Individual Differences in the Learning of the English Copula *Be* by Junior High School Students: Foreign Language Aptitude and Native Language Awareness

Tomoko TODE
*Osaka Municipal Taishohigashi Junior High School*

Abstract

This article investigates differences between successful and unsuccessful learning of the English copula *be* by Japanese learners in terms of awareness of copular sentences in their native language (NL) and language analytic ability as measured by an aptitude test. 124 third-year junior high school students took three written tests: an English test to measure the learning of *be*, a Japanese test to measure awareness of Japanese copular sentences, and a “language analytic ability” test for the Japanese. The results reveal an interesting relationship between success in the English test and success in the Japanese test. Participants who have succeeded in learning *be* also have awareness of Japanese copular sentences, although those who have the NL awareness have not necessarily succeeded in learning *be*. The data also show that the measure of language analytic ability predicts the extent of the learning of *be*. The article suggests that learners without high analytic ability need some instructional help involving raising NL awareness in the learning of the copula *be*.

1. Introduction

This study is prompted by a study (Tode, 1999) describing the difficulties Japanese junior high school students face in learning the English copula *be*. The study showed that about 60% of the subjects in the eighth and ninth grades failed to supply *be* in right contexts. Among their typical errors was the failure to supply the copula in a sentence with a common noun subject (e.g., *My father a teacher*). In addition, overuses of *be* (e.g., *He is like music*) were frequently seen in contexts of the simple present full verb. These data indicate that about half of the subjects have not learned the suppliance rule of *be*, which concerns the location of *be*. The present study
examines individual differences in the learning of the suppliance rule of be in terms of both language analytic ability,¹ one component of foreign language (FL) aptitude, and native language (NL) awareness of copular sentences.

1.1. Learning of the English copula be

Many researchers agree that establishing form-meaning mappings is indispensable in second language learning (e.g., VanPatten, 1996; Yamaoka, 1999). VanPatten and Yamaoka stress that both meaning and form must be attended to for form-meaning mappings to take place.

For the learning of the suppliance rule of the copula be to occur, the form be must be connected with its meaning. However, the form-meaning mapping of be does not seem to be easily established. One reason is that the meaning encoded onto the form be is less salient (Quirk, Greenbaum, Leech, & Svartvik, 1985) and thus difficult to attend to. The meaning of be is associated with the role of be in a copular sentence, that is, its role as a linking verb that connects the subject and the subject complement which expresses the semantic role as attribute (Quirk et al., 1985).² The subject complement, however, is a difficult concept to understand. Thus, the copula be, which co-occurs with the subject complement, can be regarded as a difficult item.

For the learning of grammatical items with less salient meanings, some instructional intervention to encourage form-meaning mappings is needed (VanPatten, 1996). Therefore, in the case of the learning of the copula be, it might be expected that the form-meaning mapping is facilitated by instruction. Generally, however, this kind of help does not seem to be provided in Japanese junior high school classrooms. Although formal instruction such as error correction and presentation of patterns is frequently offered, explicit instruction concerned with the semantic role of be is not provided except in Japanese translations. Learners are left on their own and advised to memorize exemplars in the expectation that they will connect the form be to its meaning implicitly.

It follows from the above that the learners are operating under the implicit condition as far as the learning of the suppliance rule of be is concerned. Robinson (1995) shows that learning under the implicit condition correlates more highly with language analytic ability than learning under the explicit condition. That is to say, learning under the implicit condition depends on learners’ language analytic ability. Therefore, it may be assumed that learners who do not possess enough language analytic ability will face difficulty in learning the rule of be on their own.

1.2. Language analytic ability and NL awareness

Language analytic ability is defined as “the capacity to infer rules of language and make linguistic generalizations or extrapolations” (Skehan, 1998, p. 204). This ability may determine whether or not learners succeed in form-meaning mappings (Skehan, 1989).
We must look more carefully into the nature of language analytic ability in terms of the relationship between the analytic ability of FL and that of NL. Carroll (1990) interprets scores of the grammatical sensitivity test of the Modern Language Aptitude Test (MLAT) as reflecting the extent of “awareness of the syntactic patterning of sentences in the examinee’s native or well-learned language” (p. 19). Sparks and his colleagues (Sparks & Ganschow, 1991; Sparks, Ganschow, Javorsky, Pohlman, & Patton, 1992; Sparks, Ganschow, & Patton, 1995) also present a similar view that links FL learning ability with NL awareness in their studies on the linguistic coding deficit hypothesis (LCDH). LCDH holds that learners who experience difficulties learning a FL may have NL learning problems especially in phonology and syntax (Sparks & Ganschow, 1991). Sparks et al. (1992) indicate that these high-risk FL learners exhibit significantly inferior performance in both the MLAT subtests and NL measures to low-risk learners.

A relationship between FL learning and NL awareness seems to exist in the learning of the copula be. It is possible that learners experiencing difficulty in learning the English copula be lack the awareness of Japanese copular sentences. Put another way, it may be that learners who have succeeded in learning be are aware of Japanese copular sentences. That is, the successful learners understand that the Japanese copular sentence predicates the attribute of the referent of the subject and can classify its exemplars into the same category and distinguish them from non-copular sentences. In brief, it may safely be assumed that there is some relation between the success in learning the English copula be and prior awareness of Japanese copular sentences.

1.3. Research questions

The present study poses the following research questions:

(1) How does discrimination of Japanese copular sentences from non-copular sentences relate to success in the learning of the suppliance rule of the English copula be?

(2) How does language analytic ability relate to the learning of the suppliance rule of the English copula be?

2. Method

2.1. Participants

Participants in this study were 124 third-year students from a municipal junior high school (ages 14 and 15). The group consisted of four intact classes. They had not been instructed specifically on the semantic aspect of be, according to an interview with their teacher.

2.2. Material

The study used three written tests: a test for the ability to discriminate Japanese copular
sentences (Japanese Test), a test for measuring the extent of the learning of the suppliance rule of be (English Test), and Part 2 of the Language Aptitude Battery for the Japanese (LABJ). The Japanese Test was constructed by the author of this paper. After a brief explanation, the participants were asked to judge whether a given Japanese sentence was a copular or non-copular sentence (Appendix 1). Both copular sentences with the typical formal pattern, — wa—da (desu), and copular sentences with other patterns were used as test sentences. The test consisted of 21 items, of which 14 were copular sentences. A score from zero to 21 was possible.

The English Test, which was also prepared by the present author, determined whether or not the participants could supply be in a copular sentence and whether or not they would overuse it in non-copular sentences (Appendix 2). Obligatory contexts of the auxiliary be were not included in the test.

The format of the English Test was a cross between sentence completion and translation, in which the participants were required to complete an English sentence, given a Japanese translation of the whole sentence. Words except the copula be that the participants could use were given as hints next to the test sentences to prevent them from failing to respond because of limited vocabulary.

Copular and non-copular sentences used in the English Test were equivalent to those given in the Japanese Test. Thus, the English Test also consisted of 21 items, although 22 distracters were given. A score from zero to 21 was possible.

To measure language analytic ability, the LABJ-Part 2 developed by Sasaki (1991, 1996) was used. The test measures the examinee’s ability to analyze an unknown linguistic system. At first, examinees are presented with a gloss of an unknown language. Then, they are required to find how a given Japanese sentence is expressed in the target language referring to the gloss. The test is a multiple-choice type in which examinees choose a correct sentence in that language corresponding to its Japanese sentence. The test consists of 15 items. The possible score range is from zero to 15.

2.3. Procedure
2.3.1. Testing

The Japanese Test and the English Test were administered by their teacher during regular class time in the participants’ classrooms in April 2001. First, the teacher made a brief explanation of Japanese copular sentences with an explanation sheet (Appendix 1). Then, the participants took the Japanese Test in 5 minutes. They were allowed to refer to the explanation sheet. After the explanation sheet and the Japanese Test papers were collected, students were given 35 minutes to complete the English Test. One week later, the teacher administered the 6-minute-long LABJ-Part 2 during regular class time.
2.3.2. Scoring

Scoring of the English Test was done using the following procedure. For an item using a copular sentence, participants who supplied be between the subject and the complement were given 1 point, and those who did not supply it were given no points. Morphological errors such as To choose one among many things are difficult were overlooked, since this kind of response was considered to indicate the participant's knowledge of the suppliance rule. For an item using a non-copular sentence, participants who overused be were given no points, and those who did not overuse it were given 1 point. A total (range 0-21) was calculated for each participant.

As far as the Japanese Test and the LABJ-Part 2 are concerned, a correct response was given 1 point, and an incorrect one was given no points. Then a total (range 0-21 in the Japanese Test; range 0-15 in the LABJ-Part 2) was calculated for each test for each participant.

3. Results and Discussion

3.1. Descriptive statistics

Table 1 summarizes the descriptive statistics for the Japanese Test, the English Test, and the LABJ-Part 2. Note that the maximum scores possible are 21, 21, and 15 respectively.

3.2. Research question 1

3.2.1. Analyses and results

The results of the Japanese Test and the English Test were analyzed to determine the relationship between awareness of Japanese copular sentences and success in learning the English copula be. Cross tabulation was adopted to analyze how performance each on the two tests relates to that on the other. First, the participants were divided into two groups: an OK group and a NOT OK group for each test. The criterion set for the division was 80% of the maximum score possible. That is, the participants with more than 16 points were placed into the OK group, and those with 16 points or less were placed into the NOT OK group. Next, a 2 x 2 cross table concerning the relation of success in the two tests was prepared (Table 2). Then the Chi-square test was performed to determine if there was a significant relation. With an alpha level of .05, success in the English Test was significantly related to success in the Japanese Test, $\chi^2 (1, N = 124) = 22.213, p < .001$.

| Table 1. Descriptive Statistics for the Three Tests (N = 124) |
|-----------------|----------------|---------|--------|
| Minimum | Maximum | Mean | SD |
| Japanese Test | 8 | 21 | 16.7 | 2.8 |
| English Test | 1 | 21 | 13.2 | 5.5 |
| LABJ-Part 2 | 0 | 15 | 7.3 | 3.6 |
Table 2. Cross Table on the Relation between Japanese Test and English Test

<table>
<thead>
<tr>
<th></th>
<th>OK</th>
<th>NOT OK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>OK</td>
<td>34 (.53)</td>
<td>30 (.47)</td>
<td>64</td>
</tr>
<tr>
<td>NOT OK</td>
<td>7 (.12)</td>
<td>53 (.88)</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>83</td>
<td>124</td>
</tr>
</tbody>
</table>

Note. Numerals outside parentheses represent frequencies. Numerals inside parentheses represent proportion of frequency in each cell to total frequency in each row.

As Table 2 shows, of the participants who are successful in the Japanese Test, about half are also successful in the English Test, but the other half are not. On the other hand, about 90% of the participants who are not successful in the Japanese Test are not successful in the English Test, either. Success in the English Test in spite of failure in the Japanese Test is rare. To put this another way, most of the participants who are successful in the English Test are also successful in the Japanese Test.

3.2.2. Discussion

The analyses presented above reveal that success in the learning of the English copula be is significantly related to awareness of Japanese copular sentences. Learners who have learned the suppliance rule of be can also recognize Japanese copular sentences. On the other hand, those who can recognize Japanese copular sentences do not necessarily know the suppliance rule of be. Thus, learners may be divided into three groups defined by their recognition of Japanese copular sentences and the learning of be: (A) the group who are successful in both, (B) the group who are successful in the former but not in the latter, and (C) the group who are successful in neither.

Learners of Groups B and C have not learned the English copula be yet. However, learners of Group B differ from those of Group C in that the former group is aware of the form-meaning mapping of the Japanese copular sentence while the latter group is not. Therefore, it seems reasonable to suppose that learners of Group B are closer to understanding the semantic role of the English copula be than those of Group C, that is, closer to associating the form be with its meaning.

3.3. Research question 2

3.3.1. Analyses and results

In analysis of Research Question 2, the three groups classified above were used as the basis in defining the extent of the learning of the suppliance rule of be. Then, the three groups’ scores of the LABJ-Part 2 were compared. Table 3 shows the mean score obtained by each group. One-way ANOVA was performed on the data in Table 3. With an alpha level of .05, the main effect of the group division was found statistically significant, $F(2, 114) = 28.743, p = .0000$ (see
Table 3. Descriptive Statistics for LABJ-Part 2 (N = 117)

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>34</td>
<td>10.1 (3.2)</td>
</tr>
<tr>
<td>Group B</td>
<td>30</td>
<td>7.4 (3.4)</td>
</tr>
<tr>
<td>Group C</td>
<td>53</td>
<td>5.2 (2.4)</td>
</tr>
</tbody>
</table>

Table 4. Analysis of Variance for Scores of the LABJ-Part 2 (N = 117)

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>505.469</td>
<td>2</td>
<td>252.735</td>
<td>28.783</td>
<td>.0000***</td>
</tr>
<tr>
<td>Within</td>
<td>1101.009</td>
<td>114</td>
<td>8.781</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1506.479</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ****p < .001.

Table 5. Results of Ryan’s Method (N = 117)

<table>
<thead>
<tr>
<th>Pair</th>
<th>r</th>
<th>Nominal level</th>
<th>t</th>
<th>p</th>
<th>significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-C</td>
<td>3</td>
<td>0.0166</td>
<td>7.570</td>
<td>.0000</td>
<td>s.</td>
</tr>
<tr>
<td>A-B</td>
<td>2</td>
<td>0.0333</td>
<td>3.616</td>
<td>.0004</td>
<td>s.</td>
</tr>
<tr>
<td>B-C</td>
<td>2</td>
<td>0.0333</td>
<td>3.315</td>
<td>.0012</td>
<td>s.</td>
</tr>
</tbody>
</table>

Note. MSe = 8.781, df = 114. significance level = .05

Table 4. A post hoc multiple comparison test (Ryan’s method) was performed in order to locate differences among means. As shown in Table 5, significant differences in scores of the LABJ-Part 2 were found between each group pair at the .05 level (pair A-C: t = 7.570, p < .05; pair A-B: t = 3.616, p < .05; pair B-C: t = 3.315, p < .05).

3.3.2. Discussion

The above analyses lead to the conclusion that the learning of the suppliance rule of *be* and NL awareness of copular sentences have a connection with learners’ language analytic ability under the present teaching conditions. In other words, learners who have learned the suppliance rule of *be* (Group A) have higher language analytic ability than those who can recognize Japanese copular sentences but have not learned the English copula *be* (Group B). Learners of Group B have higher language analytic ability than those who cannot recognize Japanese copular sentences (Group C).
4. Conclusions

The following two points constitute the main findings of the present study on the learning of the English copula *be* by Japanese junior high school students. The first is that success in the learning of the target rule has a relationship with NL awareness of copular sentences. Learners who are successful in learning the FL copula also show awareness of NL copular sentences. The second point is that the learning of the target rule is related to language analytic ability as measured by an aptitude test.

These findings imply that learners who are poor in language analytic ability may have difficulty in learning the copula *be* under the implicit condition. Some explicit teaching will be necessary to compensate for the lack of language analytic ability, as Robinson’s study (1995) shows. Then what type of explicit instruction will be helpful? One possible implication of this study is that it may be necessary to raise learners’ consciousness to copular sentences in Japanese, and then to the role of *be* in the copular sentences. Future experimental research on this issue is expected to be conducted.

Acknowledgments

I would like to express my deepest gratitude to Toshihiko Yamaoka, who gave me many valuable suggestions. I am also indebted to Miyuki Sasaki and the Second Language Testing, Inc. for permission to use the Language Aptitude Battery for the Japanese.

Notes

1 According to Carroll (1990), aptitude consists of four subcomponents: phonemic coding ability, grammatical sensitivity, inductive language analytic ability, and memory ability. Skehan (1998) regards the second and the third as one component and names it “language analytic ability”.

2 Strictly speaking, copular sentences are classified into two semantic types: the predicational type and the specificational type (cf. Declerck, 1988). Sentences expressing attribute are predicational ones, to which the present study restricts itself.

3 Awareness of Japanese copular sentences does not necessarily imply verbalization of the rule.

4 These patterns involved the following, for instance, たくさんの中からひとつを選ぶのってむずかしいもんだね.

5 The participants who succeeded in the English Test despite failure in the Japanese Test were regarded as exceptional participants, and were omitted from the analysis.
References


Appendix 1: Excerpt from the Japanese Test

説明シート

文には、コピュラ文と非コピュラ文(コピュラ文でない文)があります。コピュラ文とは、「AはBだ。」というタイプの文です。例えば、

(Exemplars are omitted here.)

などがそれにあたります。BはAのもつ性質、状態を表します。Bの部分には普通、名詞がきますが、次のように形容詞が来ることもあります。

(Exemplars are omitted here.)

非コピュラ文とは、上のように、「AはBだ」という形をとらない文です。例えば、

(Exemplars are omitted here.)

上のような文は、「AはB（名詞、形容詞）だ」となっておらず、下線部は動作を表す語（動詞）です。

問題

次の1〜21の文はコピュラ文ですか。非コピュラ文ですか。()に、コピュラ文ならば「コ」、非コピュラ文ならば「非」と記入してください。

1. くじらは哺乳類だ。 ( )
2. 兄は毎朝公園を走ります。 ( )
3. あの犬はかしこい。 ( )
4. 彼はよく教師を困らせる。 ( )
5. あの店においてある時計は古い。 ( )

Appendix 2: Excerpt from the English Test

10. あの犬はかしこい。  (あの犬 that dog, かしこい clever)

12. 彼は毎朝公園を走ります。 (彼 he, 走る run) in the park every morning.

16. くじらは哺乳類だ。  (くじら a whale, 哺乳類 a mammal)

20. 彼はよく教師を困らせる。 (彼 he, よく often, 困らせる annoy) teachers.

39. あの店においてある時計は古い。 (あの店においてある時計 the clock put in that shop, 古い old)