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Anusorn Saechan

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**1st International Conference on
Language, Literature, and Cultural Studies**

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To whom it may concern,

On behalf of the reviewers of 1st International Conference on Language, Literature, and Cultural Studies (ICLLCS), we are pleased to announce the acceptance of Anusorn Saechan's full paper submission, entitled "*WH-Arguments versus WH-Adjuncts Asymmetry in the Acquisition of English WH-Questions by Thai Learners*", into the ICLLCS proceedings. His submission is a well-thought out piece of writing and follows many of our guidelines.

His full paper manuscript has been in the publication process, which will be downloadable online at <http://western.buu.ac.th/icllcs/index.php> by mid-November 2013 onwards. Please feel free to contact us with any questions you may have.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Suchada R'.

Suchada Rattanawanitpun, Ph.D.
Department Head & ICLLCS Chair

WH-Arguments versus WH-Adjuncts Asymmetry in the Acquisition of English WH-Questions by Thai Learners

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Abstract

In this paper, we adopted Best's Perceptual Assimilation Model (PAM) and proposed a rank order of English WH-question (WHQ) acquisition to account for how Thai learners acquire English WH-arguments and WH-adjuncts. The rank order predicts that subject WH-arguments, labeled category A, which occur in the same position in both languages, will be easiest to acquire for Thai learners. WH-adjuncts are, on the other hand, split classes between 'when' and 'why', labeled category B; and 'where' and 'how', which are grouped together with object WH-arguments, labeled category C. Category B, whose WH-phrases occur both in-situ and in clause-initial positions in Thai, may reduce the burden on Thai learners when recognizing and producing their English equivalents, and therefore is easier to acquire than category C. Category C, whose WH-phrases between the two languages occur as a mirror image, is most difficult to acquire.

There were two groups of participants: 20 students from an English Program (EP) and 10 students from a regular Program (RP), both in grade 8 selected through purposeful sampling. The test of error recognition was administered one week prior to the test of production. Note that ϕ features and tenses were taken into account when being scored. The data were analyzed by percentage, and the correlation between error recognition and production was tested using Pearson's correlation coefficient.

The results regarding error recognition partially corresponded to the rank order of acquisition and revealed consistency in the EP and RP groups who obtained the same rank orders of $B \gg C \gg A$. The results in terms of production were largely positive as the EP group's rank order was $A \gg B \gg C$, as predicted, and the RP group's rank order was $A \gg C \gg B$.

The study also indicated that there was a significantly strong correlation between the two tests on category B and an insignificantly moderate correlation on category C but a negligible correlation on category A.

Keywords: L2 acquisition, Recognition, Production, WH-questions, Rank order of English WH-questions

1. Introduction

Recent literature on Thai learners' acquisition of English has not yielded many studies which measure the grammatical judgment abilities of L2 learners of English, whereas studies similar to this kind were frequently found in perception tasks in phonetics. Research on L2 acquisition in Thai context generally aims at analyzing the frequency and the types of grammatical errors and/or elaborating on their consequences by the adoption of Error Analysis (EA) or Contrastive Analysis (CA) (Bennui, 2008; Intratat, 2001; Noojan, 1999; Tawilapakul, 2002; Thep-Akrapong, 2005). Similar to those mentioned, we usually found mistakes made by Thai learners when forming English WHQs, as evidenced in (1) through (3). This results in ineffective communication.

- (1) *Which dress match with she?
- (2) *What country are you like?
- (3) *Who is scold Paul?

The study in the field of phonetics by Best, McRoberts, & Goodell (2001) investigated adult native speakers of American English's perception of Zulu and Ethiopian Tigrinya consonant contrasts, addressing Best's *Perceptual Assimilation Model (PAM)*. Best proposed the assimilation of L2 sound/phone into the native system of phonemes as follows:

A non-native phone may be perceptually assimilated to the native system of phonemes in one of three ways: (1) as a categorized exemplar of some native phoneme, for which its goodness of fit may range from excellent to poor (2) as an uncategorized consonant or vowel that falls somewhere in between native phonemes (i.e., is roughly similar to two or more phonemes) (3) as a nonassimilable nonspeech sound that bears no detectable similarity to any native phonemes (p. 777).

Assuming PAM, we classify English WHQs into three categories by discriminating their structures according to how well they assimilate into Thai WHQs. We predict that Category A will be easiest to acquire for Thai learners of English because both English and Thai WH-phrases in subject positions in this category, that is to say *who* and *what*, occur in clause-initial positions in a surface structure (S-structure). The questions of this type do not undergo *Do*-insertion in English as they do not in Thai either. So they are identical in syntactic structures between the two languages. Let's consider the following figure.

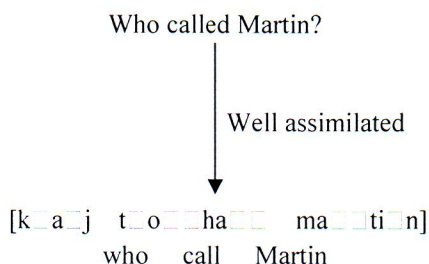


Figure 1 *L2 syntactic structure highly assimilated into that in L1*

Category B is predicted to be more difficult to acquire than category A. The WH-phrases *when* and *why* in this category serve as an adjunct and occur in a clause-initial position in English but both in-situ and in clause-initial positions in Thai in an S-structure. The questions of this type undergo *Do*-insertion in English but they do not in Thai, as illustrated in Figure 2. Consequently, they are less similar in syntactic structures between the two languages than those in category A.

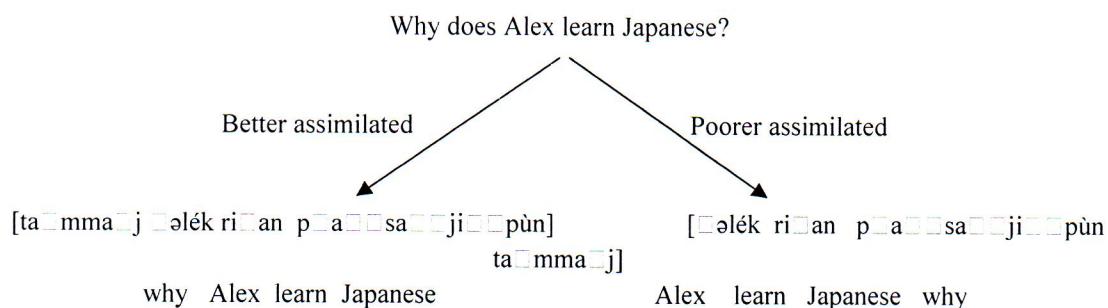


Figure 2 *L2 syntactic structure roughly assimilated into 2 or more structures in L1*

Category C is predicted to be most difficult to acquire for Thai learners of English. The WH-phrases *where* and *how* as WH-adjuncts, together with *who* and *what* as WH-arguments in object positions are subsumed in this category. They occur in a clause-initial position in English but conversely they occur in an in-situ position in Thai in an S-structure, as manifested in Figure 3. The questions of this type undergo *Do*-insertion in English but not in Thai. So they are least similar in syntactic structure between the two languages.

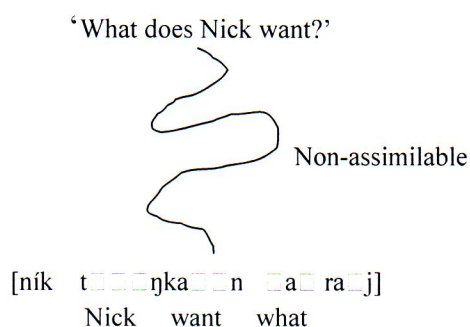


Figure 3 *L2 syntactic structure non-assimilated into that in L1*

2. Statement of Hypotheses

We hypothesize that (1) Thai participants will score highest on category A questions, followed by B and C respectively on both the error recognition test and production test and (2) the error recognition and the production are correlated. The rank order is as follows: WH-arguments_[Subject] >> WH-adjuncts_[why & when] >> WH-adjuncts_[where & how] >> WH-arguments_[Object].

3. Methodology

3.1 Participants

The subject group consisted of 30 students in total. Twenty of the subjects, at the time of study, were the entire class from an English Program¹ (EP), whereas the other 10 students were from a regular program (RP), both in grade 8 at Samchukratanapokaram school. The students in the EP gained more exposure to the English language than those in the RP, so it was predicted that they would score higher on both tests. The participants from the RP who attained an 'A' grade in English in the previous semester were, however, exclusively selected for 2 reasons: (1) to control the subjects' English proficiency levels as the subjects with different levels of English proficiency would statistically result in a scatter in test scores and (2) advanced students are likely to make more predictable and constant errors than slower students whose interim grammars are at low developmental stage.

3.2 Instruments

The research instrument in this study subsumed (1) a table discriminating English and Thai WHQ syntactic structure, (2) a test of error recognition and (3) a test of production.

3.2.1 A Table discriminating English and Thai WHQ syntactic structure

The following table exhibits how syntactic structures of English WHQs were discriminated according to the degree to which they assimilate into those of Thai (how similar they were to those of Thai), and then were classified into 3 categories.

¹ Its official name is actually known as a 'Smart Class' program. The program aims to provide its students with an extra number of hours taught in English. Three subjects, namely mathematics, science and English are taught in English by native-speakers.

Table 1 Discrimination of English and Thai WHQ syntactic structure

Category A											
Questions	WH _{[Q],[Sub]}	V	NP _[Obj]	Questions	WH _{[Q],[Sub]}	V	NP _[Obj]	Questions	WH _{[Q],[Sub]}	V	NP _[Obj]
-Who called Martin?	✓	✓	✓	[kʰɑːj tʰoː hɑː maːtiːn] who called Martin 'Who called Martin?'	✓	✓	✓				
Category B											
Questions	WH _[Q] [ADJ]	Aux	NP _[Sub]	V	WH _[Q] [ADJ]	Questions	WH _[Q] [ADJ]	Aux	NP _[Sub]	V	WH _[Q] [ADJ]
-Why does Alex learn Japanese? -When is your birthday?	✓	✓	✓	✓	-	[taːmmaːj ɔːlék riːan pʰaːsaːjiːpʰʉn] why Alex learn Japanese [ɔːlék riːan pʰaːsaːjiːpʰʉn taːmmaːj] Alex learn Japanese why 'Why does Alex learn Japanese?' [mʰaːraːi waːn kʰiːt kʰuːn] when birthday your [waːn kʰiːt kʰuːn mʰaːraːi] birthday your when 'When is your birthday?'	(✓)	-	✓	✓	✓
Category C											
Questions	WH _[Q] [Obj/ADJ]	Aux	NP _[Sub]	V	WH _[Q] [Obj/ADJ]	Questions	WH _[Q] [Obj/ADJ]	Aux	NP _[Sub]	V	WH _[Q] [Obj/ADJ]
-What does Nick want? - Where did Tom find a pen? - How did you travel to Hong Kong?						[nɪk tʰoːŋkaːn ɔːaːraːj] Nick want what 'What does Nick want?' [tʰoːm tʰoː pʰɑːk kaː] tiːnaːj] Tom found pen where 'Where did Tom find a pen?' [kʰuːn dʰoːntʰaːŋpaːj] hʰoːŋkɔːŋ jaːŋraːj]	-	-	✓	✓	✓

						you travel to Hong Kong how 'How did you travel to Hong Kong?'					
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3.2.2 The test of error recognition and the test of production

The test of error recognition and the test of production each comprised 10 questions. The test of error recognition utilized a multiple choice format in which the participants were to select the grammatical WHQ of the four given, whereas the test of production utilized a translation task in which the participants were to translate Thai WHQs into English.

Table 2 Questions utilized in the tests

Questions in the test of error recognition	Questions in the test of production
1. a. What often hurt Mary? b. What hurt Mary yesterday? ✓ c. What is hurt Mary the most? d. What hurted Mary yesterday?	1. [k a j ti lùksa w k ñt a n m awa n ní] who hit daughter my yesterday 'Who hit my daughter yesterday?'
2. a. Who Martin dislike? b. Who do Martin dislike? c. Who does Martin dislike? ✓ d. Who is Martin dislike?	2. [nik t ñka n a ra j] Nick want what 'What does Nick want?'
3. a. When did you go to Korea? ✓ b. When you go to Korea? c. When did you went to Korea? d. When are you go to Korea?	3. [m ara j lu j t a pa j k ñnna da] when Louise will go Canada 'When will Louise go to Canada?'
4. a. He traveled to where? b. Where did he travel to Singapore? c. Where did he travel to? ✓ d. Where was he travel to?	4. [t m t pa k ka k ñt a n ti na j] Tom found pen my where 'Where did Tom find my pen?'
5. a. Why do they teach Chinese to their sons? ✓ b. Why they teach Chinese to their sons? c. They teach Chinese to their sons why? d. Why are they teach Chinese to their sons?	5. [t a m ma j d è p r i a n p a sa ka wli] why Dave study Korean 'Why does Dave study Korean?'
6. a. How did you went to school this morning? b. How did you go to school this morning? ✓ c. How you went to school this morning? d. How are you go to school this morning?	6. [k u n t a d ñta ñ pa j h ñko ñ ja ñra j] you will travel Hong Kong how 'How will you travel to Hong Kong?'
7. a. Who studys French? b. Who is study French? c. Who studies French? ✓ d. Who study French?	7. [k a j t o ha ma ti n] who called Martin 'Who called Martin?'
8. a. What did Mark buy for his mom? ✓ b. What Mark bought for his mom? c. What did Mark bought for his mom? d. What was Mark buy for his mom?	8. [t a m ma j olék r i a n p a sa ji pùn] why Alex learn Japanese 'Why does Alex learn Japanese?'
9. a. When your birthday is? b. Your birthday is when? c. When is your birthday? ✓ d. When are your birthday?	9. [k u n ri an p a sa a ñkrit ti na j] you study English where 'Where do you study English?'
10. a. Where did she found her teddy bear? b. Where she found her teddy bear? c. Where did she find her teddy bear? ✓ d. Where was she found her teddy bear?	10. [m ara j k u n t a t ñña n] when you will marry 'When will you marry?'

3.3 Marking Criteria

Each test was worth 10 points. The tests of error recognition and production were examined with the same marking criteria with ϕ features and tenses taken into account. Any questions ungrammatical were not totally deducted if they were still comprehensible. How much they

were deducted, depending on the degree to which they were ungrammatical. Let's consider the following data:

WH-arguments_[Subject]

- (4) a. Who called Martin yesterday?
 b. *Who call Martin yesterday?
 c. *Who calls Martin yesterday?
 d. *Who is call Martin yesterday?
 e. *Who do call Martin yesterday?
 f. *Martin call who yesterday.

In both error recognition and production tests, the question, such as in (4a), is completely grammatical; therefore, one mark is assigned. However, in (4b) and (4c), the questions are ungrammatical in terms of ϕ features and/or tenses, and consequently 0.75 is assigned. In (4d) and (4e), the questions are incorrect as they unnecessarily undergo the *Do* and *Be*-insertion, and accordingly 0.5 is assigned. As for (4f), the meaning of the question is, to some extent, distorted so no mark is assigned.

WH-arguments_[Object]

- (5) a. What does Nick want?
 c. *What do Nick want?
 e. *What did Nick want?
 g. *What is Nick want?/
 i. *What Nick want(s)/wanted?
 k. *Nick want(s)/wanted what?
 m. *What do(s) Nick want a toy?

WH-adjuncts

- b. Where did he travel last month?
 d. Where do(s) he traveled?
 f. Where did he traveled?
 h. Where was he travel?
 j. Where he travel(s)/traveled?
 l. He travel(s)/traveled to where?
 n. Where did he travel to Thailand?

The questions, such as in (5a) and (5b), are totally grammatical; consequently, one mark is assigned. The questions in (5c) through (5h) are ungrammatical in terms of ϕ features and/or tenses; therefore, 0.75 is assigned. In (5i) and (5j), the questions are ungrammatical as they do not undergo *Do*-insertion, resulting in subject – verb disagreement and/or improper tense. Therefore, 0.5 is assigned. The questions, in (5k) and (5l),² do not undergo WH-movement, and therefore result in ungrammaticality, so no mark is assigned. In (5m) and (5n), their meanings are, to some extent, distorted, so no mark is assigned as well.

3.4 Procedure

The test of error recognition was administered to the EP class in the morning and to the RP class in the afternoon on the same day; however, the test of production was administered one week later to the EP class in the morning and to the RP class in the afternoon. This prevents the participants from translating Thai questions into English by means of memorizing the

² Although the questions are still comprehensible but no mark is assigned as they do not undergo WH-movement which is our primary focus of the study.

structures from the recognition test. The time allotted for the participants' taking each test was 30 minutes.

4. Results and Discussion

The analysis predicts that Thai learners will acquire the rank order of $A \gg B \gg C$. The prediction on production part was totally borne out. However, the scores from the error recognition part, to some degree, violate the rank order.

As regards the error recognition test, the EP class scored higher than the RP class on category B and C; nonetheless, the RP class turned out to score higher on category A. In respect of the production, the EP class scored higher on category A and B; however, the RP class scored unexpectedly higher on category C. This suggests that, in large part, the extra exposure that the EP class had to English resulted in their better performance. The average percentage is shown in Figure 4.

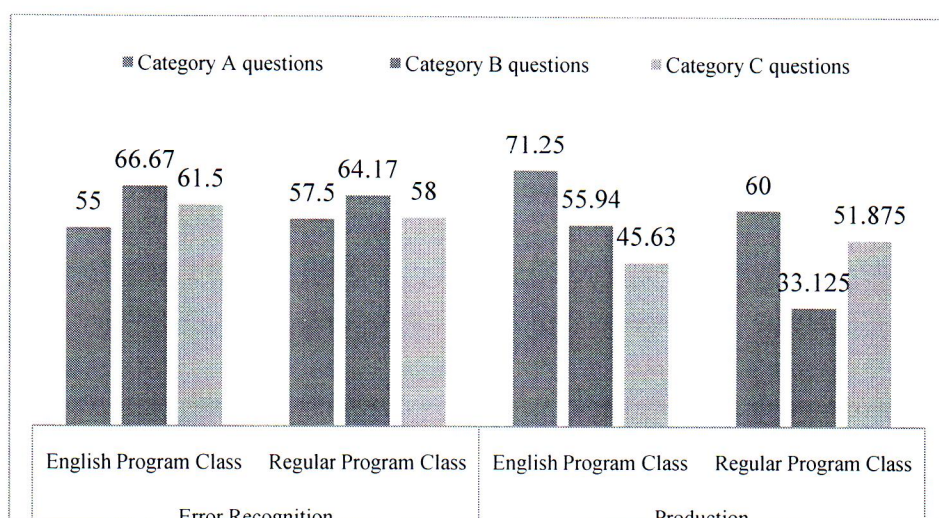


Figure 4 Comparison of EP's and RP's scores in error recognition and in production tests, classified by WHQ categories.

4.1 Hypothesis 1

Our first hypothesis posited that the participants would score highest on category A, followed by B and C respectively in both tests. The results revealed that error recognition part partially corresponded to the *rank order of English WHQ acquisition*, whereas the ranking of production scores were largely positive toward the rank order proposed here.

The average scores on the error recognition test by the EP class were ranked in the order of $B (66.67\%) \gg C (61.5\%) \gg A (55\%)$, and correspondingly the average scores by the RP class were ranked in the order of $B (64.17\%) \gg C (58\%) \gg A (57.5\%)$. On the production test, the average scores among the EP class were ranked in the order of $A (71.25\%) \gg B (55.94\%) \gg C (45.63\%)$, as predicted, and among the RP class were ranked in the order of $A (60\%) \gg C (51.88\%) \gg B (31.13\%)$. This clearly indicates that the production by the EP class is totally borne out by the *rank order of English WHQ acquisition*.

Although the results from the error recognition test by both classes were not borne out by the rank order proposed in this study, that is they obtained the recognition scores ranked in the order of B >> C >> A, these results are consistent with some previous research claiming that *object* WH-arguments were acquired earlier than *subject* WH-arguments. As a matter of fact, *object* WHQs are more syntactically complex than *subject* WHQs, which do not involve subject-auxiliary inversion and are identical to declarative sentences with the subjects replaced by WH-expressions. *Subject* WHQs, therefore, should be acquired first (Philip, Coopmans, Atteveldt, & Meer, 2002; Stromswold, 1995; Van Valin, 1998). Hence, our findings support the claim that *object* WH-arguments were easier to acquire than *subject* WH-arguments in terms of perception.

With respect to WH-arguments versus WH-adjuncts, Lee (2008) and Stromswold (1990) claimed that there was WH-argument versus WH-adjunct asymmetry in which subject-auxiliary inversion in argument WHQs were more successfully acquired than in adjunct WHQs. In our study, we cannot state exactly that there was asymmetry of WH-arguments versus WH-adjuncts in that we did not simply classify English WHQs into WH-argument and WH-adjunct categories as traditional classification did. However, we argue that WH-arguments in subject positions were easier to acquire than those in object positions, and thus there was WH-subject versus WH-object asymmetry. The analysis predicts correctly on the production part but it partly predicts on the recognition one. So the rank order we proposed in this paper seems more consistent with the production than the recognition.

4.2 Hypothesis 2

The second hypothesis posited that the error recognition and the production of English WHQs by Thai learners were correlated. The 'r' correlation was tested utilizing *Pearson's correlation coefficient*. We took account of EP and RP classes as a single sample group.

As predicted, the findings were largely positive toward the hypothesis. Starting with the category B in which the error recognition and the production by both classes bore a significantly and strongly positive correlation ($r = 0.417$, $p = 0.022$). In category C, there also existed a moderate positive correlation but it was insignificant ($r = 0.338$, $p = 0.068$). However, the error recognition and production in category A bore a negligible correlation ($r = 0.165$, $p = 0.384$).

Although there appeared to be no pertinent prediction on the relationship between syntactic error recognition and production, in phonetics, Flege, Takagi & Mann (1995) suggested that perception and production of speech sounds in a language bore a relationship to each other. A study, by Kludge, Reuder, Reis & Hoffmann Bion (2007), which investigated the relationship between the perception and the production of English nasal codas by Brazilians, proved the above prediction was true.

5. Limitations & Recommendations

The results from this study may not be truly generalized to the entire target population because a sample group was rather small and their attributes may not be representative of the

population. Also, the test procedure can affect reliability. Responses from the participants who conducted the test in the afternoon were lower than expected. This can be affected by fatigue. In addition, inter-raters are required for more reliability. We suggest these factors should be taken into account, otherwise, these pose problems to the *rank order of English WHQ acquisition* proposed here.

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