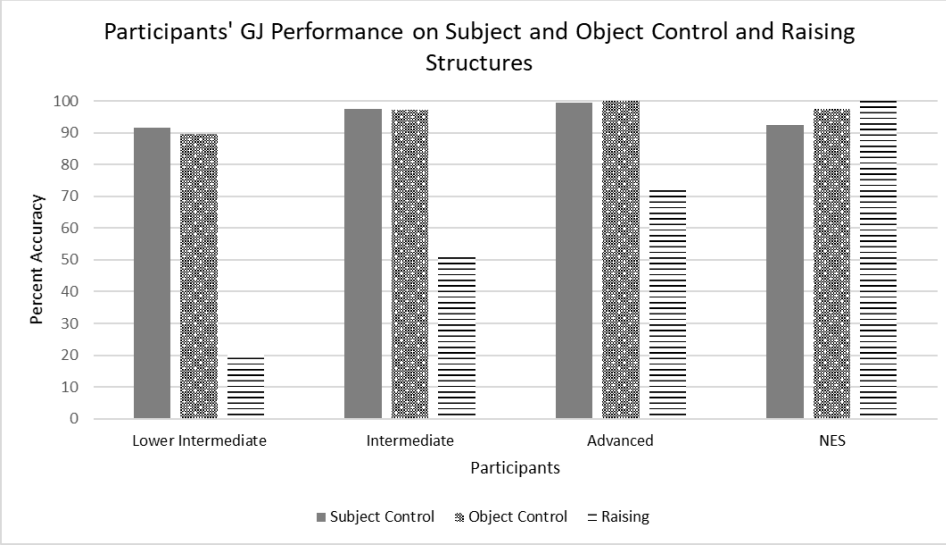
Mean Correct Percentages on Subject Control, Object Control, and Raising

Structure/ Group	Subject Control	Object Control	Raising	Overall
Lower Intermediate	91.50(11.81)	89.50(11.79)	20.50(22.79)	67.17
Intermediate	97.47(7.27)	97.31(6.34)	51.48(35.59)	82.08
Advanced	99.43(2.67)	100 (.00)	73.30(29.95)	90.91
NES	92.50 (12.08)	97.50(5.27)	100 (.00)	96.67

Note: The numbers in the parentheses represent standard deviations.

Figure 1

Participants' GJ performance on subject and object control and raising structures



As shown in Table 3 and Figure 1, the three Thai groups, irrespective of proficiency levels, judged the control structures considerably well (between 90-100% accurately); however, they did not perform equally well on raising constructions, as noted in section 4.1.

A 3 by 4 ANOVA, with the three structures as within-subject factors and four groups as between-subjects factors, revealed a significant effect of sentence type (F (2, 292) = 88.396, p < .001), indicating sentence types affect accuracy. A reliable interaction effect between sentence type and groups (F (6, 292) = 14.80, p < .001) was a consequence of exceptional performance on control but a relatively slow development with regard to raising. Raising was clearly more difficult than control, confirming the prediction.

Comparison between Subject and Object Control

In terms of the comparison between subject and object control, there were two sets of findings. The first set involved the overall results, comparing the total tokens of subject control vs. those of object controls, across the four groups. The second one involved the Thai learners'

performance on subject controls with interveners (i.e. two tokens of *promise*) vs. their performance on all the object control tokens.

Overall, an ANOVA, with subject and object controls as within-subject factors and four groups as between-subject factors, indicated no significant difference.

As for the second set of findings, based on mean percent results, *promise* was slightly less accurate than object controls (88, 96, and 98% for *promise*, and 90, 97, and 100% for object control). Repeated Measures ANOVAs performed level by level revealed no significant differences between the participants' scores of *promise* and those of object control. Both sets of results suggest that subject and object control were similarly easy, refuting the prediction that object was easier than subject control. It can be concluded that subject control (with interveners) and object control structures were largely similar for these Thai learners, inconsistent with Yoshimura et al.'s (2016) findings.

Discussion

In this section, we discuss the findings on raising and control, and UG accessibility, in respective order.

Raising

Findings from the GJ/Comprehension task indicate that raising was difficult across the three groups (21, 51, and 73% accuracy). In addition, this kind of difficulty was somewhat peculiar to individual learners. Individual variation notwithstanding, there was progress in accuracy, suggesting developmental stages in L2 acquisition of this particular construction type. Generally, Thai and Japanese early learners (Korean aside, due to Choe's participants' unspecified proficiency) performed minimally (between 20-40%). The Thai Intermediate and Advanced groups in this study performed more accurately than the two groups in Yoshimura et al.'s (2016), supporting the role of proficiency.

In respect of raised *seem* and *appear,* it is clear that A-movement is difficult for both Thai and Japanese learners at the initial to mid-developmental stage. The unavailability of A-movement in *seem/appear* structures in the L1 is deemed accountable. Thai *seem* constructions are potentially topic structures, and Japanese *seem* constructions involve movement of subjects but it is not driven by Case. In addition, the fact that

raising over Experiencer is ungrammatical across languages and English raised structures with intervening PPs are derived from a specific property, e.g. PP-reanalysis as pointed out in Hartman (2011), could also be part of the account. Compared to Witoon's (2012) findings, the Lower and Intermediate Thai participants' performance in the current study was similar to that of Witoon's participants. In Witoon's GJ task, the learners performed below and slightly above chance on the TVE structure, like the two lower proficient groups in this study. Thus, A-movement is difficult in psych TVE and raised *seem/appear* with PP intervention alike.

Control

Our findings indicate that control was significantly easier than raising. The three groups' average accuracy rates on control (subject and object combined) tokens were 91, 97, and 100%. Therefore, the Thai L2 performance on control was virtually perfect from the beginning and the pattern continued to reach 100% at the end, unlike the developmental pattern of raising.

Within control, the results from Repeated Measures ANOVAs performed on *promise* against object control tokens one at a time, level-by- level, revealed that subject and object control structures were not different from each other, unlike Yoshimura et al.'s findings.

Prior to discussion, it is important to reiterate L1/L2 similarities and differences. In terms of L1, most of the Thai counterparts of the subject control tokens employed in this study take infinitival complements introduced by the infinitive marker *càʔ,* similar to the way English marks infinitival complements. Thai *promise*, unlike the other subject control verbs, selects a PP, containing an object NP, and a finite clausal complement, different from English *promise*. In respect of object controls, Thai uses the causative marker *hâj* and a non-finite complement. The similarities between L1 and L2 involve the infinitive marker *càʔ* and *to* in subject control and the existence of PRO co-referential with the matrix clause subject and object. The major differences between L1 and L2 involve the finite complement vs. the non-finite complement option of *promise,* and the presence and absence of the causative marker in object control constructions.

Thai learners may form a new structure on the basis of the commonality of infinitive markers and PRO in infinitival clauses. In the

course of learning, they also suppress L1 properties such as finite complements of *promise* and the causative marker. Thus, their outstanding performance could be attributed to both the similarity of L1/L2 (a common basis of infinitive markers and infinitival complements) and the learning of the L2 system, i.e., the fact that in object control sentences, infinitival complements can appear without causative markers. As for *promise,* the Thai learners probably realize that *promise* can take infinitival complements with object interveners and have access to the mechanism that enables a specific type of A-link such as smuggling.

Methodologically, our avoidance of partial control, by imposing the sense of superiority or obedience on certain NPs, might contribute to their high accuracy, and consequently yielded no difference in their performance on the control tokens.

UG Accessibility

As noted above, in terms of control, the Thai learners possess the knowledge of the EPP, PRO, and probably *smuggling* as well, to overcome blocking effects. While Thai and Japanese share EPP and PRO in common, smuggling is an L1 operation for Japanese learners, and an L2 operation for Thai learners. Thus, L1 transfer in the Thai case is restricted to EPP and PRO. It is not entirely L1 that contributes to the Thai learners' mastery of control; the learning of the lexical properties of *promise* and some mechanism such as *smuggling*, which is made available by UG could also be a contributing factor. In this respect, the Thai learners' acquisition of control was a consequence of both L1 and UG; not a full L1 transfer pattern, as Yoshimura et al. (2016) deduced from their results.

With respect to raising, Yoshimura et al. (2016) attribute its difficulty to the absence of this structure in L1 entirely. We, similar to Choe's remark, maintain that its difficulty requires an account from both the absence of this structure in the L1 and some specific L2 property, such as V-P incorporation in association with raising over Experiencer (cf. Hartman, 2011). Both the L1 unavailability and the markedness of a given structure constitute barriers in acquiring A-movement in the L2. In addition, two points found in the data become relevant to the UG issue. Firstly, raising largely developed on an individual basis. Secondly, there were a substantial number of (individual) able performers. Specifically, 41% of the participants from the Intermediate and Advanced groups

performed between 75-100% accurately. If one learner who performed 100% correctly on raising from the Lower Intermediate is included, it can be said that there is slight to a fair amount of evidence of access to UG, relative to developmental stages, suggesting that UG remains accessible, but the access is constrained by specific properties.

Our final notes concern L1 transfer and the UG issue. Firstly, L1 transfer in the sense we previously addressed, i.e., one's generalization from the presence of some mechanism in the L1 which also operates in the L2, is supported by this study. However, the view that the initial state of the L2 is the final state of the L1, as cited in Choe (2015), is untenable. Evidence from the Thai participants' performance on control suggests that L1 and UG can both facilitate the learning of a given structure in an L2. Secondly, in the absence of L1/ L2 corresponding structures, linking between PRO and arguments is more accessible than movement of arguments, and access to UG by L2 learners is restricted by specific properties which are relatively marked, such as PP-reanalysis in English raising over Experiencer, compared to other typical, less marked properties.

Conclusion

In this study, we investigated Thai learners' acquisition of English control and raising constructions. Thai and English subject and object controls are largely similar to each other; there are PRO coreferential to subject and object NPs (i.e. A-link) and infinitival markers. A slight difference involves the fact that Thai *promise* requires a finite clausal complement, whereas English *promise* selects either a finite or an infinitival clause. In terms of raising, we established that Thai does not have raising (i.e. A-movement), unlike English. We hypothesized that Thai learners' performance on raising would be above chance based on the availability of A-movement (a UG-based rule) and the ability to detect raised arguments in psych verb constructions by some Thai learners in Witoon (2012). In addition, it was hypothesized that Thai learners' performance on control would be more accurate than raising and that object would be easier to detect than subject control, based on findings in Yoshimura et al. (2016) and Choe (2015).

Grammaticality judgment (GJ)/comprehension sessions were conducted with 140 Thai student participants, ranging in English

proficiency levels among Lower Intermediate, Intermediate, and Advanced, and ten native English speaking controls. The first hypothesis was confirmed by the Intermediate and Advanced groups who performed 51, and 73% accurately on raising. In addition, ANOVA and Post-Hoc analyses indicate significant differences among groups, suggesting effects of low-high proficiency on raising. As for the second hypothesis, results confirmed the ease-difficulty pattern of control vs. raising; however, there was no significant difference between subject and object control. Overall, the Thai participants' percent accuracy rates were between 91-100% at a time across subject and object controls. There were interaction effects between types of sentences and level of proficiency, a consequence of the constantly high accuracy on control, compared to a developmental pattern on raising. The native English speakers performed the three structures on target.

We discussed the above findings in two respects. Firstly, both L1 transfer and UG can facilitate the learning of the L2, as evidence from the Thai learners' accuracy on controls in this study suggests. Secondly, when L1/L2 corresponding structures are unavailable, such as the structure of English subject control *promise* and raised *seem/appear*, identification of PRO (A-link) can be accessed more easily than the movement of an argument (A-movement). Particularly, raising over Experiencer, which involves a specific property in addition to A-movement, restricts L2 learners' access to UG considerably.

Recommendations for Future Research

The absence of a difference between subject and object controls at early states found in this study could probably be attributed to the small number of beginning learners, as Michael Yoshitaka Erlewine (personal communication, June 18, 2020) brought to our attention. More beginning L2 learners are desirable to ascertain the presence/absence of such a difference.

In terms of raising, while we focused on A-movement, there are constructions involving A-bar movement such as tough constructions which could be added in future research. Moreover, it would be interesting to learn whether L2 learners realize the difference between raised and non-raised *seem/appear*, e.g. *Cheryl seems to run a car rental business vs. it seems that Cheryl runs a car rental business*. As for control, particularly

subject control, one may further check to see if L2 learners are fully aware of volitional properties of sentential subjects by constructing volitional and non-volitional subjects for participants to identify. Including these types of sentences will enable a researcher to assess L2 learners' knowledge of raising and control more precisely.

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Appendix A

Subject Control Test Sentences

1. Emma promised her father Dan to donate the paintings to the art gallery.
ใครจะบริจาคครูปภาพให้แก่หอศิลป์
(Who will donate the paintings to the art gallery?)
a. Emma b. Dan c. both Emma and Dan d. neither of them

2. Erik promised his mother Lindsay to enroll in a taekwondo course starting next week.
ใครจะลงเรียนคอร์สเทควันโด
(Who will enroll in a taekwondo course?)
a. Erik b. Lindsay c. both Erik and Lindsay d. neither of them

3. James offered to pay Lucy for the air tickets to Chiang Mai.
ใครจะจ่ายค่าตั๋วเครื่องบินไปเชียงใหม่
(Who will pay for the air tickets?)
a. James b. Lucy c. both James and Lucy d. neither of them

4. Sandra hoped to buy a Nintendo Switch for her brother Nick.
ใครจะซื้อเครื่องนินเทนโดสวิช
(Who will buy a Nintendo Switch?)
a. Nick **b. Sandra** c. both Sandra and Nick d. neither of them

5. Poppy decided to cook an Indian meal for Marie.
ใครจะทำอาหารอินเดีย
(Who will cook an Indian meal?)
a. Poppy b. Marie c. both Poppy and Marie d. neither of them

6. Taylor refused to participate in Harry's experiment.
ใครจะไม่เข้าร่วมการทดลอง
(Who will not participate in the experiment?)
a. Harry **b. Taylor** c. both Taylor and Harry d. neither of them

7. Danny agreed to fix the broken radiator in Jane's car.
ใครจะซ่อมหม้อน้ำรถ
(Who will fix the broken radiator?)
a. Danny b. Jane c. both Danny and Jane d. neither of them

8. Kashiyuka planned to move into a new house next to Jojo's.
ใครน่าจะย้ายเข้าบ้านใหม่
(Who will possibly move into a new house?)
a. Kashiyuka b. Jojo c. both Kashiyuka and Jojo d. neither of them

Appendix B

Object Control Test Sentences

1. Melanie ordered Klein to arrange a meeting with clients.
ใครจะจัดการประชุมกับลูกค้า
(Who will arrange a meeting with clients?)
a. Melanie **b. Klein** c. both Melanie and Klein d. neither of them

2. Mutya persuaded her son Hiro to attend summer school in Singapore.
ใครจะเป็นคนไปเรียนภาคฤดูร้อนที่สิงคโปร์
(Who will attend summer school in Singapore?)
a. Mutya **b. Hiro** c. both Mutya and Hiro d. neither of them

3. Takeshi trained Tanya to run a marathon in the SEA games.
ใครเป็นคนที่จะวิ่งมาราธอน
(Who will run a marathon?)

a. Tanya b. Takeshi c. both Takeshi and Tanya d. neither of them

4. Billy advised Dieter to practice math with a tutor.
ใครจะเป็นคนฝึกหัดคณิตศาสตร์กับติวเตอร์
(Who will practice math with a tutor?)
a. Billy **b. Dieter** c. both Billy and Dieter d. neither of them

5. Cindy forced her daughter Jenna to take a German language course.
ใครจะเป็นคนเรียนภาษาเยอรมัน
(Who will take a German language course?)
a. Cindy **b. Jenna** c. both Cindy and Jenna d. neither of them

6. Barbara asked her assistant Duncan to draft a contract with the supplier.
ใครจะร่างสัญญากับผู้จัดหาสินค้า
(Who will draft a contract with the supplier?)
a. Duncan b. Barbara c. both Barbara and Duncan d. neither of them

7. Donna allowed her student Mark to review the answers in the exam paper.
ใครจะเป็นคนทบทวนคำตอบในข้อสอบ
(Who will review the answers in the exam paper?)
a. Mark b. Donna c. both Donna and Mark d. neither of them

8. Robin reminded Natalie to confirm the booking with the hotel.
ใครจะเป็นคนยืนยันการจองโรงแรม
(Who will confirm the booking with the hotel?)
a. Robin **b. Natalie** c. both Robin and Natalie d. neither of them

Appendix C

Raising Test Sentences

1. Jade appeared to Heidi to qualify for the final football match.
ใครดูเหมือนจะมีคุณสมบัติพร้อมสำหรับการแข่งฟุตบอลรอบสุดท้าย
(Who seemed to qualify for the final football match?)
a. Jade b. Heidi c. both Jade and Heidi d. neither of them

2. Cheryl seems to Kim to run a car rental business.
ใครดูเหมือนจะทำกิจการรถเช่า
(Who seems to run a car rental business?)
a. Kim **b. Cheryl** c. both Cheryl and Kim d. neither of them

3. Nadine appeared to Helen to be a good moderator for group discussion.
ใครดูเหมือนจะเป็นผู้ดำเนินรายการที่ดี
(Who appeared to be a good moderator?)
a. Helen **b. Nadine** c. both Nadine and Helen d. neither of them

4. Javine seemed to Simon to bring too many personal belongings to work.
ใครดูเหมือนจะเอาของใช้ส่วนตัวมาทำงานมากไป
(Who seemed to bring too many personal belongings to work?)
a. Simon **b. Javine** c. both Javine and Simon d. neither of them

5. Lisa appeared to Cherprang to perform the most successful concert in 2017.
ใครดูเหมือนจะประสบความสำเร็จในการแสดงคอนเสิร์ตในปี 2017
(Who appeared to perform the most successful concert in 2017?)
a. Cherprang **b. Lisa** c. both Lisa and Cherprang d. neither of them

6. Hilary seemed to Jamelia to have had many popular songs since 2011.
ใครดูเหมือนจะมีเพลงยอดนิยมหลายเพลงตั้งแต่ปี 2011
(Who seemed to have had many very popular songs since 2011?)
a. Hilary b. Jamelia c. both Hilary and Jamelia d. neither of them

7. Liam appeared to the director Kalid to play a leading role in the new music video.
ใครดูเหมือนจะแสดงเป็นตัวเอกในมิวสิควีดีโอ
(Who appeared to play a leading role in the new music video?)
a. Liam b. Kalid c. both Liam and Kalid d. neither of them

8. Louis seemed to Zyne to be the brightest student in his biology class.
ใครดูเหมือนจะเก่งที่สุดในห้องเรียนวิชาชีววิทยา
(Who seemed to be the brightest student in the biology class?)
a. Zyne b. **Louis** c. both Louis and Zyne d. neither of them

Appendix D

Filler Sentences

1. Lily thought that Owen would postpone the appointment on Friday.
Who thought that the appointment would be postponed?
a. Lily b. Owen c. both Lily and Owen d. neither of them

2. May was watching a puppet show performed by Jason; she laughed all through it as it was funny.
Who was laughing all through the puppet show?
a. May b. Jason c. both May and Jason d. neither of them

3. Cheryl saw that Dido talked gently with clients.
Who saw the gentle talk with clients?
a. Cheryl b. Dido c. both Cheryl and Dido d. neither of them

4. Deborah was asked by Fred to take charge of the office.
Who was asked to take charge of the office?
a. Deborah b. Fred c. both Deborah and Fred d. neither of them

5. Jeremy became a professor before Sarah did.
Who was promoted to Professor earlier?
a.Sarah **b. Jeremy** c. both Sarah and Jeremy d. neither of them

6. Susan's mother Mira was so crazy about paintings that she became a life-long member of the Metropolitan museum.
Who became a life-long member of the Metropolitan museum?
a. Susan **b. Mira** c. both Susan and Mira d. neither of them

7. Charlie cooked steaks for his kids while his wife Iggy made salad.
Who made salad?
a. Charlie **b. Iggy** c. both Iggy and Charlie d. neither of them

8. E-mail messages were sent to Betty several times a day by Samantha.
Who sent e-mail several times a day?
a. Betty **b. Samantha** c. both Betty and Samantha d. neither of them

9. Fred and Kenny were blaming each other for missing the train.
Who did the blaming for missing the train?
a. Fred b. Kenny **c. both Fred and Kenny** d. neither of them

10. Suda and Prapa qualified for last year's Thai swim team for the SEA games but did not join due to injuries.
Who was/were injured?
a. Suda b.Prapa **c. both Suda and Prapa** d. neither of them

11. Kathy and Fenty went to Tokyo Disneyland to celebrate their high school graduation.
Who went to Tokyo Disneyland?
a. Kathy b. Fenty **c. both Kathy and Fenty** d. neither of them

12. Austin and Justin joined the alumni party last night.
Who joined the alumni party last night?
a. Austin b. Justin **c. both Austin and Justin** d. neither of them

13. Patty and Miley composed lyrics and melodies for many popular artists.
Who composed lyrics and melodies for many popular artists?
a. Patty b. Miley **c. both Patty and Miley** d. neither of them

14. Mana wrote the report while Fran collected the data; they would ask a native English speaker to check the English of the report.
Who would check the English of the report?
a. Mana b. Fran c. both Mana and Fran **d. neither of them**

15. April and Charles laid down on the drive way during the earthquake and did not get hurt.
Who got hurt during the earthquake?
a. April b. Charles c. both April and Charles **d. neither of them**

16. Sean and Camila were said to be in London on the 14th of February, but they were working in their office in Los Angeles on that day.
Who was/were in London on the 14th of February?
a. Sean b. Camila c. both Sean and Camila **d. neither of them**

17. Jill and Leon play Pokemon every Friday after class, but next Friday they won't because they will take an extra English test.
Who will play Pokemon next Friday?
a. Jill b. Leon c. both Jill and Leon **d. neither of them**

18. Bay and Kate have been judges on a TV show for 3 seasons now. Producers said they had filled the panel for the 4th season.
Who will be the judges for the 4th season?
a. Bay b. Kate c. both Bay and Kate **d. neither of them**