
The Acquisition of English Adverbs by Thai Learners ¹

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Abstract

This study explores the acquisition of English adverbs by Thai learners with respect to the range of positions of adjunction relative to the clause, applying the adjacency parameter as well as markedness theories. The subjects consisted of three groups, namely the native group, the advanced learner group, and the intermediate learner group. The results were as follows. In terms of the adjacency parameter, the native group placed adverbs quite equally between the clause-initial and the clause-medial positions. On the other hand, the learner groups put much more adverbs clause-initially. Despite these differences, the advanced group was on a par with their native counterpart, adjoining adverbs in all the positions being investigated, whereas the intermediate group put adverbs in fewer positions. The analysis of the markedness of different positions of adjunction revealed that the unmarked positions were acquired before the marked ones, and the less marked positions before the more marked ones. Also, the degree of markedness and thus the acquisition order

¹ This paper reports on part of the findings in the present author's doctoral dissertation entitled *"The Syntactic Variation of English Adverbs in the Interlanguage of Thai Learners"*.

seemed to correspond with the degrees of adjunction in the positions identified in the native group data.

Introduction

This article deals with the acquisition of English adverbs by Thai learners in terms of *positions of adjunction* relative to the clause, as shown in (1).

- (1) a. *Possibly*, they may have been sent to London.
- b. They *possibly* may have been sent to London.
- c. They may *possibly* have been sent to London.
- d. They may have *possibly* been sent to London.
- e. They may have been sent to London, *possibly*.

(Adapted from Quirk *et al.*, 1985: 490f, cited in Hoyer, 1997:p. 148)

All the examples given in (1) show some possible positions of adverbial adjunction in English: *possibly* adjoins in the clause-initial position in (1a), between the subject and the verbal construction in (1b), between a modal and an auxiliary in (1c), between two auxiliaries in (1d), and in the clause-final position in (1e).

The syntax of adverbs in relation to positions of adjunction has been described in a large number of theoretical works (e.g. Biber *et al.*, 1999; Ernst, 2002; Jackendoff, 1972). However, the issue has been explored from the SLA perspective in only a few articles. For example, Johansson and Dahl (1982) explored adjunction patterns among Norwegian learners of English L2. In another study, White (1989a) examined whether French learners of English and English learners of French allowed adverbial adjunction in the position between the verb and the direct object, e.g. **He ate quickly the cookies*, which is grammatical in French but ungrammatical in English.

In addition to this dearth of research is another problem concerning generalisability. The above studies investigated only the learners whose L1 and L2 share certain morphological and syntactic similarities. Morphologically, Norwegian, French, and English are

languages in which verbs and adverbs have formal markings (cf. Roberts, 1997; Strandskogen and Strandskogen, 1986). Syntactically, they permit adjunction in many corresponding positions: clause-initial, clause-medial, and clause-final (cf. Johansson and Dahl, 1982; White, 1991a, 1991b). On the other hand, Thai does not have morphological markings, and adverbs are for the most part allowed clause-initially *or* clause-finally, but not clause-medially. Thus, the results from the SLA studies mentioned above are difficult to generalise to Thai learners.

Principles and Parameters, universal grammar, and SLA

The *Principles and Parameters (P&P) theory* (Chomsky, 1981a, 1986) is based on the assumption that *universal grammar (UG)* consists of “a highly structured and restrictive system of principles with certain open parameters, to be fixed by experience” (Chomsky, 1981a: p. 130). Acquiring an L2, then, amounts to parameter resetting, which will be impossible without the availability of UG. This motivation concerns *the logical problem of SLA* (Juffs, 1996; White, 1989a; White, 2003). The term has often been discussed in terms of the parametric differences between the L1 and the L2 as well as the poverty of the L2 input. Juffs (1996) and White (1989b, 2003) argue that mastery of knowledge of the L2 parameters not directly retrievable from those in the L1 can serve as evidence that L2 learners have access to UG. White (1989a, 1989b, 2003) asserts that L2 learners generally acquire a linguistic competence which goes beyond the input to which they have been exposed, again pointing to the fact that UG is accessible.

The logical problem of SLA thus reflects the assumption that UG works in tandem with the L1 grammar (Eubank, Selinker, and Sharwood Smith, 1997) and the L2 data (White, 1989a, 1989b, 2003). Empirical evidence shows that L2 learners start off assigning the L1 parameters to the L2 input, i.e. their initial state of grammar is influenced by the L1 (White, 1991a, 1991b). However, they will eventually reset to the L2 parameters on the basis of UG interacting with the L2 input (White, 1989a, 1989b, 2003), albeit with the possibility of reverting to the L1 settings (Juffs, 1996).

The adjacency parameter and positions of adjunction

Following Stowell (1981) and White (1989a), the adjacency parameter has been applied in the analysis of adverbial adjunction in English and Thai. The parameter was initially proposed to operate on case assignment (Chomsky, 1981a, 1986; Stowell, 1981; White, 1989a). In generative grammar, it is assumed that nominative case is assigned by *Agr*² (Chomsky, 1981a), i.e. the verb is inflected to agree with the subject, or by *T*³ (Vainikka, 1994), i.e. the verb is inflected to indicate tense. *Agr* and *T* are morphologically marked in English but not in Thai, as in the paradigms in (2) and (3), respectively.

	English	Thai
(2) 1 st person singular/plural	eatØ	kin0 'eat'
2 nd person singular/plural	eatØ	kin0 'eat'
3 rd person singular/plural	eats/Ø	kin0 'eat'
(3) Non-past; non-3 rd person singular	killØ	khaa2 'kill'
Non-past; 3 rd person singular	kills	khaa2 'kill'
Past	killed	khaa2 'kill'

Since English has morphological markings on *Agr* and *T*, strict adjacency between the subject and the verb is not needed and so clause-medial adjunction between the two is allowed. In Thai, on the other hand, almost no materials are allowed to intervene between the subject and the verb; otherwise, the verb will fail to assign nominative case to the subject. Thus, adjacency is strictly required. This is illustrated in (4).

(4) a.	khaw4	?aan1	nang4svv4	salmqq4
	he	read	book	always
b.	*khaw4	salmqq4	?aan1	nang4svv4 ⁴
	he	always	read	book
	'He <i>always</i> reads books.'			

² *Agr* = agreement

³ *T* = tense

⁴ The symbol * indicates ungrammaticality.

Despite their differences in terms of nominative case assignment, English and Thai share the similarity that in order for accusative case to be assigned properly, the direct object must be adjacent to its governing verb (Stowell, 1981). In other words, nothing can intervene between the verb and the direct object, or accusative case assignment is not fulfilled, and ungrammaticality arises, as in (5) and (6).

- (5) a. Mario reads books *often*.
 b. *Mario reads *often* books.

(Stowell, 1981: p. 114)

- (6) a. khaw4 ?aan1 nang4svv4 b@j1
 he read book often
 b. *khaw4 ?aan1 b@j1 nang4svv4
 he read often book
 'He reads books *often*.'

The adjacency parameter has later been expanded to conditions other than nominative and accusative case assignments. Hawkins (2001, 2004) has proposed that there are fundamental relations between formal linguistic forms (e.g. morphemes) and the assignment of relevant syntactic and semantic properties. When these are signalled by formal markings, less is dependent on syntax. In inflectional languages, then, grammatical relations between two categories need not be signalled via adjacency. The absence of formal markings, on the other hand, entails more syntactic dependency because "one category depends on another for the assignment of a particular property" (Hawkins, 2004: p. 20).

Thus, English permits clause-medial adjunction in positions other than that between the subject and the verb, i.e. in the various positions within the complex verbal construction, since all the categories must agree with one another. For example, in the verbally complex sentence *Somchai may have been sent to London*, *have* agrees in form with *may*, *been* with *have*, and *sent* with *been*. In other words, the syntactic and semantic properties of the verbal elements are unambiguous and thus are not bound by dependency relations. In contrast, Thai does not conjugate the elements of the verbal construction for agreement. For example, in the sentence

som4chaaj0naa2ca1thuuk1song1paj0l@@n0d@@n0lxxw3 'Somchai may have been sent to London', the passive verb *song1* 'send' is similar in form to the active verb *song1* 'send' in *som4chaaj0kam0lang0ca1 song1cot1maaj4* 'Somchai is going to send a letter'. Because of this zero specification, the verbal elements must be in strict dependency. As a result, clause-medial adverbial adjunction is prohibited to maintain a proper assignment of syntactic and semantic properties.

To conclude, English and Thai differ as to the parameter they adopt for the adjacency condition. English can be characterised as a [+/-strict adjacency] language since adjunction is allowed in any positions within the clause, except that between the verb and the direct object. Thai, in contrast, is a language with the [+strict adjacency] setting, and so permits adjunction only in the clause-initial or the clause-final position. This is due to the fact that in Thai, dependent categories are not morphologically marked. Thus, they cannot be assigned their grammatical properties if intervened by adjoining materials. For example, nominative case assignment will fail if an adverb separates the subject and the verb.

Parameter resetting and the acquisition of positions of adjunction

In the SLA literature, there are perhaps only three studies investigating the acquisition of the syntax of adverbs with respect to positions of adjunction (Johansson and Dahl, 1982; Selinker, 1969; White, 1989a). Among these, just one addresses the issue of adjacency within the P&P framework and will thus be discussed here. White (1989a) examined adverb placement by French learners of English (the *ESL group*) and English learners of French (the *FSL group*). In English, the direct object is placed closest to the verb so that accusative case assignment can be fulfilled, i.e. English is a [+strict adjacency] language⁵ where adjunction between the verb and the direct object is concerned. Thus, adjunction is not possible in the position between the two, as in (7).

⁵ Relative to French, English is a [+strict adjacency] language. However, it can be associated with the [+/- strict adjacency] parameter when compared with Thai.

- (7) a. Mary ate her dinner *quickly*.
 b. *Mary ate *quickly* her dinner.

(White, 1989a: p. 136)

French, on the other hand, allows the verb-direct object sequence to be interrupted, i.e. it has the [+/-strict adjacency] setting. Thus, adjunction is allowed both in the position between the verb and the object and in the clause-final position, as in (8).

- (8) a. Marie a mangé *rapidement* le dîner.
 b. *Mary ate *quickly* her dinner.
 c. Marie a mangé le dîner *rapidement*.
 d. Mary ate her dinner *quickly*.

(White, 1989a: p. 137)

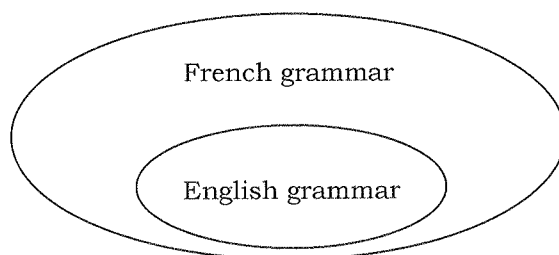
Therefore, in order to successfully master the L2, the ESL group would have to reset from the more flexible grammar to the more conservative grammar, and vice versa for the FSL group.

The ESL group consisted of 43 adult learners and 52 adolescent learners. These subjects had little exposure to English outside the classroom. 14 adult native speakers of English served as controls. The FSL group consisted of 155 learners in grade five or six. 31 native speakers of French with similar educational levels served as controls. All the subjects were first administered a cloze test to indicate their levels of proficiency. Then, they took several tests, all involving sentences with the [+strict adjacency] or the [-strict adjacency] parameter.

The findings show that the ESL subjects were inaccurate in their judgment of the ungrammatical [-strict adjacency] sentences. This could be attributed to negative L1 transfer since French allows [+/-strict adjacency]. Thus, the ESL learners treated English more flexibly than it actually is. As regards the FSL group, the subjects were relatively accurate in their judgment of both the [+strict adjacency] and the [-strict adjacency] sentences. However, for the latter type of sentences, the FSL subjects, like their ESL counterparts, seemed to be negatively influenced by their L1 as they were more reserved about adjacency violation than they should have been.

White (1989a) explains this phenomenon in terms of the *Subset Principle*, i.e. the relations between the *subset* and the *superset* grammars. English, a [+strict adjacency] language, is more specific than French, a [+/-strict adjacency] language. Thus, the former represents a subset grammar of the latter, which characterises a superset grammar, as in (9).

(9)



(Adapted from White, 1989b: pp. 142, 166)

According to White (1989a), the Subset Principle assumes that L2 learners will apply the subset grammar first despite the fact that the L1 has the superset or subset grammar, with the possibility of parameter resetting to take in the superset grammar if the L2 data warrant it. White's research results suggest to the contrary that the ESL learners were not governed by the Subset Principle. The situation was different for the FSL learners, who were able to reset their internal grammar to accommodate the superset value when faced with positive data confirming the grammaticality of [-strict adjacency]. However, transfer of the [+strict adjacency] parameter was still noticeable, i.e. parameter resetting was partial. With regard to this, White proposed that partial parameter resetting would not result in outright errors, but rather the use of a more limited range of positions permitted by the L2.

Markedness theory

Markedness theory has been applied in the P&P framework, which divides the properties of language into *core grammar* and *peripheral grammar* (Chomsky, 1981b). White (1989b) explains that core grammar is unmarked, consisting of the built-in principles and parameters, i.e. those which make up the L1 acquirers' initial state of language acquisition. Peripheral grammar, in contrast, is made

up of idiosyncratic linguistic phenomena outside of core grammar and thus considered marked. The parameters of core grammar are further distinguished into *unmarked (U)* and *marked (M)* values. In terms of acquisition, the unmarked setting requires only minimal effort, whereas the marked one needs specific positive evidence (White, 1989b).

From the above, at least two proposals with regard to SLA have been put forward. One is that unmarked L1 values are more likely to be transferred than marked ones due to L2 learners' realisation that marked values are not readily transferable (Eckman, 1977; Kellerman, 1979, 1983, cited in White, 1989b). The other is that the values of the L2 which are marked are more difficult to acquire than unmarked ones (Eckman, 1977) because specific positive evidence is required (White, 1989b). To put it another way, unmarked values are acquired before their marked counterparts.

If White's (1989a) study is re-analysed from the markedness perspective, it can be inferred that the marked value of the adjacency parameter was transferred and acquisition progressed in the unmarked-to-marked direction. To recall, French allows [+/-strict adjacency], whereas English permits only [+strict adjacency], as far as adjunction between the verb and the direct object is concerned. Thus, the [+strict adjacency] setting can be considered unmarked, and the [-strict adjacency] marked. From the results in her study, the French learners of English accepted the [-strict adjacency] sentences to a much greater extent than the native control group, implying transfer of the French marked value. This contradicts the traditional belief that unmarked L1 values are more transferable. In addition, although the English learners of French were as accurate as the native control group in their judgment of the [+strict adjacency] sentences, they did not as readily accept the grammaticality of the [-strict adjacency] sentences, suggesting that the unmarked value may be acquired before the marked one.

In addition, the differences between English and Thai can be re-interpreted vis-à-vis markedness theory. Since the two languages allow the [+strict adjacency] value of the adjacency parameter, adjunction in both the clause-initial and the clause-final positions may be treated as unmarked and thus acquired early. In contrast,

adjunction in the clause-medial positions, i.e. [-strict adjacency], is permitted only in English, representing the marked value of the parameter. For this reason, clause-medial adjunction should emerge later in the acquisition process.

Significance of the research

As discussed above, this study is one of the very few which focuses on how adverbs are acquired by L2 learners (Johansson and Dahl, 1982; Selinker, 1969; White, 1989a), whereas most research investigates the acquisition of an L2, exploring adverbs only in passing (e.g. Smyth, 1987; Ubol, 1981). When this issue is focused upon at all, it is often explored in terms of errors (e.g. Dissosway, 1984; Selinker, 1969; White, 1989a), but less from the acquisitional perspective. It is hoped, therefore, that the results of the present study can ultimately play a part in raising language teachers' awareness on the importance of adverbs, how they are acquired by L2 learners, and how they are used by native speakers of English. Also, the findings from the native group can be applied in course and materials development.

Research questions

1. What is the range of positions of adjunction used by intermediate and advanced Thai learners, in comparison with that used by native speakers of English?
2. What is the extent of L1 transfer in terms of the adjacency parameter?
3. Which positions of adjunction are acquired earlier and which are acquired later?

Subjects

The subjects were five MA students and five PhD students at the *English as an International Language (EIL)* programme, Chulalongkorn University. The MA students were referred to as *intermediate Thai learners of English*, and the PhD students as *advanced Thai learners of English*. These subjects were chosen because research evidence suggests that adverbs do not become

productive at earlier stages of acquisition (e.g. Dissosway, 1984). Additionally, numerous works classify proficiency levels according to educational status or the number of years learning an L2 (e.g. Ayoun, 2005; White, 1989a). In this study, the subjects' proficiency was indicated by the *CU-TEP* scores⁶, reported in the table below.

Table 1 The subjects' CU-TEP scores

	Advanced group	Intermediate group
Learner 1	608	575
Learner 2	608	575
Learner 3	658	582
Learner 4	625	582
Learner 5	628	585
Average scores	625.4	579.8

As shown in Table 1, the advanced group's scores averaged 45.6 points higher than those of the intermediate group, suggesting that the former was generally at a higher proficiency level than the latter. Nevertheless, some exceptional cases arose. For example, intermediate learner 5 had the scores of 585, only 24 points behind advanced learners 1 and 2. Thus, it might be more appropriate to take the subjects' proficiency levels as forming a continuum, with their scores ranging from 575 to 658. However, a distinction between the advanced and the intermediate groups could be drawn on the whole since, according to Poonsawad (2006), *CU-TEP* test takers with scores of above and below 600 are at different levels of proficiency.

⁶ *CU-TEP* stands for the *Chulalongkorn University Test of English Proficiency (CU-TEP)*, an equivalent of the *Test of English as a Foreign Language (TOEFL)*. For further discussions on the concurrent validity of the two tests, see Pongsurapipat, Chinnawongs, and Kannasoot (2000).

Data collection

Data were collected from each group of subjects over a two-year period, when they were studying in the EIL programme. Only the term papers were included, while the other types of written works such as classroom assignments and examination papers were discarded. The reason for this is that term paper writing enabled focuses on both content and linguistic forms, whereas examination paper writing required a focus on the former rather than the latter (cf. Kroll, 1990). The writings of the intermediate Thai learners constituted the *intermediate English corpus*, and those of the advanced Thai learners constituted the *advanced English corpus*.

In addition to the texts collected from the Thai learners, data were gathered from native or near-native speakers of English, forming the *native* or *baseline corpus*. The source of data was a leading journal, *Applied Linguistics*, which publishes quarterly research and academic articles related to language and language acquisition. As specified in the *2004 Institute for Scientific Information (ISI) Journal Citation Reports*, the journal has an *impact factor* of 0.829, whereby impact factor refers to a measure of the importance of scientific journals calculated each year by the Institute for Scientific Information (<http://www.starrepublic.org>). The reason for using articles in the *Applied Linguistics* journal is that the data gathered from this source and from the subjects were in the similar field of applied linguistics (cf. Swales, 1990). Besides, the baseline data can be justified as reflecting the standard to which the subjects seek to aspire.

Classification of positions of adjunction

The native corpus was examined first to provide a baseline for comparisons. From this, it was found that adverbs were used in three broad types of position relative to the clause: clause-initial, clause-medial, and clause-final. The *clause-initial positions* include the position before all the other clausal elements, e.g. *...and conceptually, they function through English*, and the position between any type of constituents and the subject, e.g. *To be successful, however, it had to be aligned with....* These two positions

serve a “theme-setting role” (Hoye, 1997: p. 149). Additionally, these positions can be occupied by a wide range of adverbs, frequently *parenthetical adverbs*⁷ showing interclausal connections such as CONSEQUENTIAL and ADVERSATIVE adverbs (e.g. *thus, however*) (Huddleston and Pullum, 2002), which are predominant in academic prose (Biber *et al.*, 1999).

The *clause-medial positions* can be classified into seven positions. The first is the position between the subject and an auxiliary, e.g. *...the love of role play indeed may be re-exposed....* The second is the position between the subject and the main verb, e.g. *Mellow carefully distinguishes the various forms of items....* The third is the position between two auxiliaries, e.g. *They may, however, be used creatively,....* The fourth is the position between an auxiliary and the main verb, e.g. *Humour... is clearly appreciated by the participants....* The fifth is the position between the subject and the main verb in which two adverbs co-occur, e.g. *It hence typically focuses on the problems of design,....* The sixth is the position between an auxiliary and the main verb in which two adverbs co-occur, e.g. *...Krashen’s monitor model was often rightly criticized....* The seventh is the position between *to* and an infinitive verb, e.g. *LHRs advocates need to consistently bear in mind the distinction....*

The clause-medial positions accommodate several types of adverbs and serve various purposes. They normally take *integrated VP-RELATED* adverbs, which “denote modifications of the details of the predicate” (Huddleston and Pullum, 2002: p. 576), e.g. *Mellow carefully distinguishes the various forms of items....* The clause-medial positions which are especially interesting here are two adverbs co-occurring between the subject and the main verb, e.g. *It hence typically focuses on the problems of design,....*, and between an auxiliary and the main verb, e.g. *...Krashen’s monitor model was often rightly criticized...,* as these positions should be very difficult to acquire. This is due to the fact that stacked adverbs must follow

⁷ *Parenthetical adverbs* are prosodically detached or typographically marked by commas, as in *He has, cleverly, answered the question*, whereas *integrated adverbs* are not, as in *He has cleverly answered the question* (cf. Cobb, 2006; Huddleston and Pullum, 2002).

a fixed order (e.g. Cobb, 2006; Ernst, 2002; Jackendoff, 1972). For example, CONSEQUENTIAL adverbs (e.g. *thus*), by virtue of being an interclausal adverb, always precede VP-RELATED adverbs (e.g. *quickly*), as in *He thus quickly hid in the closet*. Moreover, instances such as this are very rare in the L2 data, occurring less than 100 times in such a large corpus as the *British National Corpus* (cf. Beijer, 2005).

The *clause-final positions* include the position between the verbal construction and any type of constituents, e.g. *...emergentist thinking should be applied consistently to all areas...*, the position after all the other clausal elements, e.g. *...;otherwise, they would have been used more frequently*, and the position between the main verb and a heavy noun phrase object, i.e. *heavy NP shift*⁸, e.g. *An advertising slogan cannot state explicitly a distinction between...* Of particular interest is the position between the main verb and a heavy object since adjunction in such a position, as the data in the present study suggest, is extremely scarce in the L2 data and should thus emerge much later in the acquisition process.

To better represent the results, the positions of adjunction are abbreviated as follows⁹.

- I1 = Adv + S + V
e.g. *... and conceptually, they function through English.*
- I2 = XX + Adv + S + V
e.g. *To be successful, however, it had to be aligned with ...*
- M1 = S + Adv + Aux + V
e.g. *... the love of role play indeed may be re-exposed ...*
- M2 = S + Adv + V
e.g. *Mellow carefully distinguishes the various forms of items ...*

⁸ Heavy NP shift refers to the movement of a heavy NP object to the right of a comparatively light adverb (cf. Hawkins, 2001, 2004).

⁹ Adv = adverb, S = subject, V = verb, O = object, XX = any constituents (e.g. prepositional phrases), Aux = auxiliary, Aux1 = first auxiliary, Aux2 = second auxiliary, NP = noun phrase

- M3 = S + Aux1 + Adv + Aux2 + V
e.g. *They may, however, be used creatively, ...*
- M4 = S + Aux + Adv + V
e.g. *Humour ... is clearly appreciated by the participants ...*
- M5 = S + Adv + Adv + V
e.g. *It hence typically focuses on the problems of design, ...*
- M6 = S + Aux + Adv + Adv + V
e.g. *... Krashen's monitor model was often rightly criticized ..*
- M7 = to + Adv + V
e.g. *LHRs advocates need to consistently bear in mind the distinction ...*
- F1 = S + V (+ O) + Adv + XX
e.g. *... emergentist thinking should be applied consistently to all areas ...*
- F2 = S + V (+ O + XX) + Adv
e.g. *...; otherwise, they would have been used more frequently.*
- F3 = S + V + Adv + heavy NP O
e.g. *An advertising slogan cannot state explicitly a distinction between ...*

Results

This section reports on the findings. It begins with the overall frequencies of adverbs used by the native group as well as the advanced and the intermediate learner groups. Then, comparisons are made between the three groups in terms of the degree of adjunction and the range of positions. Finally, the order of acquisition by the learner groups is demonstrated.

Table 2a Frequency of adverbs and corpus size (native corpus)

Native corpus	15.82 (3,842/242,894)
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• Frequency reported per 1,000 words

Table 2b Frequency of adverbs and corpus size (learner corpora)

Learner	Advanced group	Intermediate group
Learner 1	11.84 (392/33,121)	8.45 (230/27,326)
Learner 2	12.66 (574/45,331)	9.09 (291/32,021)
Learner 3	14.53 (571/39,300)	6.47 (185/28,574)
Learner 4	12.80 (698/54,258)	7.00 (169/22,224)
Learner 5	9.20 (206/22,376)	8.23 (293/35,602)
Average	12.56 (2,441/194,386)	8.01 (1,168/145,747)

• Frequency reported per 1,000 words

The tables show that adverbs were used most frequently in the baseline corpus, 15.82 adverbs per 1,000 words. The advanced learners were on a par with the native group, using 12.56 adverbs every 1,000 words. On the other hand, adverbs were used much less frequently by the intermediate learners, 8.01 per 1,000 words.

Table 3 The adjacency condition, the range of positions, and the order of acquisition

	I1	I2	M1	M2	M3	M4	M5	M6	M7	F1	F2	F3	Total number of positions
Native	28.8	1.9	1.9	21.6	3.8	25.4	0.7	1.2	1.0	7.1	5.9	0.6	12
Adv 1	44.9	-	1.0	20.7	1.3	20.7	-	-	1.3	3.6	6.1	-	8
Adv 2	47.2	-	0.5	19.0	3.3	21.3	0.3	0.2	1.4	1.7	5.1	-	10
Adv 3	55.9	-	1.9	10.7	1.4	12.1	0.4	0.5	0.2	6.7	9.8	-	10
Adv 4	40.0	0.1	2.9	19.9	2.1	21.1	0.7	0.6	0.9	4.9	6.4	0.4	12
Adv 5	31.1	0.5	2.4	19.9	1.0	25.7	0.5	1.9	1.5	6.8	8.7	0.4	12

	I1	I2	M1	M2	M3	M4	M5	M6	M7	F1	F2	F3	Total number of positions
Int 1	50.9	-	1.7	15.7	-	13.5	2.6	-	-	3.5	12.2	-	7
Int 2	66.7	0.3	-	6.5	0.3	12.7	-	-	-	2.7	10.7	-	7
Int 3	70.3	-	1.6	7.0	-	11.4	-	-	-	2.7	7.0	-	6
Int 4	69.2	1.2	0.6	5.3	3.0	8.9	-	0.6	2.4	3.0	5.9	-	10
Int 5	43.3	-	2.0	20.1	-	16.7	0.7	-	-	2.7	14.3	-	7

- *Figures reported in percentage*
- *Adv = advanced learner, Int = intermediate learner*

Table 3 compares the degree of adjunction in each position¹⁰ as well as the range of positions between the native group, the individual advanced learners, and the individual intermediate learners. It also illustrates the order of acquisition for the advanced and the intermediate learners. The cells with the darkest shading indicate the positions which are acquired first, whereas those with the lightest or no shading indicate the positions which are acquired last.

The table shows that the advanced group had stronger preference for I1 than the native group. Advanced learners 1 and 2 placed almost 50% of adverbs in I1, with advanced learner 3 showing the most different pattern of adjunction from that of the native group (55%). On the other hand, advanced learners 4 and 5 seemed more on a par with the natives, placing 40% and around 30% of adverbs in this position, respectively. A more favourable picture was found for M2, in which almost all the advanced learners adjoined averagely 20% of adverbs, a very similar proportion to that in the native corpus. Also, slightly more than 20% of adverbs were placed in M4, suggesting again that the advanced group were relatively native-like. In terms of the range of positions, the advanced learners generally resembled the native group, putting adverbs in almost as many positions, particularly learners 4 and 5.

¹⁰ The discussion on the adjacency condition focuses on I1, M2, and M4 since these positions show the highest degrees of adjunction and the most remarkable differences between the three groups of subjects.

The intermediate learners also exhibited a similar pattern. Intermediate learners 1 to 4 were noticeably different from the native group, placing adverbs most often in I1, ranging from more than 50% (learner 1) to below 70% (learners 2, 3, and 4). In contrast, learner 5 adjoined almost 45% of adverbs in I1, matching slightly more with the native group than the other learners in the group. As for M2, very small percentages of adverbs could be identified for learners 2 to 4. Learners 1 and 5, on the other hand, adjoined around 15% and 20% of adverbs in this position, respectively. When M4 is taken into account, all the intermediate learners were dissimilar to the native group, with the degrees of adjunction ranging between only 10% to well below 20%. Regarding the range of positions, nearly all the intermediate learners adjoined adverbs in I1, M1, M2, M4, F1, and F2.

A comparison of the individual advanced learners and the individual intermediate learners reveals that the former were less conservative with the clause-medial positions than the latter. The percentage of adjunction in I1 for the advanced learners ranged from above 30% to 55%. The intermediate learners, in contrast, put in I1 between 45% and around 70% of adverbs. Further difference was found for adjunction in M2. Most of the advanced learners placed around 20% of adverbs in this position, in comparison with more than half of the intermediate learners, whose placement of adverbs was well above 5%. As for M4, the percentage of adjunction was slightly higher for the majority of the advanced learners (from 20% to 25%) than for most of the intermediate learners (around 10%). With respect to the range of positions of adjunction, the advanced learners placed adverbs in a lot more positions. Learners 4 and 5 adjoined adverbs in all the twelve positions being considered, while ten could be identified for learners 2 and 3, and eight for learner 1. The range was not as wide for the intermediate learners, ranging from six for learner 3, seven for learners 1, 2 and 5, to ten for learner 4. Certain positions, namely M5, M6, M7, and F3 were generally never used by this group.

Turning now to the order of acquisition, it can be inferred that adjunction in I1, M2, M4, F1, and F2 should emerge relatively early in the acquisition process since they were the positions used by all the intermediate and the advanced learners. That these

positions were acquired before the other positions could also be attributed to the extent to which adjunction in these positions were instantiated in the language of native speakers of English, i.e. positive evidence to which the learners had been exposed. From the native corpus, hypothetically representing the language of the natives, the degrees of adverb placement in I1, M2, M4, F1, and F2 were the highest among the twelve positions, ranging from 5.9% in F2 to 28.8% in I1.

After I1, M2, M4, F1, and F2, the next two positions acquired by the learners were probably M1 and M3, indicated by the fact that all the advanced learners and some of the intermediate learners placed adverbs in these positions. This again corresponded with the degrees of adjunction in M1 and M3 found for in the native corpus, 1.9% and 3.8% respectively, the percentages slightly higher than those in the remaining positions. Next to M1 and M3 were I2, M5, M6, and M7, which should be acquired relatively late, since the majority of the advanced learners, but only some or even none of the intermediate learners, placed adverbs in these positions. The last acquired position seemed to be F3.

Discussion

The adjacency parameter has been applied in the present study to investigate the range of positions of adjunction employed by the Thai learners. To recall, English is a [+/-strict adjacency] language, whereas Thai is characterised by the [+strict adjacency] setting. Thus, English permits adjunction in various positions within the clause. Thai grammar, in contrast, rules out clause-medial adjunction. This is exemplified below.

- (10) a. *Possibly*, they may have been sent to London.
 b. They *possibly* may have been sent to London.
 c. They may *possibly* have been sent to London.
 d. They may have *possibly* been sent to London.
 e. They may have been sent to London, *possibly*.

(Adapted from Quirk *et al.*, 1985: 490f, cited in Hoye, 1997: p. 148)

- (11) a. dang0nan3 pralden0 maj2chaj2 khxx2 rvvang2
 thus issue not only matter
 kh@@ng4 khwaam0suuaj4 txx1 kiiaw1 kap1
 of beauty but involve with
 khuuam0txxk1taang1 thaang0chaat2phan0
 difference racial

Thus, the issue is not only a matter of beauty but also that of racial differences.'

- b. t@@n0nii3 raw0 thuuk1 kam0not1 haj2 t@@ng2
 now we PSV¹¹ force give must
 svv3 nam3taan0 naj0 raa0khaa0 13-14 baat1
 buy sugar in price 13-14 baht
 'Now, we are forced to buy sugar at the price of 13-14 baht.'

- c. txx1 kh@@2thet3cing0 nan3 man0 mii0
 but fact that it have
 kaan0tii0khuuam0 khaw2 maa0 kiiaw1kh@@ng2 jaang1nxx2n@@n0
 interpretation enter come involve certainly
 '... but that fact *certainly* involves interpretations.'

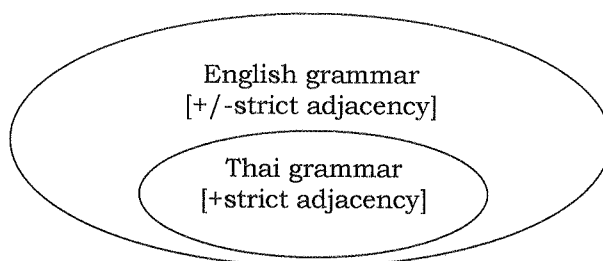
- d. nvva3kaj1 lx3 khaj1 ca1 t@@ng2 mii0
 chicken and egg will must have
 raa0khaa0 suung4 khvn2 jaang1liik1liiang2maj2daj2
 price high up inevitably

'Chicken and eggs will *inevitably* become more expensive.'

Viewed in terms of the subset-superset relations (White, 1989a), the grammars of the two languages can be diagrammed as in (12).

¹¹ PSV = passive marker

(12)



(Adapted from White, 1989b: pp. 142, 166)

The Thai learners' acquisition of the range of positions of adjunction in English, according to White's (1989b, 2003) proposal, will proceed as follows. When they see or hear sentences like (10a) and (10e), they will know that adjunction can occur clause-initially and clause-finally in English, which happens to correspond with the pattern in Thai. However, sentences like (10b) to (10d) are also available in the L2 data, making the learners hypothesise that adjunction is possible in the positions between the subject and the verbal construction and between any two auxiliaries, and perhaps in the other clause-medial positions. As more such sentences are observed, their hypothesis will eventually be confirmed, and the [+strict adjacency] parameter of the L1 will thus be reset to accommodate the more general [+/-strict adjacency] setting of the L2 ¹². If this line of analysis is correct, what can be expected is that parameter resetting will lead to a broader range of positions of adjunction in the use of English adverbs by the Thai learners.

But reality bites. Although the range of positions of adjunction used by the Thai learners is almost as wide as that in the language of native speakers of English, differences between the three groups are remarkable in terms of the adjacency condition. The natives place adverbs more or less to the same extent in I1, M2, and M4. The advanced group, on the other hand, adjoins adverbs in I1 twice as much as they do in M2 and M4. For the intermediate group, the degree of adjunction in I1 is the highest, more than twice as much as that in M2 and M4 combined. In other words, the

¹² This does not entail that instructional L2 input does not play any role but just focuses on the interplay between naturalistic data and SLA (cf. Trahey, 1996; White, 1991b, among others, for the (in) significance of L2 instruction).

[+strict adjacency] setting of Thai is only partially reset. What, then, could account for this not-so-favourable situation?

In theory, parameter resetting seems straightforward. Once learners are exposed to positive L2 data, their grammar is restructured to divert from the L1 setting and then let in that of the L2. In reality, however, the process is not as simple as that. Ayoun (2005) suggests that English is a mixed language, in which both settings of a parameter are instantiated. In the present study, it has the binary [+/-strict adjacency] parameters. Thus, the Thai learners, negatively affected by the [+strict adjacency] parameter of the L1, have to distinguish English as a [-strict adjacency] language for adjunction between the subject and the verb, between an auxiliary and a main verb, between two auxiliaries, for example. Furthermore, they have to learn that English is also a [+strict adjacency] language when it comes to adjunction between the verb and the object. Because of this overlap in parameter settings, the SLA process is slowed down, with the Thai learners adopting a more conservative L2 value, i.e. leaning towards the [+strict adjacency] value of the language. With regard to this, Schwartz points out that:

“... Primary linguistic data do not come labelled as to which parameter they are intended to be evidence for; it is thus possible that primary linguistic data do not always lead to a unique analysis on the part of grammars. If this is so, ... a developing grammar may (initially) adopt a different analysis for a type of input data” (Schwartz, 1996: p. 216, cited in Ayoun, 2005: pp. 41-42).

Indeed, positive evidence in terms of the range of positions of adjunction can greatly obscure the binary settings of English. Ayoun (2005) and Inagaki (2002) stress the significance of frequency and clarity of L2 data in SLA, the two criteria which adverbs do not seem to meet. First, although sentences like those in (10) above are available, they are very infrequent. As shown earlier, adverbs occur only around fifteen times per 1,000 words. It is thus more likely for L2 learners to find such a sentence as in (13) below than those in (10).

- (13) They may have been sent to London.

(Adapted from Quirk *et al.*, 1985: 490f, cited in Hoyer, 1997: p. 148)

Furthermore, provided that adverbs are distributed mainly in three positions, I1, M2, and M4, as shown in the data, there will be just around ten adverbs out of 1,000 words to suggest that one of the parametric values of English is [-strict adjacency]. Second, sentences like (14a) and (14b), reproduced from (10a) and (10b), may even confuse L2 learners about which setting, [+strict adjacency] or [-strict adjacency], is actually the value associated with English. In case they know that either is possible, they may even wonder further which is the better value.

- (14) a. *Possibly*, they may have been sent to London.
b. They *possibly* may have been sent to London.

(Adapted from Quirk *et al.*, 1985: 490f, cited in Hoyer, 1997: p. 148)

It should be noted that the findings in this paper also suggest that with enough exposure to the L2 data, the Thai learners will probably approximate the natives. This claim is made on the grounds that the degree of clause-medial adjunction is stronger for the advanced group than for the intermediate group. In addition, the former exhibits a broader range of positions of adjunction than the latter. Of course, proficiency level cannot strictly be equated with L2 exposure. Some L2 learners may have been exposed to an ample amount of L2 input but have not progressed far in their acquisition. On the other hand, some L2 learners may have mastered the setting associated with the L2 despite the limited amount of L2 input available for them. However, as Ayoun (2005: p. 42) notes, advanced L2 learners “are more likely to have adopted the L2 value of the parameter” because of their “longer exposure to the L2 than intermediate learners”.

In addition to the adjacency parameter, insights from markedness theory have also been adapted in analysing the order of acquisition by the Thai learners. That is, more frequent structures are unmarked, whereas less frequent ones are marked (Eckman, 1977). Additionally, among the related marked structures in an L2, some constructions will be more marked than others (Eckman, 1977). This idea being applied, English allows, for example,

adjunction in all the clause-medial positions, a possibility which does not seem to exist in Thai, and so the structures involving clause-medial adjunction are considered marked. Nevertheless, some of the clause-medial positions in English will be more marked if it can be proved that adjunction in those positions is relatively infrequent in comparison with that in the other clause-medial positions. From the SLA perspective, it should thus be easier to acquire the less marked positions and more difficult to acquire the more marked ones.

The findings in this study support the above claims. From the twelve positions of adjunction being investigated, I1, F1, and F2 can be considered unmarked in terms of both the characteristics of English and Thai and frequency of occurrence in the L2 data. In addition, among the marked clause-medial positions, M2 and M4 can be considered less marked, and the other positions more marked, due to the fact that the former are more abundant in the L2 input than the latter. This probably accounts for why acquisition starts with adjunction in I1, M2, M4, F1, and F2, used by all the advanced and all the intermediate learners. Again, the remaining marked, clause-medial positions being considered, M1 and M3 can be thought of as less marked since in the native data (hypothetically one source of positive evidence for L2 learners), adjunction in these positions is more frequent than that in the other clause-medial positions. As a consequence, M1 and M3 seem to be acquired earlier, following the previously mentioned positions. This is suggested by the results that all the advanced learners and the majority, but not all, of the intermediate learners place adverbs in these positions.

Conclusion and pedagogical implications

The acquisition of English adverbs by the Thai learners is intriguing in that it satisfies White's (2003) criteria for providing convincing evidence that learners have access to the properties of the L2, namely *underdetermination of the L1 grammar* and *underdetermination of the L2 input* (p. 23). English and Thai differ markedly with regard to positions of adjunction relative to the clause. While English permits adjunction in up to twelve positions, Thai allows only two. Thus, the Thai learners cannot resort to their

L1 grammar at all since nothing in the L1 tells them which positions are possible in the L2. With respect to instructional L2 input, the treatment of adverbs in ESL textbooks does not seem comprehensive enough to equip the learners with the knowledge which will guide them in acquiring the syntax of English adverbs (cf. Dissosway, 1984). For instance, those texts generally present adverbs as if they could be placed in only a few positions, contradicted by the results of this study. In addition, if the native corpus in the present research is taken to be one source of naturalistic L2 data to which the learners have been exposed, it would not help much either since the occurrence of adverbs is far from frequent. Regardless of these hindrances, the extent to which they have acquired the syntax of adverbs in English is profound.

Although the findings presented thus far suggest that the syntax of adverbs can be acquired without explicit instruction, it would be provocative to conclude that it should not at all be drawn to L2 learners' attention. Based on previous research as well as this one, suggestions are made as follows. First, adverbs should be introduced to those who have been exposed to English to some degree as empirical research suggests that adverbs are not likely to become productive in the interlanguage of learners who are at early stages of acquisition (cf. Dissosway, 1984; Eubank, 1994; Sauter, 2002). When they seem to be ready, the starting point should lie in FREQUENTATIVE adverbs (e.g. *often*, *frequently*) and VP-RELATED adverbs (e.g. *quickly*, *slowly*) since those in these semantic classes presumably emerge first in L2 learners' language (c.f. White, 1989a, 1991a, 1991b). Once they have acquired such basic knowledge, more care may be given to adjunction in the marked positions, i.e. those not allowed in Thai or those which are not frequent in English, as indicated by this research.

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