L1 Influence on Learners’ Use of
High-Frequency Verb + Noun Collocations

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Abstract

Numbers of studies on language transfer have been done at phonological, morphological, and syntactic levels, but there is relatively little research done in the area of lexico-semantic where L1 influence is considered to be the most persistent and pervasive. The present study focuses on semantic transfer of verb + noun collocation by intermediate and advanced level Japanese learners of English. Attempts are made to examine (a) whether or not learners at different proficiency levels differ in their performance of language transfer in the domain of lexical collocation, and (b) what the possibilities are that make certain collocates more transferable over other collocates. The results of the Acceptability Judgment Test performed by three different proficiency groups show that even learners at the highest level have difficulty in correctly accepting and rejecting the easy verb collocations that do not have the same patterns in their L1. The findings suggest the importance of negative evidence and the effects of the contrastive approach to teaching collocation in order to develop learners’ language proficiency one step further.

1. Introduction

The purpose of this study is to investigate the learners’ knowledge of English collocation of which there is no direct translational equivalence in their L1. It has been pointed out that learners lack collocational knowledge and tend to be creative in combining words (Granger 1998, Kjellmer 1991, Lewis 2000, Pawley and Syder 1983). Although the lack of collocational knowledge presents serious problems in producing language fluently and comprehending language appropriately with prediction, little is known about the nature of learners’ collocational use, errors, and development. Some contradictory conclusions were reached in previous studies concerning negative transfer from L1, due to the difference of measurement (i.e. translation test, cloze test, judgment test, multiple choice test, gap filling test, corpus-based measurement…) and the learners’ language backgrounds. Much of the work done
so far targets learners whose mother tongue are Indo-European languages that have cognates and false friends. The findings from these previous studies might not be true for learners with different language backgrounds such as Japanese. To fill this gap, the present study targets Japanese learners of English and reexamine what has been proposed in the previous studies. The study also attempts to show which collocates are more transferable and which are not. The transferability of the items is discussed in the light of a) psycholinguistic markedness, and b) L1 light verb construction.

2. Previous Studies

Although it is widely acknowledged that second language learners tend to transfer lexical patterns from their L1 to their L2 (Adjemian 1983), there has been disagreement on the proportion of collocational language transfer. Several reports indicate that the negative transfer from L1 collocation explains the large proportion of collocational errors. Fayez-Hussein (1990) analyzed the results of a multiple choice test administered to Jordanian learners and concluded that 52% of the responses were inaccurate due to L1 transfer. Similarly, in Biskup’s (1992) study, Polish and German learners of English showed strong L1 interference errors on verb+ noun collocations measured by a translation task: 46% of Polish learners’ errors and 21% of German learners’ errors were attributed to L1 interference. The recent study by Nesselhauf (2003) examined learners’ natural production of verb + noun collocation in a non-experimental situation, based on the German subcorpus of ICLE (The International Corpus of Learner English). He found that the influence of the L1 on verb + noun collocational errors adds up to 56 percent. These support Bahn’s (1993) statement: “the majority of collocational errors can be traced back to L1 influence” (p.61).

On the other hand, other reports claim that L1 influence does not play such an important part in collocational errors. Farghal and Obiedat (1995) analyzed four strategies that Arabic learners adopted when doing a fill-in-the-blank task and translation task on adjective + noun collocation. The strategies adopted were, avoidance, transfer, synonymy, and paraphrasing. The percentage of transfer strategy adopted was 9.9% for the lower level learners, 12.6% for the higher level learners. Although the study does not indicate the percentage of positive and negative transfer respectively, it can be assumed from the overall percentage that the portion of L1 interference error is low. It is not clear whether the low percentage of transfer is due to L1-L2 distance between Arabic and English, or the type of lexical collocation (adjective + noun), or the method of measurement. In this respect, Lennon (1996) analyzed the verb choice errors using the corpus of German learners’ oral errors and still came to the conclusion that L1 influence was not very important. Lennon is cautious in placing the blame on L1 interference, which might be too superficial an analysis of learners’ errors. Granger (1998) suggests that identification of language transfer requires at least two types of comparison: the comparison of native language
and interlanguage, and the comparison of different interlanguages. Comparing Swedish learners and French learners’ use of high-frequency verbs, Granger (2001) found that much of the observed phenomenon was universal, while some error types seemed to be partly L1-specific.

While it is unclear how great the role of language transfer is to the acquisition of collocation, it can be assumed that advanced learners are no exception to making L1-related errors; most of the studies on the acquisition of collocation were based on advanced learners’ data. The earlier study of lexico-semantic transfer by Tanaka and Abe (1984), observing strong L1 influence in the acquisition of English locatives, proposed the Semantic Transfer Hypothesis (STH): “semantic transfer remains constant irrespective of learners’ proficiency, although numbers of errors decrease with increased proficiency” (p.104). This notion is somewhat contrary to what Krashen (1988) mentions in his book: L2 learners show less L1 influence with more proficiency, and therefore, “first language influence may be an indication of low acquisition” (p.67).

The present study inquires whether L1 influence decreases or not as the levels of study go up, in the case of Japanese learners using high frequency verb + noun collocations. It is beyond the scope of the present work to argue the proportion of L1 specific error and L1 neutral error, which requires comparisons with other interlanguages and use of a non-experimental environment. Lexical collocation of verb and noun was selected since the verb phrase is the central element in a sentence, and yet, it is considered to be the hardest combination for learners to get it correct. Granger (2001) and Lennon (1996) pointed out that learners are prone to making easy verb mistakes since they are usually polysemous and have delexical use. Learners seem to avoid using such collocations with delexical verbs because of uncertainty, which may partially account for the Howarth’s (1998) finding that native speakers use 50% more verb + noun collocations and idioms than learners do. It was also suggested that there was no correlation between learners’ proficiency level and the amount of mis-collocations. The study, however, using subjects from a variety of language backgrounds, does not refer to the relationship between proficiency level and L1 specific error in the analysis. The present study hypothesizes that learners, regardless of levels of study, may depend largely on their L1 knowledge when they are asked to judge whether the questioned easy verb collocations are correct or not. Learners are familiar with L2 high-frequency verbs and regard them as having equivalents in their L1, for example, take = toru, give = ataeru, pay = harau, and put = oku. Not being aware of the language-specific differences of these verbs, learners tend to believe that they can combine them with whatever possible in L1. A brief survey of the Japanese subcorpus of ICLE found quite a few utterances of this kind, for example, “I tried to take* communication with a foreigner”, where in Japanese the verb toru (take) is the usual combination with communication. The research question of the present study is, how then would other Japanese learners with different proficiency react to these kinds of utterances. Would most Japanese learners by intuition judge them as acceptable, or would the judgment differ among the proficiency levels? What are the characteristics of those mis-collocations that are shared by most of the participants?
3. Method

Participants The participants for this research were third and fourth year English majors at Aichi University of Education and Nanzan University, who scored higher than 600 on the Test of English for International Communication (TOEIC) taken within the last two years. Participants were divided into three groups according to their TOEIC score: the level A participants scored higher than 860, the level B participants scored between 730 and 850, and the level C participants scored between 600 and 720. Division of the test scores was based on the “proficiency scale” offered by the Educational Testing Service (ETS). There were 11 students in each level, 33 students in total. Eleven native speakers of English also participated in this study as a control group. They were M.A. TESOL majors at State University of New York College at Fredonia. The purpose of their participation was to establish the norms for English responses to the given test.

Materials Fifty sentences including verb + noun collocation were used for this study. The 50 collocations in question can be divided into 4 conditions: (i) English collocations that have direct translational equivalents in Japanese (e.g. pay attention / chu-i wo harau), (ii) English collocations that do not have direct translational equivalents in Japanese (e.g. take pride in / puraido wo toru*), (iii) Japanese collocations that do not have direct translational equivalents in English (e.g. dame-ji wo ataeru / give* damage to), and (iv) collocations that do not exist neither in English or in Japanese (e.g. take* an experiment / jikken wo toru*). Items that fall into condition (i) are the ones that may transfer positively from L1 to L2, while items in condition (iii) are the ones that may transfer negatively. Both English and Japanese collocations used in this study were taken from several sources: BBI Combinatory Dictionary of English (Benson et al., 1986b), Collins Cobuild English Collocations CD-ROM (3rd edition, 2001), Dictionary of English Verb + Noun Collocations (Kizuka, 1995), Kenkyusha's New Dictionary of English Collocations, (Katsumata, 1958), Kouien 5th edition (Shimamura, 1998), Longman Dictionary of Common Errors (Turton, 2001), etc.

Procedures The 50 sentences were tested at random in the Acceptability Judgment Test. Participants were asked to judge whether the underlined verb is acceptable to collocate with the direct object, and to put a circle on either ‘acceptable’ or ‘strange’. If they judge the verb to be strange and could think of a better alternative, they were encouraged to write it down in a parenthesis. The participants of the learner groups were asked to put a checkmark in the box if they were already familiar with the target collocation. This was done in order to distinguish between learners’ knowledge and perception. The following is the example of the required task. e.g.) We made advantage of the fine weather to play tennis.

☑ Accept · Strange (took)
The participants were instructed to complete the test within 20 minutes, without using dictionaries or consulting with others. They were allowed to raise their hands and ask any question on unknown words in the sentence, although most of the difficult words had the Japanese translation written beforehand. Reviewing the test items was not permitted since the study tries to examine the learners' intuitive judgment.

**Data Analysis**  The independent variables of this study are proficiency level and collocational condition, and the dependent variable is the test score. The $3 \times 4$ (proficiency level $\times$ collocational condition) mixed ANOVA was employed where proficiency level was the between-subject factor and collocational condition was the within-subject factor. Bonferroni post-hoc test was used for the multiple comparisons. While the 3 participant groups had an equal number of 11, the number of test items in 4 conditions was unequal since some of the test items were excluded from the analysis due to the disagreement in native responses. Thus, the mean number of each condition was calculated when analyzing the data.

4. Results

Table 1 presents the results of $3 \times 4$ (proficiency levels $\times$ collocational conditions) mixed ANOVA conducted in the study. The results of Bonferroni post-hoc test for multiple comparison of between-group factor is shown in Table 2. The interaction effect of proficiency level and collocational condition is illustrated in Figure 1.

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>R [proficiency level]</td>
<td>5251</td>
<td>2</td>
<td>2625</td>
<td>12.7**</td>
</tr>
<tr>
<td>Error [proficiency level]</td>
<td>6219</td>
<td>30</td>
<td>207</td>
<td></td>
</tr>
<tr>
<td>C [collocational condition]</td>
<td>18819</td>
<td>3</td>
<td>6273</td>
<td>54.8**</td>
</tr>
<tr>
<td>R$\times$C</td>
<td>937</td>
<td>6</td>
<td>156</td>
<td>1.4</td>
</tr>
<tr>
<td>Error [collocational condition]</td>
<td>10299</td>
<td>90</td>
<td>114</td>
<td></td>
</tr>
</tbody>
</table>

**$p < .01$**

As Table 1 shows, the main effect of proficiency level was significant ($F (2, 30) = 12.7, p < .01$). The further analysis revealed that level A group scored significantly higher than level B group ($p < .01$) and level C group ($p < .001$), but compared to NS group, level A group scored significantly lower ($p < .0001$). No significant difference was found between the score of level B and level C. The main effect of collocational condition was also significant ($F (3, 90) = 54.8, p < .01$). Further analysis revealed that the participants scored significantly higher on condition (i) than
condition (ii) \((p < .001)\), which shows the effect of positive transfer, and lower on condition (iii) than condition (iv) \((p < .001)\), which shows the effect of negative transfer. The proficiency level by collocational condition interaction was not significant \((F(6, 90) = 1.4, \text{n.s.})\).

Table 2. Bonferroni post-hoc Test for Multiple Comparison of Between-Group Factor

<table>
<thead>
<tr>
<th>(I) Level</th>
<th>(J) Level</th>
<th>Mean Difference (I-J)</th>
<th>Standard Error</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level A</td>
<td>Level B</td>
<td>10.6687</td>
<td>2.736</td>
<td>.002**</td>
</tr>
<tr>
<td>Level A</td>
<td>Level C</td>
<td>15.0117</td>
<td>2.736</td>
<td>.000**</td>
</tr>
<tr>
<td>Level A</td>
<td>Natives</td>
<td>-16.7634</td>
<td>2.736</td>
<td>.000**</td>
</tr>
<tr>
<td>Level B</td>
<td>Level C</td>
<td>4.343</td>
<td>2.736</td>
<td>.722</td>
</tr>
<tr>
<td>Level B</td>
<td>Natives</td>
<td>-27.4321</td>
<td>2.736</td>
<td>.000**</td>
</tr>
<tr>
<td>Level C</td>
<td>Natives</td>
<td>-31.7751</td>
<td>2.736</td>
<td>.000**</td>
</tr>
</tbody>
</table>

**\(p < .01\)

Figure 1. Proficiency and Collocational Condition Interaction

Table 3 shows the percentage of the correct responses for the items in condition (iii), where learners had most difficulty in getting the correct answer. The high percentage of correct answer indicates low transferability, while low percentage indicates high transferability.
Table 3. Percentage of the Correct Responses for the Items in Condition (iii)

<table>
<thead>
<tr>
<th>Collocation (iii)</th>
<th>%</th>
<th>Collocation (iii)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) take + contact</td>
<td>84.8</td>
<td>(8) give + impact</td>
<td>46.9</td>
</tr>
<tr>
<td>(2) take + appointment</td>
<td>78.8</td>
<td>(9) give + harm</td>
<td>45.5</td>
</tr>
<tr>
<td>(3) take + permission</td>
<td>66.7</td>
<td>(10) give + influence</td>
<td>42.4</td>
</tr>
<tr>
<td>(4) take + score</td>
<td>57.6</td>
<td>(11) take + rhythm</td>
<td>39.4</td>
</tr>
<tr>
<td>(5) take + copy</td>
<td>51.5</td>
<td>(12) pay + sacrifice</td>
<td>33.3</td>
</tr>
<tr>
<td>(6) take + license</td>
<td>51.5</td>
<td>(13) give + damage</td>
<td>31.3</td>
</tr>
<tr>
<td>(7) take + certificate</td>
<td>51.5</td>
<td>(14) take + balance</td>
<td>27.3</td>
</tr>
</tbody>
</table>

5. Discussion

Proficiency Levels and Collocational Transfer

The result of the Acceptability Judgment Test on English verb + noun collocation showed that level B and level C group did not differ in their performance. Interestingly, although level B learners were judged to have higher English ability in TOEIC than level C learners, there was no difference between the two groups' response to the test of English collocation. In other words, level B learners have developed most of the language competence higher than level C learners, whereas the development of collocational competence was delayed. The delay of the development can, to some extent, be attributed to the delay of restructuring L1 phrasal mental lexicon to that of L2. As Gass (1984) suggests, if there is (what learners believe to be) a corresponding pattern in learners' L1, they would use that pattern longer than if there is not such a perceived correspondence in L1. Up until recently, the teaching of collocation was rather neglected in the language classrooms and therefore learners were not available of either positive or negative evidence of English collocations, which explains the long delay in restructuring the rules of lexical co-occurrence. Given the present data, both level B and level C groups scored extremely low on the items of condition (ii) and (iii). L1 collocational knowledge has thus interfered with the development of L2 collocation.

On the other hand, level A learners outperformed level B and level C learners in the judgment test. There is a big leap in the development of collocational competence from level B to level A, as is apparent from Figure 1. One interpretation for this result is that in EFL settings, development of collocational knowledge occurs at a later stage since it requires full language experience and flood of input. This is quite contrary to a child acquiring a first language. Unlike second language learners, children acquire lexical phrases or chunks before they notice the grammatical rules. Not having received enough input or an appropriate instruction in a language classroom, second language learners tend to create word combinations on their own, depending on their knowledge of L1 collocation and L2 grammar.

Even though level A group scored significantly higher than level B and level C groups, it
could still not reach the native standard. The fact that there was no interaction between learner groups and collocational condition reveals that even the highest proficiency group, scoring 900 on TOEIC on average, was influenced by negative transfer from their mother tongue.

To sum up the major findings and arguments of the relationship between proficiency levels and collocational transfer, 1) the development of collocational competence compared to other language competence is delayed due to the knowledge of corresponding L1 collocation, and 2) language transfer in the domain of lexical collocation remains constant at any level of proficiency.

Transferability of the Lexical Items

Not all the items in condition (iii) were equally transferable. One possible explanation of the transferability of the lexical items is how learners view the items in terms of language-specificity and language-neutralness, which Kellerman (1983) puts as the degree of "psycholinguistic markedness". Whether or not learners transfer the item depends on how marked its use in their L1 appears to them. Table 3 shows that the learners had difficulty in correctly rejecting the items with the verb give (ataeru). More than half the participants transferred the knowledge of L1 collocation with the verb ataeru, which means, according to Kellerman, many learners perceived these collocations to be language-neutral or unmarked. Compared to the polysemous verb toru (take) that has at least 10 different semantic-functional categories with more than 50 subcategories, the verb ataeru (give) has a narrower semantic field with only one main category and 4 subcategories (Kojien, 5th edition. 1998). The fact that ataeru has only one central meaning makes the connection with English equivalent give strong. Thus, it is likely that learners perceive all the noun + wo ataeru collocations to be the unmarked use in L1. As for the polysemous verb toru, learners do not always transfer the L1 word combination. It seems however implausible that learners perceived renraku + toru (take + contact) as language-specific (i.e. distant from the core meaning of the verb) and banansu + toru (take + balance) as language-neutral (i.e. closer to the core meaning of the verb). Close examination of the coreness of a verb is required to answer the question of transferability, as Biskup (1992) points out: "as far as collocations are concerned it would be interesting to determine the degree of coreness of certain verbs as these seem to be more difficult and see how it affects the performance of the learners" (p.92).

Another explanation of the transferability of L1 collocation is in the possibility of replacing the verb with the light verb suru, where the original verb meaning is lost. If the verb was replaceable with the light verb suru, that means the connection with its collocate is not so strong and therefore has low transferability. Examining the learners' response shown in Table 2, the items with replaceable verbs were on the whole less transferable (renraku (contact) + suru, yoyaku (appoint) + suru, copi (copy) + suru), while the items impossible to replace were highly transferable (banansu (balance) + suru*, dame-ji (damage) + suru*, gisei (sacrifice) + suru*,}
The present study has shown that the development of collocational competence takes place at a later stage of language learning, and that even the learners at the highest level were not irrelevant to negatively transferring the L1 knowledge to the English high-frequency verb + noun collocation. One interpretation for this result is the lack of positive and negative evidence in language classrooms, which allows learners to create deviant word combinations without noticing. The development of collocational competence seems to be the key to moving on to the higher level, for there was a big difference in this ability between the intermediate and the advanced learners. The high score of condition (i) and the low score of condition (iii) gives us the hint about what should be taught and what need not be taught: the items in condition (iii), which do not have direct translational equivalents in L1, are the ones that definitely deserve negative evidence. Raising learners' awareness of the incongruency of L1 and L2 lexical co-occurrence may be the first big step towards developing collocational competence.

There are some limitations to this study, one of which is the difficulty of measuring the learners' internal access to L1 phrasal mental lexicon, in other words, whether learners actually used their L1 knowledge when doing the judgment task. Further research is necessary to investigate the collocational usage specific to Japanese learners, by measuring the natural production of L2 in a large database.

References


Language Learning, 34, 115-132.


