

Second Language knowledge of Cantonese Neg-wh-quantifiers: A pilot Study

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Abstract

*This paper reports a second language study on Cantonese negative-wh-quantifiers which are morphologically composed of a negative morpheme *mou* and any wh-phrases (e.g. ***mou-bingo*** ‘nobody’, ***mou-matje*** ‘nothing’ and ***mou-bindou*** ‘nowhere’). Such morphological composition gave strong quantifiers with both non-existential and additional existential readings. It concludes to support Slabakova’s Bottleneck Hypothesis (2008) that form-meaning mappings associated with the functional morphology of Cantonese neg-whQs is particularly difficult and predicted to be less likely acquirable for second language (L2) learners even at native-like level.*

1 Introduction

Cantonese, being the second most widely used dialects of Chinese beside Mandarin, is a spoken language used mainly in Hong Kong and many other places such as Guangdong, Singapore and Malaysia. There is a growing population in learning Cantonese in formal situations, not only in Hong Kong but also many other places with the effect of emigration. There are empirical literatures on the grammar of Mandarin (the written Chinese) but a few on the grammar of Cantonese. However, Cantonese is never taught and only the standard Chinese is used in academic settings to Cantonese natives. While SVO is the canonical word order in Cantonese, neg-wh-quantifiers observe the exceptional SOV structure. Nevertheless, neg-wh-quantifiers *mou-bingo* ‘nobody’, *mou-matje* ‘nothing’ and *mou-bindou* ‘nowhere’ in the combination of the negative morpheme *mou* and wh-phrases are ambiguous between non-existential and implied existential interpretations depending on different contexts. They are very colloquial and are not as frequently used as the other. This study investigates claims from previous studies (Sorace & Filiaci 2006, Yuan 2007, 2008) about problems at the syntax-semantics interface in second language (L2) acquisition.

2 Neg-whQ and the Overt Quantifier Raising Phenomenon in Cantonese

The morphology of Cantonese negative-wh-quantifiers (Neg-whQ) is the composition of a negative morpheme *mou* with any wh-phrases, for example *mou-bingo* (no-who), *mou-matje* (no-what) and *mou-bindou* (no-where).

1) Ngo *mou-matje sik-guo* (wo).

I no-what eat-PVF PLC

a) “I ate nothing.”

b) “I ate only a few.”/ “I did not eat anything (something).”

They are most likely equivalent to the English non-existential ‘nobody’, ‘nothing’ and ‘nowhere’ in semantics. However, Neg-whQs give not only a non-existential interpretation, but also an existential presupposition or sentential negation interpretation. In certain contexts (with the help of the sentence final particles), (1) can either be interpreted as the non-existential interpretation as in (a) and possibly the existential presupposition interpretation as in (b).

2) Ngo *mouje sik-guo*.

I nothing eat-PFV

“I ate nothing.”

Neg-whQs are unique among the other (strong) non-existential quantifiers, as they give the exceptional existential or sentential negation interpretation. As illustrated in (2), the ordinary non-existential quantifier *mouje* in the combination of the negator *mou* and a noun gives only the non-existential interpretation.

3) Ngo *mou-bingo zungji*.

I no-who like

a) “I like nobody.”

b) “I only like a few people.”/ “I don’t like anybody (someone).”

4) *Ngo *zungji mou-bingo*.

I like no-who

The SOV word order is the canonical structure for Cantonese, however the SOV structure is observed with neg-whQs. *Mou-bingo* in (3) must precedes the verb whereas (4) is ungrammatical where it appears in default object position.

5) *Ngo *nei zungji*.

I you like

“I like you.”

The canonical word order in Cantonese is the SVO word order and it is observed even in interrogatives as Cantonese is a wh-in-situ language. In general, SOV structure is prohibited. Therefore SOV structure as in (5) leads to ungrammaticality.

- 6) Natalie *m daasyun hui bindou*.
 Natalie not plan to where
 “Natalie does not plan to go anywhere.”
- 7) Mary *sojau-je dou soeng maai*.
 Mary all thing also want buy
 “Mary wants to buy everything.”
- 8) John *mou-jan jiu gin*.
 John nobody need meet
 “John has to meet nobody.”

Cantonese has the same grammar as Mandarin Chinese in general, their *wh*-phrases can be licensed as indefinites (see Huang 1982; Li 1992; Li 1995; Cheng 1994; 1995; Lin 1996; 1998; Yuan 2007b; 2009; 2010). This is illustrated in (6) where the *wh*-phrase *bindou* in-situ is licensed as a negative polarity item (NPI) by the preceding negator *m*. Such overt QR to an object quantifier is only restricted to strong quantifiers, therefore *sojau-je* in (7) with ‘*dou*-quantification’ (Cheng 1995) and *mou-jan* in (8) as strong quantifiers must appear in preverbal positions.

3 L2 Context

Many L2 studies suggest that grammatical phenomena at an interface between syntax and other cognitive domains may not be acquirable in L2 acquisition and mappings between the L1 and L2 grammars affect L2 acquisition. This section provides evidence from two related studies and one recent hypothesis.

3.1. Previous studies

Sorace & Filiaci’s (2006) study on Italian intrasentential anaphora postulates that near-native speakers of Italian display L1 (English) effect at interface, even they have fully acquired the grammatical representations in their L2 syntax. The results show their differences to Italian natives in their antecedent preferences for an overt pronoun or a null subject pronoun in subordinate clauses at syntax-discourse interface. Besides, Yuan’s (2007, 2008) studies on Chinese existential polarity *wh*-words also prove that adult learners showed deficits in fully acquiring the licensor-licensee relationships at syntax-semantics interface. It is suggested that whether or not L2 acquisition at interface is successful, depends very much on whether or not such relationship is available in some forms in learners’ L1 (English). It is believed that L2 acquisition of grammatical items involving an interface would not be successful if such an interface is not established in learners’ L1 grammar, even if learners at their advanced proficiency level attain the syntactic and semantic functions in a non-interface domain.

3.2. Slabakova’s (2008) Bottleneck Hypothesis

The aim of this study is to test the bottleneck hypothesis, which says, “functional morphology is the bottleneck, syntax and semantics flow smoothly.” (p.100) Slabakova provided ten studies from

complex syntax-simple semantics and concluded that mapping semantics to new morphology and other grammatical morphemes slows down acquisition. The hypothesis suggests the difficult and the easy parts to be acquired in L2 acquisition. To test the hypothesis, this study investigates whether L2 acquisition of strong quantifier sense of neg-whQ presents difficulty to adult (near-native) learners, since neg-whQ is morphologically composed of a negative morpheme plus a wh-phrase.

3.3. Research Questions

The research questions investigated in this paper are as follows:

- 9) Can English speaking L2 learners of Cantonese acquire the syntax (SOV) and interpretation of Neg-whQ?
- 10) Is this a 'bottleneck' (Slabakova 2008) in L2 Cantonese?

5 Pilot Study

The present pilot study was part of my PhD dissertation on second language acquisition of Cantonese neg-whQ by English speaking adult learners. The data follows were obtained from a test including three tasks, which are an acceptability judgment task, a context-based interpretation task and a picture judgment task. These tasks aim to investigate learners' ability in acquiring Cantonese constructions involving neg-whQ, including its observed SOV word order, its additional existential presupposition and scope taking. This paper limits the scope to task two only and the hypothesis is here:

- Native and learners would differ in their preferences on questions with the raise neg-whQ structure having the additional implied existential presupposition interpretation. Natives are predicted to show a low tendency in choosing such structure than the other structures having absolute non-existential interpretation while learners are not predicted to show any particular preference among the given structures where explicit information referring to non-existential are provided in the contexts.

5.1. Experiment design (Task two – The context-based interpretation task)

The test was an individual self-paced test. Participants were asked to take the test in front of a portable PC with the PowerPoint presentation and were given answer sheets to fill in along side. Before each task began, instructions were presented aurally as well as written in English on the answer sheets under each section. All test items were presented visually on the screen, written in Cantonese Chinese and in participants' familiar phonetic transcriptions (Jyutping¹), and aurally along each slide. Each slide includes one test item each time and participants were asked to move on to next according to their own pace. The audio files were automatically played along each test

¹ Jyutping is a romanization system for Cantonese developed by the Linguistic Society of Hong Kong (LSHK) in 1993. It has been the standardized phonetic transcriptions used in Cantonese learning nowadays.

items and participants were allowed to repeat them more than once if necessary.

This particular task attempts to look at learners' responses to the additional existential presupposition interpretation derived from the neg-whQ constructions. It contains 9 questions, in which 3 are distractors and 6 are the test items. Among the six test items, half of them include contexts implying an underlying existential reading and the other half include contexts with definite non-existential reading. Distractors were set to check participants' familiarity to the test format, given five options (including an option of 'none of the above') to choose from with the given contexts. For the test items, the five options include four interrogatives echoing existential or non-existential interpretations and the 'none of the above' option. Different interrogatives were included intentionally to test whether learners could judge neg-whQs as quantifiers than wh-phrases. The four interrogative constructions differ to the extent of non-existential and existential interpretations they can refer to according to their structure types:

Table 1) Structure types:

Type	Structure	Underlying interpretation	Example
1	S neg-whQ V?	Existential/non-existential	Mary mou-bingo soeng gin me? Mary no-who want meet Q "Mary wants to meet nobody?" "Mary wants to meet only a few people?"
2	S neg V whP?	Non-existential/Neg+WH?	Mary mou soeng gin bingo aa? Mary no want meet who Q "Mary wants to meet nobody?"/ "Mary doesn't want to meet anybody?"
3	S neg-Q V?	Non-existential	Mary moujan soeng gin me? Mary nobody want meet Q "Mary wants to meet nobody?"
4	S neg V NPI?	Strong non-existential	Mary m soeng gin jamhojan aa? Mary not want meet anyone Q "Mary doesn't want to meet anyone?"

As illustrated in table 1, only type one allows questioning to an existential presupposition and non-existential readings while the others allow only questioning to non-existential reading. The arrow shows the degree of tendency (from higher frequency to lower frequency) to be used to question non-existential reading in Cantonese. Only type one and two morpho-syntactically involve the wh-phrase, the neg-whQ in type one and a negative morpheme licensing wh-in-situ as indefinites in type two; and type three and four involve the ordinary non-existential quantifier and a negative morpheme with a negative polarity item.

11) Test item example allowing implied existential reading:

Mary is a very busy person. She works long hours a day. In her spare time, she enjoys being on her own very much except with her very close friends or family. Therefore she is very picky in choosing whom to meet with during weekends.

Today is Saturday, I wonder:

- A) Mary mou-bingo soeng gin me? (Mary no-who wants to meet Q)
- B) Mary mou soeng gin bingo aa? (Mary no want to meet what Q)
- C) Mary moujan soeng gin me? (Mary nobody wants to meet Q)
- D) Mary m soeng gin jamhojan aa? (Mary does not want to meet anyone Q)
- E) None of the above.

In contexts allowing implied existential reading, options A, B, C and D were the presumed preferences. Contexts were set such that questioning both existential and non-existential interpretations makes sense. In this example, the context hints that Mary actually meets her close friends or family in her spare time but it is not specific that she would meet someone every weekend. The context clearly allows rooms to question the fact that Mary would meet nobody or Mary would only meet someone on the particular Saturday.

12) Test item example allowing only non-existential reading:

Mike is a very selfish and self-centered person. He minds his own business only and finds it waste of time to care about others' business, not even his closest family or friends.

I wonder:

- A) Mike mou-bingo guansam me? (Mike no-what care Q)
- B) Mike mou guansam bingo aa? (Mike no care who Q)
- C) Mike moujan guansam me? (Mike nobody care Q)
- D) Mike mou guansam jamhojan a? (Mike did not care anyone Q)
- E) None of the above

In contexts allowing only non-existential reading, options B, C and D were the presumed preferences. Contexts were set such that questioning only non-existential interpretations makes sense. In this example, the context explicitly states that Mike cares nobody. Questioning the non-existential interpretation acts as the speaker's request affirmation to the claim, whereas questioning to confirm whether Mike cares someone does not make sense when the speaker has just been told the non-existential information.

Figure 1) Which sentence(s) best match(s) the given context?

	A	B	C	D	E
Ex. 1					
Ex. 2					
Ex. 3					

Again, all test items including the distractors were randomized. Participants were asked to choose their preferences by ticking corresponding box(es) under A, B, C, D or E as in figure 1. They were instructed clearly that they can choose more than one option when they find it appropriate, so they should not have the pressure of putting more than one ticks for each question.

5.2. Participants

Two groups of speakers in Hong Kong participate in this study. They included 16 Cantonese native speakers and 10 English speaking adult learners of Cantonese. The learner group included 5 beginners and 5 advanced learners. The age of the native group range from 20 to 60. Except two native being an undergraduate student, the rest obtain the education at degree graduate level. All Cantonese natives speak English as a second language, 9 out of 16 speak Mandarin Chinese and one each on Spanish, French and Chiu Chow dialect as well. However, one native's result was eliminated because the participant failed all distractors in task 2. All learners attend two-hour Cantonese classes on a one-to-one basis once a week. Their proficiency level was classified according to their years of learning experience. Learners at their beginner level general have less than a year learning experience; their age ranges from 31 to 51 and their years of living in Hong Kong ranges from one and a half year to 24 years. The advanced learners are those who have been learning Cantonese for more than two years and master daily conversation in Cantonese; their age ranges from 53 to 62 and their years of living in Hong Kong ranges from 2 to 29 years.

5.3. Procedure

For each task, verbal and written instructions were given at the beginning as the test proceeds. Instructions include information on what the participants should do with the displayed test item on the screen for the particular task. One example was displayed before task two begins.

13) Task two example 1:

Peter is a very lazy boy. He wakes up at noon everyday and does nothing. He never paid attention in class, so he always fails his subjects. Apart from going to school all he does is playing soccer with his friends. When he gets home he just spend the whole night watching TV. His social circle is

therefore only limited to his classmates and soccer teammates.

I wonder:

A) Peter jiuzou m saai soengtong me? (Peter morning doesn't have to go to class Q)

You are supposed to tick this box. Because the given context mentions about Peter going to school to attend classes, but he wakes up at noon everyday. So questioning whether he has to attend classes in the morning is directly relevant to the context.

B) Peter zungji sik me aa? (Peter likes to eat what Q)

You are not supposed to tick this box. Because the given context mentions nothing about what Peter likes to eat. So it is not directly relevant to the context.

C) Peter ge mama m lao kui me? (Peter's mother not scold him Q)

You are supposed to tick this box. Because the given context mentions that Peter is a lazy boy. So questioning whether his mother would criticize him being lazy is directly relevant to the context.

D) Peter zungji me aangsik aa? (Peter like which colour Q)

You are not supposed to tick this box. Because the give context mentions nothing about Peter's favourite colour, so it is not directly relevant to the context.

E) None of the above.

You are not supposed to tick this box if you have ticked some boxes above.

The above example in (13) was displayed at the beginning of task two. The given context was revealed along with the given options following. Audio files of the context and options provided were played with the option A audio immediately following the context, then the option B audio and so on. The audio files for each option include the aural presentation of the Cantonese question and the English instruction on whether or not it should be chosen. The italic paragraphs under each option were not revealed on the screen but presented aurally along each option only. Participants were generally guided to pick options, which question only on information having been mentioned, and not when the questions relate to something not being mentioned in the given context. They were reminded not to pick option E if they have chosen one or more from the other options. When all audios for the particular test item had been presented, participants could choose to repeat audio sounds for any particular options if they want to. The next test context and given options were displayed only when the participants press the button to proceed.

Both native and learner groups were given the same PowerPoint presentation but used different set of answer sheets. Their answer sheets only differ in the attached consent form. Cantonese natives were asked information regarding their age, gender, second language background, occupation/education background, years of living in Hong Kong and experience of living in other countries. English speaking Cantonese learners were asked information regarding their age, gender, native language(s), second language background, years of learning Cantonese and years of living in Hong Kong or other Cantonese-speaking countries. The total time taken for the test differs individually according to different participants.

5.4. Results

To analyze the results, mean numbers of selection of each response type (A-E) were calculated for each group and for each test type (existential v. nonexistential). The means are expressed as proportions in Table (2). Recall that, as illustrated in Section 5.1., there were no right or wrong answers in the task, but only preferred options according to the contexts.

Table 2) Proportions of selection of each response type, by group and by context (existential v. non-existential)

		EX	NonEX
Natives (n=16)	A	0.41	0.27
	B	0.22	0.29
	C	0.49	0.31
	D	0.25	0.47
	E	0.16	0.18
Beginners (n=5)	A	0.53	0.4
	B	0.13	0.47
	C	0.47	0.53
	D	0.67	0.67
	E	0.33	0
Advanced Learners (n=5)	A	0.6	0.87
	B	0.33	0.6
	C	0.47	0.73
	D	0.47	0.73
	E	0.13	0.07

On the one hand, the possible options to test items referring to existential contexts were A, B, C and D. From the above table, the native speakers displayed a parallel pattern to constructions with neg-whQs and with normal negative quantifiers in SOV structure, as they generally preferred the former with 0.41 mean of option A selection and the latter with 0.49 of option C. Natives' 0.22 mean selection of option B where the wh-phrase is licensed as NPI is also parallel to their 0.25 mean selection of option D with normal negation and NPI constructions. Native group tended to prefer constructions in SOV structure when the contexts give the implied existential presupposition interpretations. However, the learner groups displayed no such parallel pattern. Both beginner and advanced learner groups tend to prefer option A the neg-whQ SOV constructions, option C the negative quantifiers SOV constructions and option D the negation and NPI constructions. Beginners show 0.53 proportion on A selection, 0.47 on C selection and 0.67 on D selection while the advanced learners show 0.60 on A selection and 0.47 on both C and D selections. A paired t-test run on the beginners' data reveals a significant difference of response type A – neg-whQ and type C –

normal negQ ($p=.03$) whereas such difference was not found from native and advanced learner groups. Both native and advanced learner groups gave the lowest selection of option E among the others, at a mean of 0.16 which is 7 out of 45 tokens and 0.13 which is 2 out of 15 tokens and it was from one particular participant only, whereas the beginners gave the second lowest at 0.33 which is 5 out of 15 tokens.

On the other hand, the possible options to test items referring to non-existential contexts were B, C and D. In table 2, the Cantonese natives' responses accord with the prediction of the degree of tendency to be used to question non-existential reading in section 5.1., and showed a descending tendency of selection from option D to option A. The natives gave a mean 0.47 selection of option D, 0.31 of option C, 0.29 of option B and 0.27 of option A; the beginners displayed a similar pattern giving a mean 0.67 selection on option D, 0.53 on C, 0.47 on B and 0.40 on A. A paired t-test run on the natives' data reveals a significant difference of response type A – neg-whQ and type C – normal negQ ($p=.02$) whereas such difference was not found from beginner and advanced learner groups. However, the advanced learners gave a similar pattern to their responses to test items referring to implied existential contexts, the highest selection at 0.87 proportions on option A, 0.60 on option B and 0.73 on option C and D. For option E, there was a mean 0.18 of selection from natives, which is 9 out of 45 of the responses; 0 from beginners and 0.7 from advanced learners, which is only 1 out of 15 of the responses.

Looking precisely at the percentage of selection of option A, where both existential and non-existential interpretation are possibly implied in the SOV constructions with neg-whQs, a one-way ANOVA run on the data reveals a significant interaction of type (option A – neg-whQ v. option C – normal negQ) between groups, $F_{2,22} = 6.10$, $p = .01$. The native and beginner groups show decreases of means 0.14 and 0.13 whereas the advanced learners show an increase of 0.27 in selection from existential to non-existential contexts. Cantonese natives gave the lowest selection not surprisingly in non-existential contexts and beginners still gave quite a high selection percentage when compared to the native group. The statistic showed no significant difference between the beginners and the natives. However, the advanced learners gave almost double selection than the beginners. The effect of group between beginners and advanced learners was statistical, $F_{1,8} = 19.60$, $p = .00$. Also, the statistic showed the difference between the natives and the advanced learners was significant ($F_{1,18} = 10.34$, $p = .01$).

5.5. Discussion

Beginners and advanced learners obtained 59% and 64% accuracy rates from task one and appeared to acquire the syntactic properties of Cantonese neg-whQs. Both groups patterned with the native group and had a tendency to accept neg-whQ constructions in SOV order and reject neg-whQ constructions in SVO order. In general, the advanced learners performed slightly well than the beginners. However consider their proficiency levels, the advanced learners' years of learning double the beginners' years of learning, such performances are not distinctive improvements. This

accords with my prediction and suggests a slow down in acquisition.

However, the results of task two appeared to suggest that successful L2 acquisition of syntax does not always mean successful acquisition of semantics of Cantonese neg-whQ constructions. If there was successful L2 acquisition of Cantonese neg-whQs at syntax-semantics interface, we would expect the advanced learners responding parallel to the Cantonese natives. It does not happen to be the case from the results of task two of this pilot study. The advanced learners' responses did not obey the prediction of the degree of tendency to be used to question non-existential reading in section 5.1. and did not show a descending tendency of selection from option D to option A. They even gave the highest 87% selection to the neg-whQ constructions (option A) in contexts referring to non-existential readings only. Even though the beginners' responses pattern with the prediction, there still appeared a fair distribution to their selection of the four options in non-existential contexts. They still selected a fairly high 0.40 proportion on option A when compared to 0.27 proportion from the Cantonese natives.

Regardless of whether it was either existential or non-existential context, the neg-whQ construction in SOV structure (option A) still took a role of being one of the preferable options from learners' responses, mean ranging from 0.40 to 0.87 of selection. This tends to accord with my former hypothesis about the difference between the natives and the learners' performances, such that the natives showed an obvious drop of selection of such construction in absolute non-existential contexts. Whereas the drop for beginners is less obvious because they did not show particular less favour to neg-whQ constructions in non-existential contexts and there was even an increase in selection from the advanced learner group. The results suggest that the learners were not aware of the existential interpretation of neg-whQs as they did not display their knowledge of the distinction in additional existential reading implied in neg-whQs from other Cantonese negative quantifiers. This suggests the learners even at their advanced proficiency level fail to acquire Cantonese neg-whQs at the syntax-semantics interface.

6 Conclusion

The reported task two results of this pilot study suggest that English speaking Cantonese learners cannot fully acquire the interpretations but only the syntax of neg-whQs. This is due to the fact that learners generally show acceptance to neg-whQs appearing in the correct SOV structure and rejection in the ungrammatical SVO structure. The learners did not seem to be aware of the additional implied existential reading of neg-whQ constructions, left alone their successful acquisition of the non-existential reading with their equally preference on the neg-whQ construction and constructions with other normal non-existential quantifiers in general. The limitation of this pilot study is the small sample of participants in learner groups and small number of test items in each context type, the scale of the study has to expand for future investigation. This paper postulates that Cantonese neg-whQ at syntax-semantics interface is the bottleneck to L2 learners, because there are a slow down in acquiring its correct SOV structure and failure in acquiring its additional

implied existential besides non-existential reading even to learners at their advanced proficiency level.

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