On the Second Language Acquisition of Morphosyntax of English Complementizers and Embedded Finiteness

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1. Introduction

This paper investigates the second language acquisition (SLA) of finite complementizers by Japanese pre-intermediate learners of English. The focus is on how the grammatical properties of English finite complementizers are acquired, with particular regard to cross-linguistic influence between the learners' first and second language (L1/L2). The acquisition process is explored within the framework of generative second language acquisition (GenSLA; see Whong et al. 2013 for a recent extensive overview), and one of the recent GenSLA hypotheses called Bottleneck Hypothesis (Slabakova 2016) is tested through the analysis of pre-intermediate L2 learners' data.

The English finite complementizers examined in the paper are *that* and *if*. "Finite complementizer" is a term in syntax referring to the head of CP taking a tensed TP as its complement. *If*, for example, takes a tensed/finite clause such as *he visits Beijing* but it does not take a tenseless/non-finite clause such as *to visit Beijing*. In the classroom setting for Japanese learners, *that* and *if* are taught as some basic varieties of clausal conjunctions and these are introduced in the earlier stages of the classroom L2 learning of English.

Although *that* and *if* are basic clausal conjunctions, there seem to be some hurdles for the learners in the early stages of SLA and they may persist even in the later stages. According to my observations on the pre-intermediate learners' performance, bi-clausal structures are not used so accurately as single sentences produced independently or linked by *and, but* and *or.* This paper investigates why this is so from a formalist perspective of SLA.

The remainder of this paper is organized as follows. Section 2 briefly explains the fundamental premises of the Bottleneck Hypothesis and outlines the linguistic background of complementizers and embedded clauses. Section 3 then addresses two research questions. Section 4 presents an SLA survey based on the previous research findings. Section 5 discusses the results in light of the Bottleneck Hypothesis, and lastly Section 6 concludes the paper.

2. Background

2.1. Bottleneck Hypothesis

Successive studies by Slabakova (2008, 2016, 2019 among others) propose the Bottleneck Hypothesis (BH), a principled account of SLA in terms of morphosyntax and other acquirable areas. BH states that functional morphology, which contributes to language variation, is the hardest for L2 leaners, so it limits the SLA progress. Slabakova (2016) assumes that syntax and semantics can be acquired more easily than functional morphology[1)] .

Imagine our 2L grammar as the bottle in Figure 1. The black, white and gray beads each stand for pieces of mixed knowledge from L1 grammar, universal language learning system, and L2 grammar[2)] . To use L2, we turn the bottle upside down to squeeze out the beads. The tight "bottleneck" is functional morphology. The beads get stuck as a result of unlearned functional morphology blocking further L2 processing.

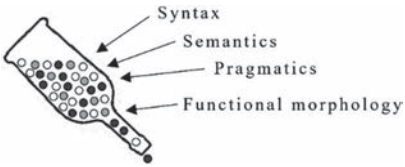

Fig. 1. BH illustrated

BH argues that once functional morphology is acquired, other areas of L2 grammar (e.g. syntax and semantics) automatically follow. One supporting study is by Slabakova (2003), who investigated Bulgarian speakers' L2 English aspect associated with the functional categories T and Asp. After the explicit instruction of three aspectual meanings (1a-c), two tasks were assigned to elicit aspectual morphology and interpretation. Another aspectual meaning (1d) was not taught in advance, but its interpretation was examined.

(1) a. She *is eating* an apple right now. ongoing event
b. She *eats* an apple (every day). habitual event
c. Mike *is being* lazy today. temporary state
d. I saw Mary *cross* the street. completion entailed

(Slabakova 2003:46)

The results showed that the learners were aware of functional morphology in Asp, and surprisingly, they were as accurate on the untaught meanings (1d) as on the taught ones (1a-c). Based on the above studies, BH suggests for classroom instruction that practicing functional morphology, a hub for meaning and syntax, in unambiguous context must be a key to SLA success.

2.2. How clause-embedding develops: German *daß*

Let us briefly examine the SLA of embedded clauses by looking at German *daß*-clauses. As Hawkins (2019) reports, German learners who speak English and Romance languages experience similar developmental stages. (2) shows the three stages with a typical example following *Ich denke*, 'I think'[3].

(2)	1.	*daß	sie	hat	geschrieben	einen	Aufsatz
		that	she	has	written	an-ACC	essay
	2.	*daß	sie	hat	einen	Aufsatz	geschrieben
	3.	daß	sie	einen	Aufsatz	geschrieben	hat

(Hawkins 2019: 111; asterisks added)

The stages show that as L2 German improves, the learners gradually become aware of where to put finite and non-finite verbs in *daß*-clauses. They begin with SVO the same as their L1 canonical order in (2.1), then in (2.2) the order for German matrix clauses is adopted (see fn. 3), and in the last stage (2.3) finite verbs are correctly placed at the end of embedded clauses.

Given that *daß* occupies C like *that* in English, C seems to be crucial to determine the word order. This is supported by *daß*-omission in (3), where the finite *müsse* 'must' appears in V2 position in (3b) unlike (3a). No such contrast is observed in the case of *that*-omission. Assuming the standard view that V2 involves movement of finite verbs out of TP (cf. van Craenenbroeck and Haegeman 2007), the SLA of word order in matrix and embedded clauses requires associating formal features with the functional lexicon in C.

(3)	a.	Er	sagt,	daß	er	nach	Hause	muss
		he	says	that	he	to	house	must.IND
	b.	Er	sagt,		er	müsse	nach	Hause
		he	says		he	must.SUBJ	to	house

(Nordstrom 2010: 215)

To sum up, the SLA of embedded clauses makes progress through the stage-like development interfered with the canonical word order in L1 and L2. It can also call for L2 learners to associate necessary formal features with a clause-embedding C: in other words, to identify types of subordinators in L2 and how they specify/restrict the syntax of embedded clauses.

2.3. Finite complementizers

2.3.1. English: *that* and *if*

Like German *daß*, English has a closed class of subordinators such as *that* and *if* in C to introduce embedded clauses. They both introduce finite clauses. *That* can be omitted while *if*, which depends on the matrix verb, cannot. For example, (4) shows the complementary distribution between them: *that* and *if* appear after *think* and *wonder* respectively, but not vice versa.

(4) a. Mary thinks that/ ~~that~~/*if Bill will come.
b. Mary wonders *that/*~~that~~/ if Bill will come.
(Sportiche, Koopman and Stabler 2014: 136)

For, another subordinator in C, introduces non-finite clauses and appears after verbs like *prefer*, not after *think* nor *wonder*. In contrast, both *think* and *wonder* do not co-occur with *for*-clauses. This is partially illustrated in (5)[4] . Notice that each subordinator must be followed by a clause with the finiteness it specifies, otherwise the embedded clause as a whole will be uninterpretable.

(5) a. Mary thinks/*?prefers that/~~that~~ Bill will come.
b. Mary *thinks/prefers for Bill to come. (Ibid.)

These contrasts can be described by matrix verbs' subcategorization frames in the lexicon and explained by feature agreement between complementizers and embedded T. For example, (6a) specifies *think* as a verb selecting for a non-interrogative finite C. Similarly, the frames of complementizers can be specified as (7). (7b) reads that *if* consists of a bundle of formal features of interrogative force and finiteness, and it selects for T.

(6) a. *think,* V: [+__ $C_{[-Q, +Fin]}$] c. *prefer,* V: [+__ $C_{[-Q, -Fin]}$]
b. *wonder,* V: [+__ $C_{[+Q, \pm Fin]}$]
(7) a. *that,* C: [−Q], [+Fin], [+__ T]
b. *if,* C: [+Q], [+Fin], [+__ T]
c. *for,* C: [−Q], [-Fin], [+__ T]

In light of complementizer agreement (Van Koppen 2017), suppose that finiteness feature for C in (7) is unvalued (coded as [*u*Fin]) when C is merged, so it needs valuing by the embedded T[5] . Since C consists of formal features, the valued features are then realized as a corresponding complementizer at

PF. Figure 2 illustrates the structure of *wonder if Bill will come*, where C probes into its complement TP-domain to value its unvalued finite feature.

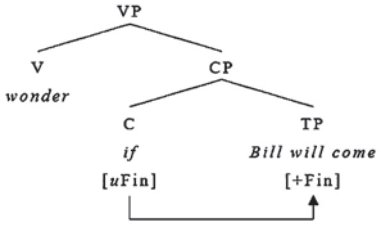

Fig. 2. Fin-Probe in *wonder if Bill will come*

2.3.2. Japanese: *to* and *ka*

Japanese complementizers *to* and *ka* are used to embed clauses. As Saito (2013) argues, *to* is the complementizer for indirect discourse, while *ka* is the one for questions. They are both analyzed as C, and as *that* and *if* in English, they each follow *omou* 'think' and *tazuneru* 'ask' respectively, not the other way around. This contrast is illustrated in the pair (8) below[6] .

(8) a. Jun-wa Mei-ga kuru/kita to/*ka omotta.
J.-TOP M.-NOM come/came C thought
'Jun thought that Mei was coming / came.'

b. Jun-wa Mei-ga kuru/kita *to/ka tazuneta.
J.-TOP M.-NOM come/came C asked
'Jun asked if Mei was coming / came.'

Although *to* and *ka* can be analyzed in parallel with *that* and *if*, some remarkable differences are observed. One peculiar property is that *to* can follow *ka*-questions. Saito points out that this is similar to Spanish *que*, which precedes embedded questions. Such sequencing is not generally found in English since the order like *wonder that if Bill will come* is not accepted.

(9) Jun-wa Mei-ga kita ka to omotta/tazuneta.
J.-TOP M.-NOM came C C thought/asked
'Jun thought that Mei (probably) came / Jun asked if Mei came.'

Another notable feature is that when *to* and *ka* take an exceptional Case-marking (ECM) complement, an embedded Accusative subject is allowed by *to*, but not likely by *ka*. For example, (10a) shows that *siru* 'know' takes *to*- and *ka*-complements with a Nominative subject, but (10b) indicates the incompatibility of *ka* with an Accusative subject in the ECM complement.

(10) a. Sono ahiru-wa zibun-ga minikui to/ka sitteiru.
the duck-TOP self-NOM ugly C know
'The duck knows that it is ugly / if it is ugly or not.'
b. Sono ahiru-wa zibun-o minikui to/*[??]ka sitteiru.
the duck-TOP self-ACC ugly C know

Given the ECM analysis of Accusative subjects (Mihara and Hiraiwa 2006), *ka* is likely to resist the matrix *v* assigning Accusative Case across the clauses as if it preferred propositions with Nominative subjects and predicates.

Let us summarize the observation so far in the following subcategorization frames. (11) shows that *omou* 'think', *tazuneru* 'ask' and *siru* 'know' take declarative, interrogative, and both types of finite complementizers, respectively. (12) states that (i) *to* and *ka* consist of [+Fin] and [-/+Q], (ii) both select for T, and (iii) *to* can select for an interrogative complementizer and *ka* further specifies the Case of an embedded subject as Nominative.

(11) a. *omou*, V: $[+C_{[-Q,\,+Fin]}\ \_\_\ ]$ c. *siru*, V: $[+C_{[\pm Q,\,+Fin]}\ \_\_\ ]$
b. *tazuneru*, V: $[+C_{[+Q,\,+Fin]}\ \_\_\ ]$
(12) a. *to*, C: [-Q], [+Fin], $[+T\ \_\_\ ]$ / $[+C_{[+Q]}\ \_\_\ ]$
b. *ka*, C: [+Q], [+Fin], $[+T\ \_\_\ ]$, $[+Subj_{NOM}]$

In order to explain the sequence of *ka-to* in (9), we assume that certain verbs can satisfy their subcategorization requirements by more than one complementizer. In the case of *ka to tazuneru* '(lit.) ask that if', for example, the verb's $[+C_{[+Fin]}]$ is met by *to* and $[+C_{[+Q]}]$ by *ka*. Spanish *que* 'that' followed an interrogative clause can be explained along the same lines[7].

Figure 3 illustrates the structure of VP *Mei-ga kuru ka tazuneru* 'ask if Mei will come' based on the subcategorization frames and the assumption that C carries formal features to be valued/checked for its morphological realization. The inner and outer arrows stand for finite feature valuation and checking the Case value on the embedded subject, respectively.

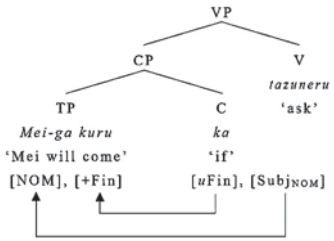

Fig. 3. The structure of *Mei-ga kuru ka tazuneru*

3. Research Questions

In the previous section, we first saw the overview of BH (2.1) and then observed the SLA paths of embedded clauses (2.2). If these hold true for complementizers in L2, they will lead us to the two following predictions: (i) If functional morphology for finite complementizers has been learned, L2 learners are quite likely to know the grammatical properties of embedded clauses as well; (ii) Some L1 properties can be transferred to the L2 learners' knowledge of finite complementizers in earlier stages.

The comparison of English and Japanese complementizers makes (ii) more specific. We have seen in 2.3 that the same features are shared by *that* and *to* and by *if* and *ka*. Two differences should be recalled in particular that 1) *that* can be a zero-form and 2) *to* allows ECM, namely embedded Accusative subjects. These are summarized in Table 1. Based on these findings, we can restate (ii): as for Japanese learners of English, L2 knowledge of non-interrogative complementizers will be affected more than that of interrogative ones due to the negative L1 transfer.

Table 1. Featural/Grammatical properties of finite complementizers

	[Fin]	[Q]	Zero	ECM
that [E]	+	-	✓	*
to [J]	+	-	*	✓
if [E]	+	+	*	*
ka [J]	+	+	*	*

Considering the above two predictions motivated by BH and by the empirical evidence from English and Japanese, this study addresses the two following research questions listed in (13).

(13) Research Questions

1. Are there any correlations between SLA of functional morphology of finite complementizers and their grammatical properties?
2. How does the different complementizer system between English and Japanese affect SLA of English finite complementizers?

4. Methodology

4.1. Participants

36 L1 Japanese speakers learning English as L2 participated in the survey (aged 18-21, M=19.07, SD=1.10). No participants experienced staying overseas longer than one month. The survey was conducted in July 2020, when all the participants were enrolled in pre-intermediate (CEFR A2) English courses in the author's institution[8)] . This proficiency level was chosen to ensure that the participants had not fully acquired the target L2 grammar, but they could read the test sentences without much difficulty. In addition to the above participants as an experimental group, a control group of 10 English speakers were tested on a part of the test sentences[9)] .

4.2. Task

To analyze L2 grammatical knowledge of finite complementizers, untimed tasks of multiple-choice questions and acceptability judgment were designed. First, 15 randomized questions, including 11 fillers, were given to the learners (not to the native speakers). The understanding of English complementizers was grasped based on their answers of 4 intended questions related to the form and meaning of embedded clauses[10)] .

For the acceptability judgment, 5 test sentences in (14) were designed and presented in random order to all the participants, including the native speakers. They were asked to rate each sentence with a blank to be filled with *that, if* or no complementizer, as grammatically "1: Correct" or "2: Incorrect", or as "3: Not sure" if they could not decide. In S1 below, for example, they judged whether each of the following sounds acceptable or not: "… argues in his book *that* France is …", "… argues in his book *if* France is …", and "… argues in his book France is…".

(14) Test sentences

S1. The journalist argues in his book {that/if/--} France is undergoing a major political shift.

S2. The readers may think {that/if/--} a professional golfer has to combine physics and psychology.

S3. The newspaper asked other politicians {that/if/--} the new minister could negotiate a trade deal with Asian countries.

S4. In the film, the pianist quickly found {that/if/--} segregation more extensive than he had imagined.

S5. The hospital has conducted stem cell transplantation into seven patients. The team believe {that/if/--} them to heal and recover from Parkinson's disease.

This task was intended to assess how well L2 functional morphology of finite complementizers was acquired. For example, to answer S4, it is necessary to identify *segregation more extensive* as non-finite and also find that the sequence should be a non-interrogative proposition to satisfy the subcategorization frame of a matrix verb *find*. Since the combination of [-Fin] and [+Q] does not match *that* nor *if*, the only suitable choice is zero: no complementizer is needed here.

5. Results

5.1. Acceptability judgment task

The graphs below illustrate the results of the acceptability judgment task. The learners' judgment rate (n=36) is shown on the left, and the native speakers' (n=10) on the right. Figure 4.1 clearly shows that the rate of *that* judged correct is high in S1 and S2, but it gradually decreases in S3, S4 and S5. On the other hand, the native speakers' judgment in Figure 4.2 clearly shows that *that* is acceptable in S1 and S2 but it is not in S3, S4 and S5.

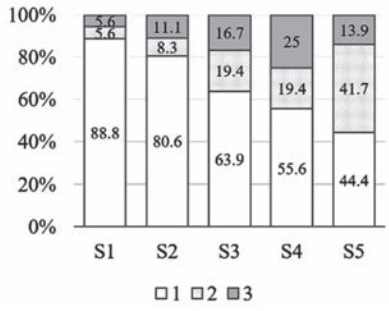

Fig. 4. 1 *That*: L2 learners

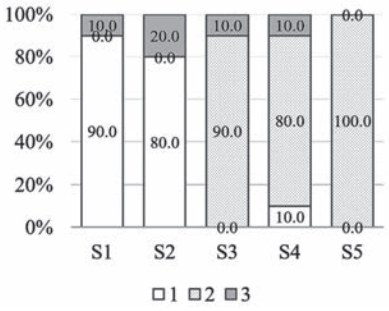

Fig. 4. 2 *That*: Native Speakers

Let us turn to the results of the acceptability judgment of *if*. Figure 5.1 shows that more than half of the learners judged *if* as incorrect except in

S3. About 40 percent of the learners judged it as correct, while all the native speakers accepted it as shown in Figure 5.2. For other test sentences, almost all of the learners judged it unacceptable.

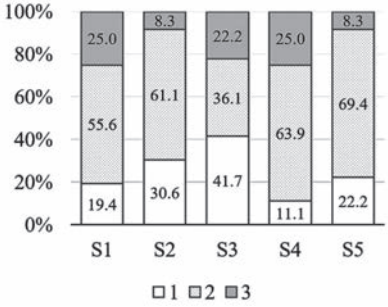

Fig. 5. 1 */f*: L2 learners

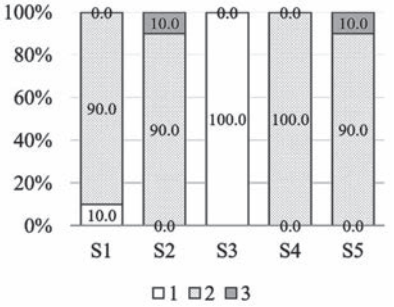

Fig. 5. 2 */f*: Native Speakers

Thirdly, let us observe how the lack of complementizers was judged. Figure 6.1 shows that about 60-70 percent of the learners accepted no complementizer in S2, S4, and S5 while about half of them did not allow that in S1 and S3. The results in Figure 6.2 look interesting because some speakers allowed no complementizer in S1 and S5 and some disallowed. The expected answer for S5 was "no complementizer", but in fact it was not chosen by most of the native speakers[11] .

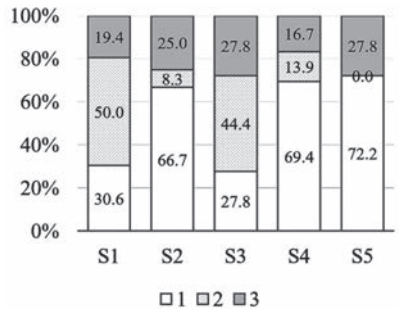

Fig. 6. 1 Zero: L2 learners

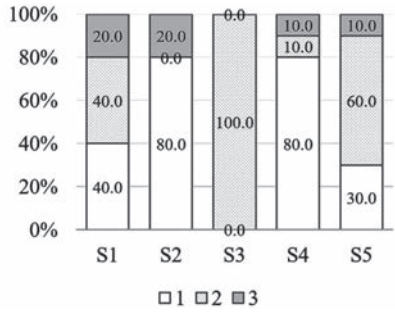

Fig. 6. 2 Zero: Native Speakers

5.2. Correlation between the tasks

The scatterplot in Figure 7 shows 36 learners' scores in the acceptability judgment task (AJT) and multiple-choice questions (MCQ). Each AJT was rated in the score range of 0 to 1 based on the native speakers' judgment (a maximum of 5 points in total; M=1.86, SD=.69)[12] . In MCQ, there were four questions about clause-embedding, and they were each rated as 0 (incorrect) or 1 (correct) (4 points in total; M=3.19, SD=.73).

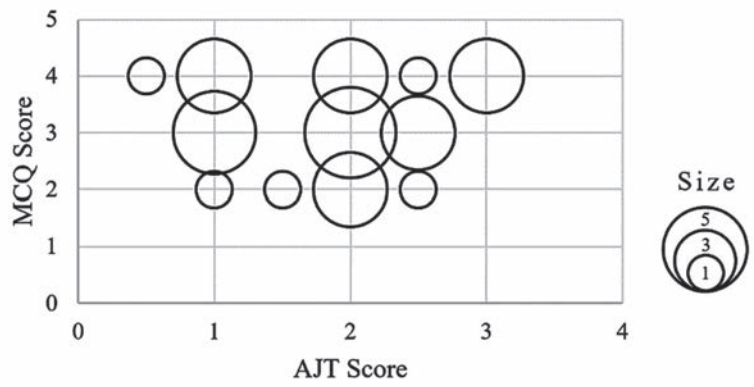

Fig. 7. Scatterplot for the scores in AJT and MCQ

Simple linear regression analysis was performed using the AJT and MCQ scores as the independent and dependent variables, respectively. The results are that the correlation coefficient was r=.052, and the determination coefficient was r^2=.002. The data indicate that the grammatical knowledge tested in MCQ cannot be predicted by the knowledge of complementizers examined in AJT.

6. Analysis

6.1. *That*-omission and the Poverty-of-Stimulus in SLA

The results of S2 indicate that most of the learners know that *that* can be omissible when it takes a finite clause. Interestingly, however, half of them do not accept the omission in S1: "… argues in his book __ France is …". The rate is similar to the native speakers' in that some of them accept the omission but some did not. This suggests that we cannot simply generalize L2 knowledge of *that*-omission.

According to Lightfoot (2006), there is a rule for *that* to be omitted: it must be

the complement of an overt, adjacent word to complete the word's meaning[13] . For example, in (15a) and (b) the omission is allowed in *that*-headed CPs adjacent to *said* and *book*, while it is not in (c) and (d), where other phrases interrupt between the verb/noun and the CPs (here "0" stands for the omission).

(15) a. Peter said $_{CP}$[that/0 Kay left].
b. The book $_{CP}$[that/0 Kay wrote] arrived.
c. Peter said yesterday in Chicago $_{CP}$[that/*0 Kay left].
d. The book arrived yesterday $_{CP}$[that/*0 Kay wrote].

(Lightfoot 2006: 46)

The pre-intermediate learners' judgment of *that*-omission as unacceptable suggests the so-called "Poverty-of-Stimulus" effect in SLA. The intuition of whether the omission is possible or not never originates in their L1 because complementizer omission is not generally observed in Japanese. The generalization is neither taught in L2 classrooms, nor is it inferred since negative evidence cannot be offered in any social/educational context surrounding the learners. Thus, no overt source of this L2 knowledge suggests an alternative possibility that UG conditions like Lightfoot's generalization are accessible in SLA even for pre-intermediate L2 leaners.

6.2. *If* and the subcategorization frames of *ask*

The results of S3 show that the leaners are still unsure of the finiteness carried by *that* and *if*. Although the rates of *if* being judged acceptable/unacceptable are lowest/highest (41.7%/36.1%) in Figure 5.1, these correct rates are distant from the native speakers' judgment (100%/0%). The omitted complementizers are not allowed in this context, but this knowledge does not seem to be acquired sufficiently according to the low rate of unacceptable judgment (44.4%).

Like *wonder, ask* takes [+Q] complementizers, so it is clear that the only possible candidate is *if* with an intrinsic [+Q] feature. The Japanese equivalent *tazuneru* 'ask' similarly takes [+Q] complementizers, but as we observed in 2.3.2, it also allows *ka to*, the sequence of [+Q] plus [-Q] complementizers in the same way as the Spanish equivalent (see fn. 7). In this way, *ask* and *tazuneru* differ in subcategorization properties, and that may cause the learners to incorrectly judge *that* as acceptable.

6.3. No complementizer for embedded non-finite clauses

The embedded clauses in S4 and S5 are non-finite, so neither *that* nor *if* is suitable for the clauses. The only acceptable choice is "zero" (no complementizer), and the results show that about 70% of the learners chose it. Although S5 sounds unnatural to the native speakers for some reasons (see fn. 11), the results of S4 are similar between the two groups. However, this does not guarantee that the learners come to acquire the morphosyntax of non-finite embedded clauses because the acceptability judgment of *that* in the same S4 and S5 was not correct enough.

There is a remarkable difference in the judgment rate of *that* as unacceptable between S4 and S5 (19.4%/41.7%). This indicates that *them to heal and recover* is easier than *segregation more extensive* for the learners to identify as non-finite. Looking at *them* in Accusative case and *to heal* as *to*-infinitive, they may find that in the context of S5, *believe* can be followed by an infinitival clause, not by a finite one typically with a Nominative subject.

In contrast, *segregation* does not appear case-marked overtly unlike *them* in Accusative case, and *more extensive* functions as a predicate describing *segregation*. Since *segregation more extensive* in this context is analyzable as TP forming a small clause lacking a copula (*was*, if the clause is finite), the sequence can be misunderstood as a (finite) clausal unit filled with a subject and a predicate. This resulted in the low rate of judging *that* as unacceptable and affected the rate of their unsure judgment.

6.4. Answers to Research Questions

The aim of Research Question 1 was to discover whether BH was accepted or not as to finite complementizers in L2. According to the statistics in 5.2, no correlation is found between the acceptability judgment of finite complementizers and the grammatical/inferential understanding of (matrix and) embedded clauses. So, as far as the data from pre-intermediate L2 learners show, our prediction does not hold true that acquiring functional morphology in C facilitates understanding the grammatical properties of clauses connected by complementizers in C.

One limitation should be noted about the tasks. The mean difference between AJT and MCQ (AJT: M=1.93/5; MCQ: M=3.19/4) suggest that AJT was more challenging than MCQ for the pre-intermediate learners to answer.

The leaners in general seemed to be more accustomed to multiple-choice questions than acceptability judgment of L2 sentences, so to some extent it might affect the learners' answers[14] .

Research Question 2 was set for investigating the effect of L1 on the complementizer system in L2. The observation in Section 3 predicts that *that* is harder than *if* for Japanese pre-intermediate learners to acquire. Since *to* cannot be omitted and allows ECM, *that*-omission would be judged unacceptable while *that* followed by an Accusative subject would be acceptable if there was an L1 transfer affecting the judgments. On the other hand, neither the omission of *if* nor its embedded Accusative subject would be judged acceptable if the learners analyzed *if* in a similar way to *ka*.

It is clear from the native speakers' judgment that in S2 *that* can be either overt or omitted. The same tendency is observed in the learners' judgment, contrary to the prediction based on L1 transfer. In addition, the rate of the learners judging *that* acceptable is the smallest in S5, where the Accusative subject *them* follows the blank. This does not support the prediction either, so there should be little L1 transfer affecting the SLA of *that*.

In the case of *if*, less than half of the learners judged the omission correctly in S3. In S5, it seems that about 70% of them correctly rejected *if* followed by the Accusative subject, but even in S1 and S2 about 60% of them also judged it unacceptable with the Nominative subject. These similar rates suggest the learners' tendency to reject *if* regardless of the case marked on embedded subjects. Since there is no significant difference in the rates, we conclude that no L1 transfer is involved in the SLA of *if*.

Overall, our predictions in Research Questions 1 and 2 do not hold true as far as the results are concerned. The research findings discussed so far are summarized as follows: 1) Contrary to BH, no correlation is found between L2 functional morphology and grammatical properties of finite complementizers, and 2) L1 transfer has no considerable effect on L2 morphosyntax of the complementizers for pre-intermediate learners.

7. Conclusion

This paper explored the morphosyntactic acquisition of finite complementizers and embedded clauses by Japanese-speaking pre-intermediate learners of English as L2. The results obtained from the acceptability judgment and

multiple-choice questions revealed that L2 knowledge for specifying the functional morphology in C was not fully acquired based on [+/-Fin] and [+/-Q] features carried by matrix verbs and embedded clauses. Contrary to what BH predicts, no correlation was observed between such knowledge and the form and meaning of embedded clauses.

To interpret the results in a complete, theoretical picture of SLA of finite complementizers, additional data from more advanced learners are needed to compare with pre-intermediate learners' knowledge of functional morphology in C. The featural/categorial status of finite complementizers in L1 and L2 should be carefully re-examined in light of recent syntactic analyses and GenSLA studies. These remaining issues will be discussed in the future research of how complementizers are acquired in L2.

Notes

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1) The assumption is evidenced by Jensen et al. (2017), who examined Norwegian children's subject-verb agreement (functional morphology) and word order (syntax) in L2 English. Although Norwegian differs from English in that it has no overt subject-verb agreement and displays verb-second (V2) syntax, they found that the agreement would be a more persistent problem than the word order driven by verb movement.

2) The illustration in Figure 1 is based on the one in Slabakova (2016: 403). The knowledge source "Universal language learning system" for the white beads refers to Universal Grammar (UG), which provides us with innately-acquired rules universally applied to human languages.

3) Hawkins's report is based on the previous representative studies including Tomaselli and Schwartz (1990). Note that German matrix clauses have the verb second (V2) position for finite verbs (*hat* in (i) below) after whatever constituent precedes them and the clause-final position for non-finite verbs (*getrunken*).

(i) a.	Er	hat	gestern	Rotwein	getrunken.
	he	has	yesterday	red wine	drunk
b.	Gestern	hat	er	Rotwein	getrunken.

4) The clausal argument after *prefer* (and also *suggest*, *wish*, and *insist*) may alternatively be realized as a subjunctive clause. As (ii) suggests, some speakers allow an indicative clause as well.

(ii) I prefer {that she leave/*her to leave/?that she leaves}.

(Givón 2001: 319)

5) Complementizer agreement refers to the presence of inflection in C observed in varieties of Germanic languages. (iii) shows an example in Frisian, where there is an agreement in person and number between the complementizer and embedded verb.

(iii) … dat-st (do) jûn kom-st. [Frisian]
that-2P.SG you tonight come-2P.SG

(Weiß 2005:156, cited in van Koppen 2017)

This example supports a generative view of SLA that apparent linguistic forms are morpho-phonological realization of formal features such as [Person: {1, 2, 3}] and [Number: {Sg, Pl}] and that SLA involves re-distribution of such features to L2 lexical/functional items. For more detailed theoretical explanation, see Lardiere (2009) and Slabakova (2016).

6) In addition to *to* and *ka*, another complementizer *no* is also reexamined in Saito (2013) as the one for embedded propositions. I only deal with *to* and *ka* here for our focus of structurally-simple embedded clauses.

7) Among the verbs selecting interrogative clauses in Spanish, *preguntar* 'ask' can take *que* 'that' preceding an interrogative word. In (iv), it looks like the matrix verb skips *que* and selects for a *wh*-clause headed by *cuándo* 'when'.

(iv) … preguntó [que cuándo podríamos entregar la tarea]
asked that when could hand-in the assignment
'… asked when we would be able to hand in the assignment.'

(Plann 1982: 302, cited in Ishii 2014: 223)

8) The participants were placed in pre-intermediate (CEFR A2) level according to the results of the Oxford Online Placement Test, a battery of English proficiency tests offered online.

9) The age of the native English speakers was from 23 to 41 and the countries of their origin were Canada, the Philippines, Uganda, UK, and USA.

10) The 4 intended questions are listed below:

1. Many people __ that Diana Franklin wins the election tomorrow.
①expect ②hope ③want ④like
2. January was cold, __ February was unusually warm.
①nor ②how ③but ④unless
3. The mechanic was still working on my car __ I arrived at the garage.
①why ②what ③which ④when
4. __ I prefer whisky, I usually drink beer in the pub.
①But ②Even ③Although ④Despite

11) One of the native speakers pointed out that S5 would be more acceptable if *to heal* took a direct object (e.g. *the patients*). This indicates that the reading of *them* as *the team* might be preferred to the interpretation referring back to *seven patients*.

12) Each answer was rated 1 if it matched the most common judgment by the native speakers, 0.5 if it partly overlapped, or 0 if it was totally different.

13) Lightfoot postulates a more generalized UG condition (v) to explain a larger range of phenomena including the deletion of copied *wh*-elements. (vi-a) is ruled out because the copy of the second *who* is undeletable without the overt verb *think* (schematically: e_{think} [$_{CP}$ *~~who~~ [$_{TP}$ Kim hit ~~who~~]]).

(v) Something is deleted if it is (in) the complement of an adjacent, overt word.

(vi) a. *Who did Jay think Kay hit and who did Jim Kim hit?
b. Who did Jay think Kay hit and who did Jim think Kim hit?

(Lightfoot 2006: 48)

14) Another limitation might be the number of question items: only 5 test sentences for AJT and 4

for MCQ (with 11 fillers) were prepared for this study.

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