The L2 acquisition of the syntactic patterns that constrain the reference time of the epistemic modal complements

Peerapat Yangklang[1]

Abstract

The role of L1 in the L2 acquisition has been studied widely. It has been argued to have negative and positive effects or transfers on the L2 acquisition. Positive transfer refers to the situation where the properties being learned are similar to those exist in their L1, and the learners consciously or unconsciously make use of the similarities, to think, analyze, compare and comprehend, and master the L2 eventually (Yu and Ren 2013:45). Negative transfer, on the other hand, refers to the situation where the structures of the two languages are distinctly different, and a relatively high frequency of errors occurs in the L2. This paper report positive transfer whereby L1 knowledge facilitates the L2 acquisition of the syntactic patterns which indicate reference time of the epistemic modal complement in English.

Through the path of the acquisition of the epistemic modality in English, a task the Thai learners of English have to encounter is to figure out which reference time interpretation is allowed for a certain syntactic pattern. To test whether the 28 Thai learners of English have acquired the syntactic patterns or not, a truth value judgment was used to illicit the L2 data. The L2 learners were asked to judge whether a certain temporal interpretation was possible for a syntactic pattern where '*may*', '*might*', '*will*', '*must*' co-occur with certain types of verb or not.

The results of the experiment show the L2 leaners were more accurate in judging the temporal interpretations of modal statements where both present and future time references are possible than those where only a single interpretation. This suggests positive transfer in the acquisition of the epistemic modality in English by Thai learners of English.

Key words: epistemic modals, reference time of epistemic modal complement, positive transfer, adult L2 acquisition

---

[1] Ph.D, Faculty of Management Science Silpakorn University, email: yangklang_p@su.ac.th

บทคัดย่อ

มีการศึกษาบทบาทของภาษาแม่ต่อการเรียนรู้ภาษาที่สองอย่างมากมาย กล่าวกันว่าการถ่ายโอน
ของภาษาแม่มีบทบาทเชิงลบและบทบาทเชิงบวก การถ่ายโอนเชิงบวกหมายถึงสถาการณ์ที่ซึ่งคุณสมบัติ
ของภาษาที่เรียนรู้นั้นมีความคล้ายคลึงกับคุณสมบัติในภาษาแม่ และผู้เรียนอาจใช้ประโยชน์จากความ
คล้ายคลึงนี้โดยอาจรู้ตัวหรือไม่รู้ตัวก็ได้เพื่อคิดวิเคราะห์เปรียบเทียบ ทำความเข้าใจจนเชี่ยวชาญภาษาที่
2 ในที่สุด (Yu and Ren 2013:45) ขณะที่การถ่ายโอนเชิงลบหมายถึงสถานการณ์ซึ่งโครงสร้างหรือ
คุณสมบัติของภาษาแม่และภาษาที่สองต่างกันอย่างสิ้นเชิงและก่อให้เกิดข้อผิดพลาดทางภาษามากมาย
ในบทความนี้มีจุดมุ่งหมายเพื่อรายงานผลของการถ่ายโอนเชิงบวกที่ภาษาแม่ช่วยให้การเรียนรู้แบบทาง
วากยสัมพันธ์ที่บ่งชี้เวลาอ้างอิงของหน่วยเติมเต็มสภาวะมาลาในภาษาอังกฤษ

ในการเรียนรู้สภาวะมาลาในภาษาอังกฤษ ภาระกิจหนึ่งที่ผู้เรียนที่พูดภาษาไทยเป็นภาษาแม่ต้อง
เผชิญก็คือ การค้นหาและบ่งชี้ว่าแบบทางวากยสัมพันธ์ของหน่วยเติมเต็มสภาวะมาลาแบบใดมี
ความหมายเชิงเวลาอ้างอิงใด และเพื่อทดสอบว่าผู้เรียนที่พูดภาษาไทยเป็นภาษาแม่สามารถเรียนรู้แบบ
ทางวากยสัมพันธ์ของหน่วยเติมเต็มสภาวะมาลาที่บ่งชี้เวลาอ้างอิงหรือไม่ ผู้วิจัยจึงได้ทำการทดลองโดยใช้
แบบทดสอบการตัดสินความจริง โดยผู้ถูกทดสอบที่เป็นผู้พูดภาษาไทยเป็นภาษาแม่จำนวน 28 คนจะต้อง
ตัดสินว่าแบบทางวากยสัมพันธ์ของหน่วยเติมเต็มสภาวะมาลาที่ประกอบด้วย 'may', 'might', 'will', 'must'
และคำกริยาอื่นๆ สามารถใช้บอกเวลาสอดคล้องตามสถานการณ์ที่กำหนดให้หรือไม่

ผลการทดลองปรากฏว่าผู้เรียนภาษาที่สองสามารถตัดสินได้ถูกต้องในกรณีที่แบบทางวายสัมพันธ์
สามารถบ่งบอกเวลาอ้างอิงได้ทั้งปัจจุบันและอนาคต มากกว่าในกรณีที่ที่แบบทางวายสัมพันธ์สามารถบ่ง
บอกเวลาอ้างอิงได้เพียงเวลาเดียว จึงชี้ให้เห็นว่ามีการถ่ายโอนเชิงบวกของภาษาแม่ในการเรียนรู้ของ
ผู้เรียนภาษาที่ 2

คำสำคัญ   กริยาสภาวะมาลา เวลาอ้างอิงของหน่วยเติมเติม การถ่ายโอนเชิงบวก
การรู้ภาษาที่ 2 ของผู้ใหญ่

1. **Introduction**

The role of L1 in the L2 acquisition has been studied widely. The observance of L1 properties in the L2 grammar suggests the involvement of L1 knowledge i.e. L1 transfer in L2 acquisition. Accordingly, hypotheses concerning these issues were formulated e.g. Indirect Access (Vainikka and Young-Scholten 1994; Schwartz and Sprouse 1994, 1996; Eubank 1996). This position acknowledges the role of L1 and UG in L2 acquisition. It is argued that the initial state of L2 acquisition is L1 grammar. That is, L2 learners start off with their L1 grammar and adopt L1 parameter values in dealing with L2 input. As a result, L1 properties can be observed in L2 learners' interlanguage. If the L1 grammar fails to accommodate the L2 grammar, 'restructuring' or 'parameter resetting' may occur (White 2003: 61). The L2 grammar is then constrained by UG.

The L1 transfer has also been argued to have negative and positive effects on the L2 acquisition. Positive transfer refers to the situation where the properties being learned are similar to those exist in their L1, and the learners consciously or unconsciously make use of the similarities, to think, analyze, compare and comprehend, and master the L2 eventually (Yu and Ren 2013:45). Negative transfer, on the other hand, refers to the situation where the structures of the two languages are distinctly different, and it causes a relatively high frequency of errors occurs in the L2. The negative transfer is also known as L1 interference on an L2 (Dechert, 1983 and Ellis, 1997). Corder (1981) also states that differences between first and second languages may produce interference problems for L2 learners. Similarities, on the other hand, will probably contribute to facilitation of learning.

Negative transfer or L1 interference in L2 acquisition can be observed at various levels of language such as phonological, syntactic, and discourse levels. For example, at the level of pronunciation, Liu Runqing, & Wen Xu, (2006) found that the Chinese learners of English frequently mispronounced the English phonemes that do not exist in Chinese. In their study, for instance, most Chinese pronounce the word "thanks" incorrectly as /sæŋks/ instead of /θæŋks/, because there is no dental sound /θ/ in Chinese.

Yu and Ren (2013), on the other hand, take the positive transfer from Chinese (L1) to English (L2) as an example arguing that similarities can stimulate the positive transfer in the L2 acquisition of syntax, vocabulary and phonetics. Regarding the acquisition of L2 syntax, the similar sentence structures between L1 and L2 can accommodate the L2 learning. As for the acquisition of L2 vocabulary, similar ways to form words namely compound, conversion, affixation, sound-changing and abbreviation can help Chinese English learners remember and understand the new English words well. Regarding the phonetic similarities, Chinese Pinyin system and English phonetic symbols has many similarities, and they are helpful for Chinese students in grasping the L2 pronunciation correctly.

Although a number of research on the role of L1 transfer have widely received much attention, there seem to be a relatively small number of the investigation on the role of the L1 transfer in L2 acquisition of English by Thai speakers, particularly the ones that concern with the acquisition of the epistemic modality.

This paper aims to show the evidence of negative and positive effects of L1 on the acquisition of the syntactic pattern that constrain the reference time of the epistemic modal complements in English by Thai speakers.

2. Background
2.1 General characteristics of epistemic modals in Thai and English

Modal expressions are widely recognized to communicate two broad clusters of meanings: epistemic and deontic. Apart from these two clusters of modality, a third type of modality is often proposed, namely, dynamic modality.

Epistemic modality is concerned with speakers' assumption or assessment of possibilities. It indicates the degree of the speaker's confidence e.g. high or less, in the truth of the proposition expressed (Coates 1983: 18). In other words, it concerns an estimation of the likelihood that a certain state of affairs under consideration will occur, is occurring, or has occurred in the possible worlds (Nuyts 2001: 21).

Deontic is also known as 'Directives', where we try to get others to do things. This type of modality is concerned with necessity, unnecessity, obligation, prohibition, and permission (Palmer 2001:7).

Dynamic modality involves ability, intention, and willingness (Palmer, 1990, Hoye 1997).

    (1) She must be John's daughter.   (epistemic)

    (2) He must finish his homework.   (deontic)

    (3) Tom can run very fast.   (dynamic)

The epistemic modals in Thai and English, share some common characteristics. That is the epistemic modals in Thai and English are not complete verbs themselves. They select non-finite verbs as their complements (Yangklang (2011: 34). In addition, they take viewpoint aspect[2] e.g. perfective and imperfective aspect as their complements (van Gelderen (2003: 32). This is one of the properties that distinguish epistemic from deontic modals in English.

    (4) He must have read that letter.   (epistemic)

    (5) He must be looking for that letter.   (epistemic)

    (6) He must read that letter.   (deontic)

    (7) He must look for that letter.   (deontic)

We notice that sentences (4) and (5) have epistemic readings because the verbs in the complement have perfective and imperfective aspects respectively. However, sentences (6) and (7) have deontic readings due to the absence of the perfective HAVE + -EN and the progressive BE + -ING markers.

---

[2] Smith (1983) makes a distinction between lexical aspect (or situational aspect) and grammatical aspect (or viewpoint aspect). According to him, situational aspect concerns the internal temporal character (i.e. *Aktionsart*) of an event expressed by a verb. In other words, it is the inherent temporal properties of a verb, which characterizes whether a situation has a temporal boundary or an end result. Viewpoint aspect, on the other hand, concerns the perspective taken on a situation by relating it to a reference point. In other words it is the perspective adopted by the speaker in viewing a situation described in a sentence e.g. ongoing (progressive/imperfective) or completed (perfective).

In Thai, apart from context, viewpoint aspect plays a crucial role in distinguishing between epistemic and deontic modals (Yangklang 2011: 35). That is, epistemic modals may take perfective or imperfective aspect as their complement, while deontic modals do not. When the aspect markers like *lææw⁴* 'already', *khƏƏj¹* 'used to, ever', *juu²* 'to stay/IMP' and *kam¹laŋ¹* (progressive) occur in modal complements, the modals will only have an epistemic reading as illustrated in (8) and (9).

(8) dæŋ¹ tɔɔŋ³ ʔaan² naŋ⁵sɯɯ⁵ lææw⁴   (epistemic)

Dang must read book   PERF

'Dang must have read the book'

(9) dæŋ¹ tɔɔŋ³ kam¹laŋ¹   ʔaan² naŋ⁵sɯɯ⁵ (epistemic)

Dang must PROG   read book

'Dang must be reading the book'

In summary, we have seen so far the similarities between epistemic modals in English and Thai. That is situational aspect plays a crucial role in distinguishing epistemic modality from deontic modality in Thai and English.

2.2 The reference time of the epistemic modal complements

Stowell (2004: 481), on the other hand, argues that the epistemic modals behave like present-tense verbs because they are situated in the deictic present time/tense. In other words, the time of the epistemic modal is claimed to be simultaneous to the speech time. Therefore it is impossible for epistemic modals to express a real past reading (Guéron, 2008: 144). Consequently, they do not exhibit any morphological present/past alternation.

Although epistemic modals lack future-shift or past-shift of evaluation time, we can see a shift of reference time of the modal verbal complement (Drubig 2001: 16). The non-finite verbal complement of epistemic modals may have present time reference, future reference time or past time reference. Demirdarche and Uribe-Etxebarria (2008: 92) point out that the reference

time of the epistemic modal complement in English is sensitive to lexical aspect or certain types of verbs. In other words, the situational aspect or the verb type in the complement determines particular reference time of an individual epistemic modal. For example when the verbal complement of an epistemic modal is a stative predicate, which has imperfective aspect, the reference time of the situation can be construed as either present or future as in (10).

(10) Amina may/might/could/should be in Ottawa (now/tomorrow)

I shall call such linguistic structures 'syntactic patterns' that indicate the reference time of the modal complement. The combination of a certain modal and a certain type of verbal complement in this case yields a certain reference time of the modal complement. It cannot be derived from either the modal or the verbal complement itself. In other words, the reference time of the modal complement results from the interplay between inherent semantic properties and aspectual properties of the verbal complement.

Unlike English, the reference time of the modal complement in Thai is unpredictable regardless of the types or the lexical aspect of the verb. The reference time of the modal complement in Thai is indicated by the temporal adverbial, or the context, as shown below.

(11) a. dæŋ¹ ʔaat²   pen¹   wat²
         Dang   may/might   be   cold
         'Dang may have a cold (now, yesterday, tomorrow)'

b. dæŋ¹ ʔaat²   pen¹   wat²   muaˈ³waːn¹nii⁴
    Dang   may/might   be   cold   yesterday
    'Dang may have had a cold yesterday'

c. dæŋ¹   ʔaat²   maa¹   saaj⁵   pruŋ³nii⁴

Dang may/might come late tomorrow

'Dang may may/might come late tomorrow'

We can notice that no matter what the lexical aspect of the modal complement is e.g. either imperfective as in (11a), the reference time of the modal complement can be the present, past or future. However, in (11b) and (11c) the reference time of the modal complements can only be past and future respectively due to the presence of the temporal adverbs.

To summarise, the syntactic patterns patterns that indicate the reference time of the modal complement in English are presumed to make difficulties for native speakers of Thai in acquiring the epistemic modal auxiliaries in English. We have seen that the reference time of the modal complements in Thai is indicated by temporal adverbials, and can be derived from the context. In general terms, Thai L2 learners of English have to acquire the L2 properties which are not present in their L1. In order for Thai L2 learners of English to express correct reference time of the modal complements, they need to acquire those kinds of syntactic structures. In other words, they need to work out what reference time is or is not allowed for certain structures.

3. Research Methodology

3.1 Participants

There were 7 male and 21 female participants. The age of the L2 learners at the time of testing ranged from 20 to 24 years old. They were classified according to their L2 proficiency levels: high, mid, low, using an independent measure of proficiency i.e. a picture description task (Whong-Barr and Schwartz 2002). The L2 proficiency scores were based on three measures: the verbal density, the lexical diversity, and the rate of error-free clause (Unsworth 2005). There were 9 adults in the high proficiency group, 8 adults in the mid proficiency group, and 11 adults in the low? proficiency group.

 3.2 The task

The participants were presented with the sentences under the conditions where certain reference time readings are allowed, and asked to judge whether those sentences sounds OK or NOT OK based on the stories or scenarios provided. The task started with a warm-up session to familiarise the participants with the task. After the warm-up session, the participants performed the task, but were allowed to have a short break at some points when they felt tired during the task.

The task consisted of sixteen modal sentences with different syntactic patterns as shown in Table 1.

Table 1 Syntactic patterns that indicate reference time of epistemic modal complements

	Patterns	Reference Time		
		Present	Future	Past
1	MAY/MIGHT + A STATIVE VERB e.g. *Ben may like the chocolate.*	✓	✓	✗
2	MAY/MIGHT + AN EVENTIVE VERB e.g. *He might study math.*	✗	✓	✗
3	MAY/MIGHT + BE AN EVENTIVE VERB – ING e.g. *He might be studying math.*	✓	✗	✗
4	MUST + A STATIVE VERB e.g. *The teacher must be angry.*	✓	✗	✗
5	MUST + BE + AN EVENTIVE VERB –ING e.g. *Ben must be cooking the dinner.*	✓	✓	✗
6	WILL + STATIVE/EVENTIVE VERB e.g. *Jerry will be late, or Ben will miss the bus.*	✗	✓	✗
7	EPISTEMIC MODALS + HAVE -EN = PAST e.g. *Ben might have been at home.*	✗	✗	✓

All test sentences were presented to the participants under three conditions: Present Condition (the codition where only present time reference is allowed), Future Condition (the condition where only the future reference time is allowed), and Past Condition (the condition where the past reference time is allowed). So, there were forty-eight test items in total. Each condition consists of scenarios which have been designed to force certain temporal interpretations (e.g. present, future, and past) of the test sentences (see Appendix 1). The test sentences are shown in Table 2.

Table 2: The test sentences and the target-like responses

Test Sentences	Condition		
	Present (A)	Future (B)	Past (C)
Ben might be at home.	OK	OK	NOT OK
Ben may like the chocolate.	OK	OK	NOT OK
Ben may play football.	NOT OK	OK	NOT OK
He might study math.	NOT OK	OK	NOT OK
The teacher must be angry.	OK	NOT OK	NOT OK
Ben must know the answer.	OK	NOT OK	NOT OK
Jerry will be late.	NOT OK	OK	NOT OK
Ben will miss the bus.	NOT OK	OK	NOT OK
Ben may be playing football.	OK	NOT OK	NOT OK
He might be studying math.	OK	NOT OK	NOT OK
He must be going to the party.	OK	NOT OK	NOT OK
Ben must be cooking the dinner.	OK	NOT OK	NOT OK
Ben might have been at home.	NOT OK	NOT OK	OK
Ben must have cooked the dinner.	NOT OK	NOT OK	OK
Ben's bedroom will have been messy.	NOT OK	NOT OK	OK
Ben will have missed the bus.	NOT OK	NOT OK	OK

Table 2 shows the modal statements and the reference time that is allowed. The mark 'OK' represents the reference times which are possible for the sentences, and the mark 'NOT OK' represents the reference times which are not possible for the sentences. Notice that sentence '*Ben might be at home*' and sentence '*Ben may like the chocolate*' allow both present and future interpretations. Therefore, the responses for these two sentences were counted twice i.e. one for present category and another for future category.

The participants who have developed a target-like grammar were expected to say the sentence is 'OK' when the sentence was presented under the right conditions, or when the reference time of the modal statements is felicitous to the reference time of the scenarios. They were also

expected to accurately reject or say the sentence is 'NOT OK', if they found the sentence was not temporally felicitous to the scenarios.

The L2 participants' responses were classified into four categories as follows.

(i)   'Target-like without L1' is the accurate rejection response. It is the target interpretation, and only reflects the development of L2 target grammar. It is the interpretation that is allowed only in the L2, but not allowed in the L1. This is represented by 'NOT OK' response in the infelicitous conditions.

(ii)   'Non-target with L1' is the inaccurate acceptance response. It is the interpretation of the L1, and only reflects pure L1 transfer. In other words, it is the interpretation that is not allowed in the L2, but it is allowed in the L1. This is represented by the 'OK' response in the infelicitous conditions.

(iii) 'Target-like with L1' is the accurate acceptance response. However, it can be either the target-like interpretation or the interpretation of the L1. In other words, it is the interpretation that is allowed in the L2 and the L1. This is represented by 'OK' response in the felicitous conditions.

(iv)   'Non-target without L1' response is the inaccurate rejection response. It is neither the interpretation of the L2 nor L1. In other words, it is the interpretation which is not allowed either in the L2 or the L1. This is represented by the 'NOT OK' response in the felicitous conditions.

The test sentences that elicit the target-like without L1 include 1C, 2C, 3A, 3C, 4A, 4C, 5B, 5C, 6B, 6C, 7C, 8C, 9C, 10B, 10C, 11C, 12C, 13A, 13B, 14A, 14B, 15A, 15B, 16A, 16B. The participants were expected to reject or say the sentences were NOT OK because these sentences which were presented in infelicitous contexts. Notice that if a participant constantly rejects the sentences, (s)he was considered to realize the reference time of the test sentences. On the other hand, if the participant appears to accept these sentences or say the sentences were OK, they were considered not to realize the reference time of the test sentences. An acceptance or OK responses in this case were considered to be the Non-target with L1, and it reflects L1 transfer.

The test sentences that elicit the target-like with L1 responses include 1A, 1B, 2B, 3B, 4B, 5A, 7B, 8B, 9A, 10A, 12A, 12B, 13C, 14C, 15C, 16C. The participants were expected to accept or say the sentences were OK because these sentences were presented in felicitous contexts. However, it is difficult to assume whether the participant realize the reference time of test sentences because the interpretation which the participants allowed for the test sentences may be either the target interpretation or their L1 interpretation. The reference time of the test sentences in this category is possible in both the L2 and the L1.

The rejection or the NOT OK response for the test sentences in this category were considered to be a non-target with out L1 because they were neither the L2 nor L1 interpretation.

4. The results

Table 3 The L2 learners' results per proficiency group: the responses for the modal statements which have different reference time

The Conditions	Groups	Accurate rejection		Accurate acceptance		Inaccurate acceptance		Inaccurate rejection	
		n	%	n	%	n	%	n	%
Future	High	42/72	58.33	46/63	73.02	30/72	41.67	17/63	26.98
	Mid	23/64	35.94	43/56	76.79	41/64	64.06	13/56	23.21
	Low	43/88	48.86	50/77	64.94	45/88	51.14	27/77	35.06
Past	High	45/72	62.50	18/36	50.00	27/72	37.50	18/36	50.00
	Mid	31/64	48.44	17/32	53.13	33/64	51.56	15/32	46.88
	Low	41/88	46.59	28/44	63.64	47/88	53.41	16/44	36.36
Present	High	67/108	62.04	50/63	79.37	41/108	37.96	13/63	20.63
	Mid	43/96	44.79	42/56	75.00	53/96	55.21	14/56	25.00
	Low	61/132	46.21	56/77	72.73	71/132	53.79	21/77	27.27

The results in Table 2 show that the L2 learners from the high proficiency group were likely to perform better than the L2 leaners from the mid and the low proficiency groups. The L2 adults from the mid proficiency group, on the other hand, did better than the L2 learners from the low proficiency group only for the past modal statements.

We notice that the L2 learners from the high proficiency group were more accurate in rejecting the modal statements than were the L2 learners from the other two groups. This was indicated by the comparatively higher percentage of the accurate rejection responses provided by the L2 learners from the high proficiency group for all three types of the modal statements. In addition, the rate of the inaccurate acceptance responses, which reflects the L1 interpretations, provided by the L2 learners from the high proficiency group is relatively lower? than those provided by the L2 learners from the mid and the low proficiency group.

Despite the better performance of the L2 learners with the high proficiency level, we were not able to claim that there was connection between the percentage of the expected responses and L2 proficiency. We have seen that the L2 learners from the low proficiency group did better than the L2 learners from the mid proficiency group for the future and the present modal statements. Moreover, when applying Kruskal Wallis Test by split file by group, the results of the test show that the percentage of the types of responses provided by the L2 learners from the three proficiency groups was not significantly different in every condition. This confirms that there was no connection between the L2 learners' performance and their L2 proficiency.

Table 4: Kruskal Wallis Test: the L2 learners' responses-cross proficiency groups

	Pres _ACR	Pres _ACA	Pres _INA	Pres _INR	Past _ACR	Past _ACA	Past _INA	Past _INR	Fut_ ACR	Fut_ ACA	Fut_ INA	Fut_ INR
Chi-square	3.37	.81	3.37	.81	4.64	2.95	4.64	2.95	3.53	.730	3.53	.730
df	2	2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	.185	.665	.185	.665	.098	.229	.098	.229	.171	.694	.171	.694

To summarize, the L2 learners' results presented in this section generally show that some of the L2 learners appear to have acquired some of the syntactic patterns which indicate the reference time of the modal statements. However, their knowledge about the syntactic patterns in question was not fully developed. In other words, no native-like performance was observed. The L2 learners widely allowed the L1 interpretation, which compatible with the modal statements in English in most cases. They first assumed that, like Thai, the epistemic modal complements in English have free reference time readings. They tended to accept all reference time interpretations for the test sentences.

5. Discussion

The L1 interpretation has been observed in the L2 participants' interpretation of the modal statements in English. The evidence that supports this claim is the percentage of the target-like L1-compatible responses and percentage of the non-target L1-compatible or L1-transfer responses given by the L2 leaners in all three conditions. Given that L1 interpretations which are also possible for the modal statements in English entail the accurate acceptance when the English modal statement were presented in felicitous conditions, the inaccurate acceptance for the modal statements in the infelicitous conditions, on the other hand, was evidence for L1 knowledge involvement. For example, they accepted the sentence '*He might study math*' to be OK even when it was presented in Present and Past conditions. Therefore, we are able to conclude that there was L1 transfer the L2 acquisition.

According to the results from the experiment, we can assume that the learners' knowledge of L1, somehow, has positive effects on the L2 acquisition of the syntactic patterns that constrain the reference time of the modal complement in English. It seems that some of them appear to have acquired the syntactic patterns which indicate the present and the future reference time e.g. MAY/MIGHT + A STATIVE VERB before those indicating either future or present alone.

Recall that the equivalent forms in Thai '*khoŋ/ʔaat*' + A STATIVE/AN ACTION VERB, in which the present, the future, and the past references times are all possible. For these reasons, learning the L2 patterns which are similar to those in their L1 may be easier. In this case the L2

learners, who have fully acquired this syntactic pattern in their L1, can employ their L1 interpretation or the meanings in their L1 to this syntactic pattern in English, and the meanings seem to be compatible with the meanings of equivalent forms in the their L2. The L1 knowledge therefore has positive effects on the L2 acquisition of the syntactic patterns that constrain the reference time of the modal complement in English by Thai learners of English.

On the other hand, we can also see that as for the syntactic patterns of which the reference time is restricted to certain interpretations and the learners could not successfully employed their L1 in interpretation, they seemed to have inaccurately accepted and rejected. This suggest the negative transfer where their L1 could not facilitate the L2 acquisition in this case.

6. Conclusion

This paper presents the results of the experiment performed by the L2 learners of English. The results reveal positive effects on the L2 acquisition of the syntactic patterns that constrain the reference time of the modal complement in English by L1 Thai speakers. In other words, the similarities between L1 and L2 appear to accommodate the L2 acquisition. This confirms the argument by Corder (1981) that similarities, on the other hand, will probably contribute to facilitation of learning. The results also correspond with what Yu and Ren (2013) demonstrated.

7. Implications for future research

Firstly, the experiment carried out in this research was concerned with the L2 learners' interpretation of the modal statements. In other words, it mainly tested the L2 learner's comprehension, rather than the L2 learner's production. Therefore, studies which test the L2 learner's production of the modal statements are necessary as they can provide pictures of the L2 acquisition of the modality in English to help gain a clear understanding about the L2 acquisition of the epistemic modality in English.

Secondly, we are already aware that in English the reference time of an event is generally indicated by tenses, and the reference time of the modal statements is sometimes related to aspects such as perfective and imperfective. Therefore, the acquisition of these grammatical categories may link to the acquisition of the syntactic patterns that constrain the reference time

of the modal statements. The knowledge about tense and aspect may pre-determine the knowledge about the syntactic patterns that constrain the reference time of the modal statements or vice versa. If this is the case, the L2 learners may not acquire certain properties if they have not yet acquired the others. This is an open area for further research.

References

Comrie, B. (1976) *Aspect*. Cambridge University Press.

Cook, V. and M. Newson (1996) *Chomsky's Universal Grammar: An Introduction*. (2nd Edition) Cambridge, Mass: Blackwell.

Corder, S. Pit. (1981). *Error Annalysis and Interlanguage*. Oxford: Oxford University Press

Coates, J. (1983) *The semantics of the modal auxiliaries.* London: Croom Helm.

Dechert, H.W. (1983) How a story is done in a second language. *Strategies in Interlanguage Communication*, eds. C. Faerch and G. Kasper, Longman, London.

Demirdarche, H. and M. Uribe-Etxebarria (2008) On the Temporal Syntax of Non-Root Modals. In J. Guéron and J. Lecarme (eds.) *Studies in Natural Language and Linguistic Theory: Time and Modality*. 75 Sorbonne Nouvelle: Springer. pp. 79-113.

Drubig, H. B. (2001) *On the syntactic form of epistemic modality*. Unpublished manuscript, University of Tuebingen, Germany.

Ellis, R. (1997). *SLA research and language teaching*. Oxford: Oxford University Press.

Eubank, L. (1996) 'Negation in early German-English interlanguage: More Valueless Features in the L2 initial state.' *Second Language Research* 12(1): 73-106.

Guéron, J. (2008) On the Temporal Functional of Modal Verbs. In J. Guéron and J. Lecarme (eds.) *Studies in Natural Language and Linguistic Theory: Time and Modality*. 75 Sorbonne Nouvelle: Springer. pp.143-72.

Liu, Runqing, & Wen Xu (2006). *Linguistics: A new coursebook* (p.8). Beijing: Foreign Language Teaching and Research Press. (Nuyts 2001: 21).

Palmer, F.R. (1990) *Modality and the English modals*. London : Longman.

Schwartz, B. D. and R.A. Sprouse (1994) Word order and nominative case in nonnative language acquisition: a longitudinal study of Turkish German interlanguage. In T. Hoekstra and B.D. Schwartz (eds.) *Language acquisition studies in generative grammar*. Amsterdam: John Benjamins. pp. 317-368.

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

Smith, C. (1983) A Theory of Aspectual Choice. *Language* 59: 479-501.

Stowell, T. (2004) Tense and modals. In J. Guéron and J. Lecarme (eds.). *The syntax of time*. MIT Press. pp.621-636.

Unsworth, S. (2005b) *Child L2, Adult L2, Child L1: Differences and Similarities. A case study on the acquisition of direct object scrambling in Dutch.* Utrecht: LOT.

Vainikka, A. and M. Young-Scholten (1994) Direct Access to X'-theory: evidence from Korean and Turkish adults learning German. In T. Hoekstra and B.D. Schwartz (eds.) *Language acquisition studies in generative grammar*. Amsterdam: John Benjamins. pp.265-316.

van Gelderen, E. (2003) 'Asp(ect) in English modal complements.' *Studia Linguistica*. 57(1): 27–43.

White, L. (2003) *Second Language Acquisition and Universal Grammar*. Cambridge: Cambridge University Press.

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

Yangklang, P. (2011) Notes on reference time of epistemic modals and their verbal complements in English and Thai. *Language and Cultures*. 30 (2) Mahidol University, Thailand

Yu, H. & Ren, C. (2013) The Positive Role of L1 in the Acquisition of a Second Language. *Studies in Literature and Language.* Vol. 7, No. 2, 2013, pp. 45-48.

Appendix

Examples of the test

Participant's information sheet

Name………………………. Surname…………………………………………

☐ Male   ☐ Female   Age……………

Year………………………..

Do you speak/understand languages other than English?   ☐ YES   ☐ NO

If yes, what languages are they?   ………………………………………

When did you start learning English?   ……………………………………………..

Instruction

You are going to read little stories. After each story, Dan and Tom will say something about it.

You will see, what Dan says is always ok, but Tom does not listen very well, so sometimes he will say something strange. You will have to tell me if what Tom says is ok or not.

Circle 'OK' if you think what Tom says is OK, and circle 'Not OK' if you think what Tom says is not OK.

Examples

(i)   Story: Kate is not feeling well today. She has a headache and cough.

Dan: What do you think Kate will do?

Tom: She will go swimming.

Was that ok or not ok?

OK   NOT OK

(ii)   Story: Kate is very clever. But she does not always study hard.

Dan: Tomorrow she will have an exam.

Tom: She could fail the exam.

Was that ok or not ok?

OK   NOT OK

(iii)   Story: There was no more milk in the fridge yesterday.

Dan: So, Nancy went to the supermarket this morning.

Tom: She buys some milk.

Was that ok or not ok?

OK   NOT OK

(iv)   Story: Nancy was so hungry when she arrived at home yesterday

evening.

Dan: Her mum made a pizza for her.

Tom: She ate the pizza.

Was that ok or not ok?

<u>OK</u>   NOT OK

(v)   Story: There is no more milk in the fridge.

        Dan: So, Nancy is going to the supermarket tomorrow morning.

        Tom: She will buy some milk.

Was that ok or not ok?

<u>OK</u>   NOT OK

………………………

1   Story: Ben has a bad cold. He did not come to school today.

        Dan: Where do you think Ben is now?

        Tom: Ben might be at home.

Was that ok or not ok?

OK   NOT OK

2   Story: Ben really loves football. He often plays football with his

                  friends when he has free time. Today, Ben doesn't have

                  homework. He is free now.

        Dan: I wonder where he is now.

        Tom: Ben may play football.

Was that ok or not ok?

	OK	NOT OK

3   Story: Ben has a bad cold. He did not come to school today.

       Dan: Where do you think Ben is now?

       Tom: Ben might have been at home.

Was that ok or not ok?

	OK	NOT OK

4   Story: Ben invited some friends to have dinner at his house yesterday.

             He bought some meat, vegetables, and a cookery book.

       Dan: What do you think Ben did yesterday?

       Tom: Ben must have cooked the dinner.

Was that ok or not ok?

	OK	NOT OK

5   Story: Jerry is going to the train station. Unfortunately, the traffic on

             the road is very bad because it is raining heavily.

             He is only half way to the station.

       Dan: What do you think will happen?

       Tom: Jerry will be late for the train.

Was that ok or not ok?

	OK	NOT OK

Answer Sheet

Name....................

dd/mm/yy...............

Participant's information

☐ Male   ☐ Female   Age ....

When did you start learning English?   …………………………..…

How many hours do/did you study English per week? ....

Do you speak English every day? …………………………………

Instruction

Circle **'YES'** *if you think Tom's response goes well with the context of the story, and circle* **'NO'** *if you think Tom's response does not go well with the context of the story.*

Example

A	(OK)	NOT OK
B	OK	~~NOT OK~~

Practice

i	OK	NOT OK
ii	OK	NOT OK
iii	OK	NOT OK
iv	OK	NOT OK
v	OK	NOT OK

Test

1	OK	NOT OK
2	OK	NOT OK
3	OK	NOT OK
4	OK	NOT OK

25	OK	NOT OK
26	OK	NOT OK
27	OK	NOT OK
28	OK	NOT OK

5	OK	NOT OK		29	OK	NOT OK
6	OK	NOT OK		30	OK	NOT OK
7	OK	NOT OK		31	OK	NOT OK
8	OK	NOT OK		32	OK	NOT OK
9	OK	NOT OK		33	OK	NOT OK
10	OK	NOT OK		34	OK	NOT OK
11	OK	NOT OK		35	OK	NOT OK
12	OK	NOT OK		36	OK	NOT OK
13	OK	NOT OK		37	OK	NOT OK
14	OK	NOT OK		38	OK	NOT OK
15	OK	NOT OK		39	OK	NOT OK
16	OK	NOT OK		40	OK	NOT OK
17	OK	NOT OK		41	OK	NOT OK
18	OK	NOT OK		42	OK	NOT OK
19	OK	NOT OK		43	OK	NOT OK
20	OK	NOT OK		44	OK	NOT OK
21	OK	NOT OK		45	OK	NOT OK
22	OK	NOT OK		46	OK	NOT OK
23	OK	NOT OK		47	OK	NOT OK
24	OK	NOT OK		48	OK	NOT OK