Measuring the Effects of Intensive Instruction on the Rules of Adjective Order in English Noun Phrases for Japanese EFL Students

Arthur D. Meerman and Katsuo TAMAOKA

Whereas the order of adjectives is completely free in Japanese, this is not the case with English. Japanese EFL (English as a Foreign Language) students at the university level experience great difficulty in identifying and producing noun phrases with correct adjective order in English. This study examined the effect that a brief period of intensive instruction on the rules of adjective ordering would have in improving student ability to correctly produce descriptive phrases. An adjective ordering task for noun phrases was administered both before and after the lesson to determine the extent that 81 Japanese students could correctly arrange three adjectives. The difference in average pre- and post-test scores showed dramatic improvement which was directly attributed to brief intensive instruction, underscoring its practical value in current pedagogical applications. However, neither previous awareness of nor formal learning experience in English adjective ordering had an effect on improvement in EFL student ability to order adjectives.

Keywords: order of adjectives, judgment task, short and long distance disordering

Introduction

A consistent yet often overlooked source of frustration for Japanese EFL (English as a Foreign Language) students is the correct ordering of adjectives in noun phrases. Whereas the order of adjectives is completely free in Japanese, this is not the case with English. For instance, the English expression, 'an expensive black Italian bag' can be written in Japanese as kookana kuroi Italia-no bakku. This noun phrase can also be reordered in five other correct ways, kuroi kookana Italia-no bakku (a black expensive Italian bag), kuroi Italia-no kookana bakku (a black Italian expensive bag), Italia-no kookana kuroi bakku (an Italian expensive black bag), Italia-no kuri kookana bakku (an Italian black expensive bag) and kuroi Italia-no kookana bakku (a black Italian expensive bag). However, none of these five expressions is correct in English. The absence of a determined order of adjectives in their native language may cause Japanese students to experience difficulty in identifying and producing noun phrases with correct adjective order in English. In turn, student inability contributes to a hesitance to experiment with more complex and therefore more expressive sentences. Simplistic, or 'awkward-but-understandable' sentences and expressions (e.g., "the brown paper plain bag"), are the all-too frequent result of this lack of confidence. While such incorrect
expressions may suffice to convey the basic point the speaker is trying to make, they are nevertheless incorrect from a grammatical point of view. As such, the issue of correct adjective order is no less important in composing correct and natural sounding English than other semantic or grammatical errors (e.g., subject-verb disagreement) upon which instructors generally concentrate.

It takes a great deal of practice with and exposure to a foreign language before students can confidently express themselves using what often seem, at least initially, to be arbitrary rules and constructions. The daunting task of English language teachers in Japanese classrooms is to promote students' ability to do so in one of the most homogeneously non-English speaking environments in the world. Surprisingly, while there are a host of formal guidelines, reference materials and practice exercises available in both print and electronic media, rules as to the correct order of adjectives in noun phrases are not a formal component of Japanese junior or high school English curricula.

Meerman and Tamaoka (2005, 2006) found that the extent of disorder among adjectives in noun phrases determines the ability of university-level EFL students to correctly interpret a phrase as being either correct or incorrect. These experiments focused on student ability to passively identify rather than produce noun phrases with correct adjective order, and raised the question as to whether the ability to create such phrases could be successfully taught through existing classroom approaches. The present study takes up this question, focusing less on cognitive processing and more on the pedagogical potential of intensive instruction. It explores the question as to whether or not the ability to correctly order adjectives preceding a noun can practically be taught as a component of existing EFL curricula.

The intentions of the present study were two-fold. First, the current ability that Japanese university students of EFL have to recognize and produce English noun phrases exhibiting correct adjective order was assessed. This was done using noun phrase adjective arrangement tasks, which required students to correctly re-order a selection of disordered adjectives preceding a noun which they were intended to describe. Second, this study aimed to determine the effect that intensive instruction on the rules of adjective ordering would have in improving student ability to correctly identify and produce more complex descriptive sentences. This study therefore attempted to gauge the success with which a seemingly intuitive ability can be taught and learned as a practical skill.

**Order of Adjectives in English Noun Phrases**

Native English speakers consistently exhibit a seemingly innate ability to identify or produce noun phrases with correct adjective order. Few, if asked, will attribute their ability to do so to formal instruction, let alone be able to recall if and when they received such formal instruction in their own schooling experiences. Ordering adjectives instantaneously and correctly seems to necessitate intuitive, semantic reasoning rather than the ability to recall grammatical rules (Kemmerer, Weber-Fox, Price, Zdanczyk & Way, 2007). Furthermore, as Kemmerer et al. (2007) note, the function of adjectives can sometimes shift (e.g., from classifying, as in 'wild bird', to describing, as in 'wild party') or be overridden in 'unusual pragmatic contexts' such requiring contrastive reference (consider their example, 'I like the brown big dog, not the white one'). Among others, these factors have resulted in a degree of discrepancy among grammarians as to what constitutes the 'canonical' pattern of adjective order. Popular reference works offering differing views on adjective order include those by Bache (1978), Bache & Davidsen-
Intensive Instruction in Adjective Order

Nielsen (1997), Dixson (1982), Hetzron (1978), Morenberg (2002), Quirk, Greenbaum, Leech, Svartvik (1985), Richards (1975), Swan (1995) and Thomson & Martinet (1986). The difficulty inherent in both grasping and imparting this concept is almost certainly a reason why detailed instruction in adjective order is often forgone, particularly when longer and more complex descriptors come into play.

The study of adjective ordering has received little attention in the area of second language acquisition, however Kemmerer (Kemmerer, 2000), a neurolinguist, conducted investigations with subjects with selective impairment caused by brain damage. Since adjective ordering is determined by subjective, semantically-related sequential rules (Hetzron, 1978; Quirk et al., 1985), Kemmerer and his colleagues assumed that rules of adjective order must be represented at a different level of mental representations than features of syntax. In addition, because rules of adjective order are not purely lexical, they can be assumed to be independent from lexical representations. He found that six out of 16 brain-damaged patients clearly displayed impairment in determining adjective order, but had well-preserved knowledge of grammatically-irrelevant aspects of adjective meaning and basic syntax. Therefore, Kemmerer concluded that adjective order must be stored in an independent level of representations in the brain. Kemmerer et al. (2007) further supported this claim with an electrophysiological (ERP) study. These studies of neuroscience support that adjective order cannot be purely argued from either perspective of grammatical or lexical knowledge, but rather that they combine both features. In the context of instruction for EFL students, adjective order cannot be taught purely as grammatical, but also as semantic rules.

The purpose of the present study was not to debate the peculiarities or merits of any given grammatical and semantic guideline; in any case, the fundamental order of adjectives is agreed upon by most authors. While it is near impossible to justify to learners of the language why “big black bear” makes more sense than “black big bear”, especially among those whose native language does not require such a semantic adjective order, rules governing adjective order can be taught and memorized. The present experiment sought to examine the potential of intensive instruction in one which could be readily adapted for use in classroom settings at the university level. The order of adjectives suggested by Swan (1995) was used for both experiment and discussion purposes and served as the basis for the handout to the EFL students who participated in the present experiment (see Table 1).

### Table 1. The Order of Adjectives

<table>
<thead>
<tr>
<th>Determiner (How many?)</th>
<th>Observation (Question)</th>
<th>Physical Description (What does it look like?)</th>
<th>Origin (Where from?)</th>
<th>Material (What of?)</th>
<th>Qualifier (What for?)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>beautiful</td>
<td>British</td>
<td>silver</td>
<td>touring</td>
<td>car</td>
<td></td>
</tr>
<tr>
<td>an</td>
<td>expensive</td>
<td>antique</td>
<td>red</td>
<td>silk</td>
<td>dresses</td>
<td></td>
</tr>
<tr>
<td>her</td>
<td>gorgeous</td>
<td>long</td>
<td>black</td>
<td>hair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>our</td>
<td>big</td>
<td>square</td>
<td>English</td>
<td>sheepdog</td>
<td></td>
<td></td>
</tr>
<tr>
<td>several</td>
<td>enormous</td>
<td>young</td>
<td>American</td>
<td>football</td>
<td>players</td>
<td></td>
</tr>
<tr>
<td>some</td>
<td>delicious</td>
<td>Thai</td>
<td>food</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adjectives usually appear in direct succession, in a set order according to category as follows: 1) determiner (e.g., a, an, the); 2) general or subjective observation (e.g., friendly, nice); 3) physical description (descriptions of size, shape, age and color, in that order); 4) origin (e.g., American, Swedish); 5) material (e.g., paper, plastic) and 6) qualifier
(e.g., camping, hunting). Numbers usually go before adjectives and replace determiners. First, next and last most often go before one, two, three, etc. (Swan, 2005). The linear order of multiple adjectives from the same semantic class is free (e.g., cold sour drink and sour cold drink) (Kemmerer et al., 2007). It is very unlikely that anyone would use more than two or three adjectives in a noun phrase, save for in cases of emphatic verbal expression.

Method

Participants

Participants comprised 81 undergraduate students (50 females and 31 males) in their first and second year students in the Faculty of Law, Hiroshima Shudo University, located in Hiroshima City, Japan. All were native speakers of Japanese, with ages ranging from 18 years and 1 month to 23 years and 1 month. The average age was 19 years and 3 months with a standard deviation of 10 months on the respective day of testing.

In that an analysis of commonly-used junior and senior high school EFL textbooks suggested that little or no attention is given to adjective ordering, two questions were included in this study to ascertain whether or not students had encountered rules governing adjective order outside of their junior and senior high school lessons. Using a simple 'Yes' or 'No' response style, participants were asked (1) whether they have known of the existence of adjective order, and (2) whether they have learned adjective order at school. It should be noted that these two questions were not intended to serve as predictors of grammatical knowledge based on participant self-evaluation.

Based on responses to these two questions, 81 participants were divided into three groups: 24 participants who have been aware and have learned adjective order, 28 participants who have been aware but have not leaned adjective order, and 29 participants who have neither been aware nor learned adjective order. There were no participants responded that they have learned but not been aware of adjective order (this category is illogical). These three groups were compared by using an analysis of variance (ANOVA) on acquisition scores of adjective order.

Materials

A paper-and-pencil test comprising a total of 21 noun phrases, each including three adjectives (see details in Table 3) was used to determine whether Japanese EFL students could correctly arrange three adjectives based on the rule. To examine the effect of the short lesson on adjective order given to these EFL students, test items were used twice (before and after the lesson), with the items randomly arranged in the two pre- and post-tests. To mix three adjectives, three incorrect orders were used in the pre- and post-test. For example, the handsome slender Egyptian man was incorrectly ordered three ways: (1) short-distance mixing, as in the handsome Egyptian slender man, (2) long-distance mixing, as in the Egyptian handsome slender man, and (3) short- and long-distance mixing, as in the Egyptian slender handsome man. Each of the 21 phrases was rearranged based on one of these three mixing orders. The noun phrase article was kept as the, and nouns were located at the end of all items.
The Intensive Lesson for Teaching Correct Adjective Order

This experiment considered the extent to which student understanding of adjective order in noun phrases may be improved through a period of intensive instruction. Essentially, the experiment consisted of a pre-test, a short lesson, and a post-test. The pre-test examined understanding of adjective order prior to instruction; it can be understood as having effectively measured the general abilities of present-day Japanese university EFL students to correctly describe something in detail (i.e., to correctly use more than one adjective prior to a noun). The difference between pre- and post-test scores was interpreted as being indicative of improved understanding resulting directly from the brief instructional period. Noun phrases items in the pre- and post-test were different than those used in the intensive lesson.

By the end of the lesson, students were expected to be able to produce (both orally and in writing) descriptive noun phrases which exhibited the correct order of adjectives. Actual classroom materials required for the lesson included 3-4 large pictures, 2-3 small, everyday objects and a one-page handout containing a chart with rules and sample phrases modeling correct adjectives order.

Outline of Intensive Lesson

An outline of the particular approach taken in the six-step, 70-minute intensive lesson plan is provided below:

1) Warm Up and Introduction (7-10 minutes)
   Students were asked to call out adjectives beginning with the letters of the alphabet from the letters a through z (active, beautiful, creative, etc.). This can also be done with nouns (e.g., things they saw on the way to school).

2) Introduction of topic (7-10 minutes)
   The instructor introduced actual items for students to describe. The names of these items were written on the blackboard, and students prompted to describe it using as many suitable adjectives as possible. The instructor wrote these on the board as they were called out, placing increasing numbers of adjectives before the noun in the order suggested by each responding student, to produce long (and awkward) sentences on the board. Students were asked to vote if all, some or none of the sentences were correct, yet left in anticipation of the answer.

3) Pre-Test (12-15 minutes)
   The pre-test was administered with students being told they had as much time as necessary to complete the task (this did not exceed 13 minutes). Sample questions of noun phrases are shown in Figure 1 (see all 21 items listed in Table 3).

4) Intensive instruction (12-15 minutes)
   Students were given a handout (see Table 1) with a rule chart and sample phrases modeling correct adjectives order. After the categories were explained, students were asked in turn to read the sample phrases written on the handout (with pronunciation tips are given when necessary). Looking at their handouts, students were asked to reconsider the correctness of the two sentences which were written on the board earlier.
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1. the serious French middle-aged teacher
2. the curved steel sharp knife
3. the metal large heavy desk
4. the scary Russian tall actor
5. the small Italian expensive shoes

Figure 1. Sample Questions from the Adjective Arrangement Task

5) Whole-group practice (5-7 minutes)
With the rules governing adjective order in front of them, individual students considered three or four photos of different items (see example, Figure 2) and repeated the introductory activity, being coached to correctly describe people, places and things being shown to them. Choral repetition followed each correctly ordered suggestion.

Figure 2. Sample Photo for Intensive Lesson on Adjective Order

6) Post Test (10-12 minutes)
Same as an example in Figure 1, but with items presented in different sequential order.

**Data Gathering Procedure**
The pre-test was given prior to the short intensive lesson on adjective order. After the lesson, the same test with re-arranged adjective phrases was given to the same participants. Tests items were different from those used in the instruction period. A correct answer to each phrase with three adjectives for the pre- and post-tests was scored as '1', so that the test scores ranged from 0 to 21 points with an equal interval of 1. Differences in test scores between the pre- and post-tests were considered as improvement directly resulting from the intensive lesson. One practice example
was given to the participants prior to the commencement of actual testing.

Analysis and Results

The means and standard deviations of the pre- and post-tests among three groups are presented in Table 2 and visually presented in Figure 3. A 3 (EFL students' knowledge conditions) X 2 (pre- and post-test conditions) two-way analysis of variance (ANOVA) with the last variable repeated was conducted on test scores of 81 participants. The results indicated a significant main effect of the pre- and post-tests \( F(1,78)=297.48, p<.001 \), but no significance main effect of three groups \( F(2,78)=0.210, n.s. \). Interaction of these two variables was not significant \( F(2,78)=1.202, n.s. \). Thus, results suggested a significant improvement of 8.10 points between the scores of the pre-test \( (M=6.67) \) and post test \( (M=14.77) \) regardless of EFL students of awareness and learning experience on English adjective order.

Table 2. Means and Standard Deviations of Adjective Order Pre- and Post-test Scores

<table>
<thead>
<tr>
<th>Knowledge Condition</th>
<th>Participants</th>
<th>Pre-test scores Mean</th>
<th>SD</th>
<th>Post-test scores Mean</th>
<th>SD</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aware and learned</td>
<td>24</td>
<td>6.25</td>
<td>3.25</td>
<td>15.25</td>
<td>3.90</td>
<td>( \Delta 9.00 )</td>
</tr>
<tr>
<td>Aware but not learned</td>
<td>28</td>
<td>6.82</td>
<td>3.91</td>
<td>15.07</td>
<td>3.16</td>
<td>( \Delta 8.25 )</td>
</tr>
<tr>
<td>Neither aware nor learned</td>
<td>29</td>
<td>6.36</td>
<td>3.54</td>
<td>14.07</td>
<td>3.35</td>
<td>( \Delta 7.71 )</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>6.67</td>
<td>3.56</td>
<td>14.77</td>
<td>3.46</td>
<td>( \Delta 8.10 )</td>
</tr>
</tbody>
</table>

*Note: The maximum score of pre- and post-tests is 21.*

Figure 3. Pre- and Post-test Scores as a Function of Knowledge Conditions

*Note: Upper-level bar extensions indicate standard deviations.*
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In order to further examine accuracies in correctness decisions for each noun phrase, 21 correct phrases were rearranged in descending order based on improved scores as shown in Table 3. The Pearson's correlation coefficient of 21 test items between the pre- and post-tests was not high ($r = .174$, n.s.), suggesting no clear relations in the test scores between the pre- and post-tests, although improvement proved to be greatly significant. All 21 test items were plotted (using nouns of the phrases) on the basis of the scores of the pre- and post-tests as depicted in Figure 4. Items above the diagonal line in Figure 4 indicate positively improved scores, of which there were 20.

While concrete generalizations cannot be based on the results of 21 noun phrase items alone, there are a few potential explanations to account for those that showed little improvement. In this experiment, a chi-square test of independence was conducted on each adjective phrase for numbers of correct/incorrect and pre-/post-test (a 2 X 2 matrix). For example, in the case of young friendly Swedish woman, 29 students answered correctly while 52 students responded incorrectly in the pre-test. In the post-test, 64 students answered correctly while 17 students answered incorrectly. A chi-square test of independence yielded a chi-square value of 30.926 which is significant at the 0.001 level, suggesting excellent improvement after the intensive instruction. All results for chi-square tests of independence are shown in Table 3. Fifteen noun phrases were shown to be improved significantly at the 0.001 level of significance, which surpassed our highest expectations. On the other hand, four phrases showed no significant improvement. Only one item, indicated by 'scarf' (i.e., the silk colorful thin scarf) did not show a positive improvement (-3 points). The noun phrase for 'scarf', however, did not show any significant difference between the pre- and post-test scores according to a chi-square test of independence [$\chi^2(1)=0.294$, n.s.], indicating no difference

Table 3. Adjective Order Pre- and Post-test Correct Responses, Improvement by Question Item and the Results of Chi-square Test of Independence

<table>
<thead>
<tr>
<th>Correct Adjective Order of 31 Question Items</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Improvement</th>
<th>Chi-square values</th>
</tr>
</thead>
<tbody>
<tr>
<td>the sharp curved steel knife</td>
<td>20</td>
<td>78</td>
<td>58</td>
<td>$\chi^2(1)=68.889, p &lt; .001$</td>
</tr>
<tr>
<td>the warm bag leather gloves</td>
<td>22</td>
<td>75</td>
<td>53</td>
<td>$\chi^2(1)=71.476, p &lt; .001$</td>
</tr>
<tr>
<td>the snowy tall Russian actor</td>
<td>22</td>
<td>71</td>
<td>49</td>
<td>$\chi^2(1)=68.414, p &lt; .001$</td>
</tr>
<tr>
<td>the fat smooth rubber tire</td>
<td>26</td>
<td>74</td>
<td>48</td>
<td>$\chi^2(1)=69.201, p &lt; .001$</td>
</tr>
<tr>
<td>the lucky straight silver pen</td>
<td>14</td>
<td>59</td>
<td>45</td>
<td>$\chi^2(1)=50.493, p &lt; .001$</td>
</tr>
<tr>
<td>the beautiful ancient stone bridge</td>
<td>20</td>
<td>62</td>
<td>42</td>
<td>$\chi^2(1)=43.567, p &lt; .001$</td>
</tr>
<tr>
<td>the shiny round gold watch</td>
<td>21</td>
<td>62</td>
<td>41</td>
<td>$\chi^2(1)=41.531, p &lt; .001$</td>
</tr>
<tr>
<td>the cheap new plastic toy</td>
<td>25</td>
<td>64</td>
<td>39</td>
<td>$\chi^2(1)=37.926, p &lt; .001$</td>
</tr>
<tr>
<td>the little bossy Mexican dog</td>
<td>17</td>
<td>55</td>
<td>38</td>
<td>$\chi^2(1)=51.100, p &lt; .001$</td>
</tr>
<tr>
<td>the expensive small Italian shoes</td>
<td>16</td>
<td>52</td>
<td>36</td>
<td>$\chi^2(1)=32.846, p &lt; .001$</td>
</tr>
<tr>
<td>the young friendly Swedish woman</td>
<td>29</td>
<td>64</td>
<td>35</td>
<td>$\chi^2(1)=30.926, p &lt; .001$</td>
</tr>
<tr>
<td>the race blonde Canadian boy</td>
<td>25</td>
<td>59</td>
<td>34</td>
<td>$\chi^2(1)=28.583, p &lt; .001$</td>
</tr>
<tr>
<td>the boring long English game</td>
<td>18</td>
<td>49</td>
<td>31</td>
<td>$\chi^2(1)=24.459, p &lt; .001$</td>
</tr>
<tr>
<td>the cold gray winter day</td>
<td>21</td>
<td>61</td>
<td>30</td>
<td>$\chi^2(1)=22.640, p &lt; .001$</td>
</tr>
<tr>
<td>the serious middle-aged French teacher</td>
<td>24</td>
<td>49</td>
<td>25</td>
<td>$\chi^2(1)=15.994, p &lt; .001$</td>
</tr>
<tr>
<td>the busy narrow Irish street</td>
<td>43</td>
<td>59</td>
<td>16</td>
<td>$\chi^2(1)=76.776, p &lt; .01$</td>
</tr>
<tr>
<td>the plain brown paper bag</td>
<td>39</td>
<td>54</td>
<td>15</td>
<td>$\chi^2(1)=5.600, p &lt; .05$</td>
</tr>
<tr>
<td>the cute pink wool sweater</td>
<td>13</td>
<td>22</td>
<td>9</td>
<td>$\chi^2(1)=2.592, n.s.$</td>
</tr>
<tr>
<td>the bitter black Brazilian coffee</td>
<td>57</td>
<td>65</td>
<td>8</td>
<td>$\chi^2(1)=2.125, n.s.$</td>
</tr>
<tr>
<td>the heavy large metal desk</td>
<td>36</td>
<td>43</td>
<td>7</td>
<td>$\chi^2(1)=1.211, n.s.$</td>
</tr>
<tr>
<td>the colorful thin silk scarf</td>
<td>22</td>
<td>19</td>
<td>3</td>
<td>$\chi^2(1)=0.284, n.s.$</td>
</tr>
</tbody>
</table>

Mean: 6.72, 14.73, 8.01
Standard Deviation: 10.37, 14.67, 16.43

Note 1: Values indicate the number of students who responded correctly to each question item (maximum of 81 students).

Note 2: Item significance was examined via Chi-square tests of independence.
Figure 4. Plots of Numbers of Correctly Answering Students in the Pre- and Post-tests

*Note 1*: The maximum number is 81 in both the pre- and post-tests.

*Note 2*: Shaded items indicate significant score improvement as examined by the Chi-square test of independence.

... in scores between the pre- and post-test.

Two items (*cute pink wool sweater* and *colorful thin silk scarf*) were poorly rearranged on both pre- and post-tests, with their pre- and post-test scores plotted much lower than others, as shown in Figure 4. In the case of these two phrases, it is not difficult to imagine how the adjectives 'pink' and 'cute' could be confused by participants, as in everyday use these two words are often used interchangeably (e.g., in product marketing). It is also understandable that 'colorful' could be misunderstood as an adjective of color rather than of subjective observation, not least because of the shared root word. With regards to the phrase, *heavy large metal desk*, it was by and large correctly rearranged on both tests, therefore leaving little room for improvement.

**Discussion**

A major difference between the present study and previous ones conducted on the adjective ordering theme (e.g., Meerman & Tamaoka, 2005, 2006) is the focus placed on correct production, rather than identification, of phrases containing more than one adjective. In determining the extent to which intensive instruction on the rules of adjective order can improve students' ability to correctly identify and produce more complex descriptive sentences, it is much more closely connected to pedagogical application than those previous studies.
Japanese university students continue to have little command of the rules outlining the correct usage of adjectives in English. Student performance on the pre-test showed an overwhelming and almost uniformly poor knowledge of adjective order regardless of the extent of previous awareness or learning experience, with average pre-test scores a mere 6.67 points out of a maximum 21 points. Instruction in proper adjective order is therefore clearly lacking in Japanese English lessons. An examination of several samples from commonly-used senior high school textbook series (e.g., Crown, Vista, Vivid and New Horizon) suffices to strongly support our claim that the issue of adjective ordering is not sufficiently addressed in high school textbooks approved for use in Japanese senior high schools. Texts devoted exclusively to grammar are, of course, available as supplementary resources to students to the extent that they seek them out. However, the use of such texts is often limited to preparation for university entrance examinations, and not common English curricula. Japanese students have either 1) received little or no prior instruction on this lexical/semantic point, or 2) have somehow, somewhere been exposed to such instruction, yet have not retained it for effective use.

This experiment has shown that Japanese EFL students, at least at the university level, can grasp and employ the rules governing adjective order upon receiving a single intensive lesson. Post-test scores averaging 14.77 points (70.33% correctness ratio) indicated an overall improvement of 8.10 points from the 6.67 points (31.76% correctness ratio) on the pre-test. This improvement was even greater than had been anticipated, and shows that it is not impossible to teach the order of adjectives despite the difficulty inherent in producing such sentences for many Japanese English teachers.

Questions may arise regarding the wisdom of using identical items for both pre- and post-tests, based on the assumption that results on the latter may be influenced by student ability to memorize items freshly-encountered on the former. However, the marked improvement observed on post-test scores cannot reasonably be attributed to any potential student ability to memorize pre-test item responses. The number of items (total of 21) and adjectives (total of 63) is arguably too large to be effectively memorized during the short period of intensive instruction. Even working under the assumption that students did have the capacity to recall pre-test items and responses, the application of adjective rules as provided in the intensive instruction period must have been applied to avoid pre-test error repetition and yield the greatly improved scores on the post test. Furthermore, as previously noted, items in the pre- and post-test were different than those used in the intensive lesson. Therefore, the use of the same items on both pre- and post tests, when randomized, is methodologically sound. Why, then, is adjective order almost completely neglected in Japanese senior high school English curricula, when this necessary point of lexical/semantic adjective order can so easily and quickly be taught? The goal of each learner presumably and ideally being to achieve fluency, the order of adjectives in noun phrases deserves just as much attention for non-native learners as any other lexical, semantic or grammatical rule. While students might somehow be able to communicate any given point, disordered adjective placement results in cumbersome expressions which are not only incorrect, but also place greater responsibility on the listener to ensure smooth communication.

Questions remain as to whether or not retention of rules learned as a result of the intensive lesson can be demonstrated in the long term (remembering that almost a third of participants in the present study indicated having previous awareness and instruction in adjective ordering), and how students can be encouraged to internalize and spontaneously produce (rather than arrange) correctly ordered adjectives. One
approach to investigating these questions would include conducting the same test at some point in the future with the same students. A further, and perhaps better alternative given the logistical difficulties inherent in achieving the same group of participants for a longitudinal study, would be to conduct one or two intensive lessons, involving more inductive as well as deductive approaches to instruction. This study employed intensive instruction based on deductive methods, which may result in a stronger ability to produce more complex and expressive sentences on written assignments and hence may be the most significant result of this form of intensive instruction in adjective order.

Given the remarkably positive results of this exercise, the next step would be to conduct similar intensive experiments based on a more inductive approach. The link between inductive instruction and long term retention has been discussed at length elsewhere (e.g., Herron & Tomasello, 1992). It may furthermore foster students' ability to internalize their learning, ideally to respond with intuitive semantic judgment rather than mechanical grammatical recall. Finally, future research might look at measuring improvement in oral competence in the same way we tested for reading recognition skills.

Conclusion

Although correct adjective ordering is prerequisite to effective English communication, Japanese university students have neither been taught nor have they learned to produce correct adjective order. They therefore have little command of the rules outlining the correct usage of adjectives in English. This study investigated the effect that a brief period of intensive instruction on the rules of adjective ordering would have in improving Japanese EFL student ability to correctly produce descriptive phrases. An adjective ordering task for noun phrases was administered both before and after the lesson to determine the extent that Japanese students could correctly arrange three adjectives. The difference in average pre- and post-test scores showed dramatic improvement which was directly attributed to brief intensive instruction, underscoring its practical value in current pedagogical applications. The main significance of the present experiment lies in its having raised the question: Why is the important lexical and semantic aspect of correct adjective ordering not part of Japanese students' formal learning experience if it can be taught quickly and effectively?

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