Does preemption help adult second language learners learn verb transitivity?

第二言語習得におけるプリエンプションの効果

Takaaki Suzuki
鈴木 孝明
Kyoto Sangyo University
京都産業大学

Takehiko Yagi
八木 岳彦
Kyoto Sangyo University
京都産業大学

Abstract

Investigating the effects of preemption as one of the ways of unlearning overgeneralization errors, this study examined whether Japanese-speaking second language (L2) learners of English successfully learned transitivity alternations of novel verbs that denote manner of motion. Provided with intransitive and transitive novel verbs, low intermediate learners made transitivity errors even though they had not heard the alternative uses of the given verbs. However, these overgeneralization errors were infrequent in the cases where preemption cues were provided, suggesting that the L2 learners’ analytical abilities facilitate unlearning based on preemption. While previous L2 studies observed that preemption could not overcome the errors ascribed to negative transfer from L1, the present study demonstrates that preemption works for the overgeneralization errors that are not rooted in the learners’ L1 properties, and therefore, preemption is available as a learning mechanism or strategy in second language acquisition.
1 Introduction

As in the case of children acquiring a native language, second language (L2) learners make overgeneralization errors. One noticeable case in English is observed in the acquisition of transitivity alternations. L2 learners often misuse or misjudge a verb’s transitivity, which results in intransitive verbs in the transitive construction (*The dentist cried the child) and transitive verbs in the intransitive construction (*The picture painted) (e.g., Montrul, 2000; Oshita, 2000). Because a considerable number of English verbs are used both intransitively and transitively in the same forms (e.g., break, eat, and roll), this fact provides the learners with evidence that transitivity alternations with zero morphology are possible in English. However, the errors do not occur randomly. It has been reported that L2 learners are sensitive to the semantic constraints that regulate transitive alternations, suggesting that the learners’ alternation errors are the result of their overgeneralization of the semantic constraints (Montrul, 2000, 2001; Juffs, 2000).

Once learners make overgeneralization errors, logically, they need negative evidence to retreat from the errors. Although the negative evidence exists in the input of the L2 classrooms, Montrul (2000) claims that transitivity alternations in L2 acquisition are poverty of stimulus phenomena, because L2 learners acquire the linguistic knowledge regarding transitivity alternations in spite of the input deficiency. L2 learners do not usually encounter verbs in all of their possible syntactic frames in the input, and transitivity alternations are not thoroughly taught in classes; nevertheless, the learners’ errors become fewer as their general proficiency levels become higher (Montrul, 2000, 2001), and they learn correct alternations in the end (Juffs, 2000). One may ask how and why this is possible. Even though the improvement is often explained in terms of the learners’ access to Universal Grammar, which makes it possible for L2 learners to detect the relevant aspects of meaning for transitivity alternations (Juffs, 1996a, b; Montrul, 2000, 2001), it is still unclear how this is made possible.

This study investigates the effects of preemption as one of the ways of unlearning of overgeneralization errors of transitivity alternations in English. We examined whether Japanese-speaking L2 learners of English successfully learned the transitivity of novel intransitive and transitive verbs with the help of preemption cues but without explicit negative evidence. We tested low intermediate English learners for their learning and unlearning of transitivity alternations for manner of motion verbs.

2 Preemption

Preemption is a learning mechanism or strategy in which the learning of a particular form to express a particular meaning blocks the learning of another form to express the same meaning.
This idea of form-meaning learning has been given various names, such as the Principle of Contrast (Clark, 1987), the Uniqueness Principle (Pinker, 1984, 1986), and the Blocking Principle (Aronoff, 1976), to name a few. A similar idea has also been discussed in second language acquisition (e.g., Anderson, 1984; Kellerman, 1983). While most researchers discuss preemption in reference to the acquisition of the lexicon, Goldberg (1995) considers the possibility that preemption works for learning argument structure. For example, in referring to the event of a bird’s disappearance by a magician, assume that a learner expects the utterance (1) where the intransitive verb disappear is used transitively. Then, if the learner encounters the utterance (2) where disappear is used in the periphrastic causative construction, this fact may tell him/her that (1) is impossible.

(1) *The magician disappeared the bird.
(2) The magician made the bird disappear.

Direct causation is usually expressed by the lexical causative. In this sense, the utterance (1) should be used, if disappear is a transitive verb. However, the fact that the periphrastic causative in (2) is used in this situation suggests that the sentence in (2) is the only possible way to express the event, which preempts the incorrect use of (1). In this way, learners may learn non-alternating verbs in English without being given negative evidence.

Brooks & Tomasello (1999) are the first to have explored whether preemption works for children’s transitivity alternations. In an experimental setting, two novel verbs were taught to three age groups of children: 2.5 year-olds, 4.5 year-olds, and 6 to 7 year-olds. One of the novel verbs (meek) denotes directed motion such as lift, raise, and come, and the other (tam) manner of motion such as roll, bounce, and slide. The former semantic class does not usually alternate, while the latter does. Half of the children learned one of the novel verbs as intransitive and the other as transitive. For the other half of children, the transitivity assignment was reversed. Moreover, half of the children in each condition were assigned to the preemption condition, and the other half to the no-preemption condition. Only for the children in the preemption condition, the periphrastic causative of the intransitive verb was used (The doll is helping the car tam) in the context of the transitive construction, and the passive of the transitive verb was used (The flower is getting meeked) in the context of the intransitive construction, in addition to the original usages of the novel verbs. The periphrasic causative and the passive are considered preemption cues to block the overgeneralization errors. As predicted, children’s usages of the novel verbs showed greater transitivity mismatches for the manner of motion verbs than for the directed motion verbs for all but the youngest group of children, suggesting that 4.5-year-olds and 6- to 7-year-olds are sensitive to the semantic classes for transitivity alternations. The results also showed that the children overgeneralized intransitive verbs in the transitive construction more frequently than transitive verbs in the intransitive construction. Crucially, the effect of preemption was observed in the preemption condition of the oldest group of children, but not in the group of 2.5-year-olds and 4.5-year-olds. This finding suggests that preemption helps only older children (6- to 7-year-olds) learn verb transitivity in English.

Similar findings are reported by Brooks & Zizak (2002). They tested English-speaking
4-year-olds and 6- and 7-year-olds, using two novel verbs of manner of motion: one of them was introduced as intransitive and the other as transitive. As in the previous study by Brooks & Tomasello (1999), they used the periphrastic causative of the intransitive verb (*The rabbit is making the car duck*) and the passive of the transitive verb (*The house is getting tamed*) in the preemption condition. In addition, they examined another experimental condition: the English suppletive condition in which children heard not only the novel verbs but also familiar verbs (*swing* and *roll*) in place of these novel verbs. The results indicated that there was no effect of the two experimental conditions, compared with the no-preemption condition in the younger group of children. In terms of the older group of children, the effect of the preemption condition was significant, but there was no significant effect of the English suppletive condition. As in the case of Brooks & Tomasello (1999), only 6- and 7-year-olds benefitted from the preemption cues. These experimental studies on children suggest that preemption works only at the relatively later stage of first language acquisition.

In the research domain of second language acquisition, preemption is considered not to help L2 learners. The evidence comes from the research within the Principles and Parameters approach. White (1990/1991, 1991) investigated the L2 acquisition of English adverb placement by native speakers of French, assuming that the positions of an adverb are constrained by the Verb Movement Parameter (Pollock, 1989): SAVO order is grammatical in English (*Cats often catch mice*) but not in French, whereas SVAO is ungrammatical in English (*Cats catch often mice*) but not in French. As is observed in these cases, English and French indicate an opposite pattern, which is ascribed to different values for the same parameter. Since the parameter has alternative values and the phenomena present mutually exclusive patterns, supplying positive evidence should result in preempting the ungrammatical pattern. Trahey & White (1993) explored whether the positive evidence of English SAVO sentences preempted ungrammatical SVAO, by testing 54 French-speaking children aged 11 years. In a 2-week intensive course, these participants learned English without being given explicit instruction, error correction, practices, and exercises on the relevant points. The results of the post-tests, in comparison with the pretest, showed that the learners successfully learned SAVO order, but there was little or no decline in incorrect usage of SVAO.

Juffs (1996a, 1996b) investigated L2 learning of locative alternations in English by adult native speakers of Chinese and suggested that preemption did not work. In English, some locative verbs alternate (e.g., *Mary loaded the hay onto the truck/ Mary loaded the truck with hay*), while others do not (e.g., *John covered the bed with a sheet/ *John covered the sheet onto the bed*). The latter example involves a so-called container verb (e.g., *cover*), and the Chinese equivalent allows alternation. Assuming that a lexical parameter results in the difference in the locative alternations between English and Chinese, Juffs (1996a, 1996b) explored whether L2 learners were able to reset the value of the parameter. The results from production and judgment tasks indicated that even advanced learners of English had difficulty learning the ungrammaticality of the locative alternations involving the container verbs. This result suggests that resetting the parameter is not easy, and positive evidence cannot preempt the incorrect value...
of the parameter.\(^1\)

What is common in these L2 studies is that preemption is examined in terms of parameter setting within the Principles and Parameters Approach. The basic idea of preemption is compatible with the triggering of parametric values (Berwick, 1985) because only one value of the parameter should be retained when a learner recognizes the inconsistency between his/her current value of a parameter and the input data that present the correct alternative value. On the other hand, preemption is considered to play a crucial role in children’s language development within the domain-general approach of the Usage-Based Model (e.g., Tomasello, 1992, 2003). The L1 studies on preemption introduced above (Brooks & Tomasello, 1999; Brooks & Zizak, 2002) adopt this view to investigate whether children are able to acquire grammar from positive evidence alone. In this way, the basic idea of preemption is compatible with both acquisition theories, and this is also true for the research in second language acquisition (Rutherford, 1989). Thus, the present study takes a theory-neutral position, not aiming to test a particular acquisition theory or to research within a particular approach. Instead, we focus on the operation of preemption itself.

Another noticeable issue in the previous L2 studies is negative transfer from L1. The errors occurred primarily due to L1 transfer, for which preemption did not work (Juffs, 1996a, 1996b; Trahey & White, 1993). Juffs (1996a, 1996b) argued that L1 transfer persists until advanced stages of L2 acquisition and that preemption does not work in cases where negative evidence is logically required.\(^2\) However, two factors were confounded in the account of why preemption had no effect. One possibility is that preemption does not work in the course of acquiring a second language. Unlike L1 acquisition, preemption itself does not function as a learning mechanism or strategy in L2. The other is that negative transfer has such a strong effect that preemption cannot overcome the errors caused by the L1 transfer. In this case, it is impossible to judge whether preemption itself is working in L2. To tease apart these two factors, we need to investigate preemption in L2, independent of L1 transfer. If L2 learning takes place in accordance with preemption, its effect should be observed when there is no negative transfer from L1. To test this hypothesis, we examined L2 acquisition of transitivity alternations in English by native speakers of Japanese.

3 The study

The present study examines L2 learners’ learning and unlearning of transitivity alternations. There are two purposes of this experiment. One is to investigate whether L2 learners are sensitive to the semantic class (i.e., manner of motion) of transitivity alternations. Verbs of manner of motion (e.g., bounce, slide) and verbs of change of state (e.g., break, melt) are two

\(^1\) Juffs (1996a, 1996b) also tested causative psych verbs and observed that the same participants were able to reset the parameter that constrains the psych verb construction.

\(^2\) In other words, if a target grammar is a subset of L1 grammar, where the target grammar disallows what is allowed in the L1 grammar, preemption does not work. Juffs (1996a, 1996b) also argues that positive evidence suffices in cases where a target grammar is the superset of L1 grammar to account for the results on the psych verb construction in his experiment.
major classes of verbs that allow transitivity alternations in English. While it has been well attested that L2 learners are sensitive to the semantic class of change of state and they make transitivity errors (e.g., Montrul, 2000, 2001), L2 acquisition of the verbs of manner of motion has been largely unexplored. Because these two types of verbs constitute a semantically coherent class (Pinker, 1989), we predict that L2 learners are likely to alternate manner of motion verbs.

The main purpose of our research is to investigate whether preemption works in the absence of negative transfer from L1. We use periphrastic causatives and passives as the preemption cues to examine whether L2 learners disallow the alternations when they encounter these alternatives to transitive and intransitive verbs. We tested Japanese-speaking learners of English as a foreign language, and we focused on low intermediate learners because preemption should work in relatively early stages of language acquisition (Tomasello, 2003).

Japanese does not allow transitivity alternations with zero-derivation.3 In Japanese, intransitive-transitive distinctions are manifested either as lexically separate entities like English kill and die or as a root suffixed with different morphology forming intransitive-transitive pairs. For example, nig-e-ru ‘escape’ is intransitive, and its transitive counterpart is nig-as-u ‘let escape’. Likewise, sim-ar-u ‘close’ is intransitive, and the transitive version is sim-e-ru ‘close’. Notice that the same morpheme -e- is used to indicate both intransitive as in nig-e-ru and transitive as in sim-e-ru, which suggests that there is no productive rule of forming the pair: Jacobsen (1992, pp. 258-269) lists fifteen patterns of paired verbs with some idiosyncratic ones. This fact presents an ideal testing ground to investigate the effect of preemption in the absence of negative transfer. Because there is no transitivity alternation in Japanese, Japanese-speakers have no way to transfer their knowledge in L1 onto transitivity alternations in L2 English. They need to follow the positive evidence in the input of English to find the relevant aspect of the semantic constraints that allow the alternations, and then they apply it to unknown verbs. Therefore, the learners’ innovative uses of novel intransitive verbs in the transitive construction and of novel transitive verbs in the intransitive construction are considered to be the products in the course of learning the target grammar. We call the learners’ innovative alternations ‘transitivity errors’ in the context of the present study. We hypothesize that preemption has its own effects on L2 learners’ transitivity errors in the absence of negative transfer from L1 if preemption works in second language acquisition. Our prediction in the present study is that the learners’ overgeneralization decreases when they receive the preemption cues, as compared with the cases where there is no preemption cue.

3.1 Participants
Participants in the study were thirty-nine native speakers of Japanese studying English as a foreign language. They were third- to eighth-semester students majoring in English at a university in Japan. The learners’ first exposure to English in a formal setting was at the age of 12 or 13 in junior high school, but there were five learners who had started learning English before entering junior high school. Thirteen learners had studied abroad in English-speaking countries. The mean length of their stay was six weeks, ranging from four weeks or less (n = 11)

3 There are only a few alternating verbs in Japanese (e.g., hiraku ‘open’ toziru ‘close’, and zoosyoku-suru ‘increase’) (e.g., Okutsu, 1967), but they are considered to be exceptional cases.
to 10 months (n = 1).

Their general proficiency in English at the time of the experiment was considered to be at a low intermediate level (mean scores of TOEFL ITP = 436.3, SD = 19.38) or CEFR Level A2.4 As shown in Table 1, the participants were divided into two groups, the experimental group (hereafter called the preemption group) consisting of twenty-one learners, and the control group (hereafter called the no-preemption group) eighteen learners, with approximately the same proficiency level, which was confirmed beforehand.5

Table 1. Information on participants’ scores on TOEFL ITP

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number of participants</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preemption group</td>
<td>21</td>
<td>435.2</td>
<td>16.4</td>
<td>410-470</td>
</tr>
<tr>
<td>No-preemption group</td>
<td>18</td>
<td>437.6</td>
<td>22.8</td>
<td>407-477</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>436.3</td>
<td>19.4</td>
<td>407-477</td>
</tr>
</tbody>
</table>

3.2 Materials and procedure

All participants learned two novel verbs in English short stories, each of which consisted of approximately 300 words. Both verbs expressed manner of motion. The first verb clack was provided as an intransitive verb as in (3) with an illustration that depicted an elephant (called Gee) causing a ball attached to a long stick with a string to go up and down. The second verb tam was provided as a transitive verb as in (4) with an illustration that depicted a dog (called Max) causing a top-like toy attached to a tree with a string to sway from side to side (see Appendix). Arrows were used to indicate the action by agents and the movement of objects in the static pictures.

(3) The ball is dacking.
(4) Max tams the toy.

These verbs were used exclusively in one of the two short stories. The order of the presentation was counterbalanced across participants: approximately half of the participants read the story including clack first, and the other half read the story including tam first.

In the learning phase, these verbs were used six times in total in each story either in the present form or in the continuous form. In addition, the participants in the preemption group received the preemption cues shown in examples (5a) and (6a). The periphrastic causative in (5a) suggested that clack was not a transitive verb, and the learners’ encounter with this sentence should preempt (5b). In the same way, the passive sentence in (6a) indicated that tam was not an intransitive verb and was supposed to preempt (6b). These preemption cues were used twice in each story.

4 CEFR is the abbreviation of The Common European Framework of Reference for Languages: Learning, Teaching, Assessment. A2 is considered an elementary level, and this level is a part of Basic User.
5 The results of one-way ANOVA show that the effect of group was not significant, F(1,37) = .141, p = .709.
(5) a. Gee makes the ball dack many times in front of the visitors.
(5) b. *Gee dacks the ball.

(6) a. The toy is tammed several more times by Max.
(6) b. *The toy tams.

Twelve comprehension questions followed the story. In answering the comprehension questions in a written format, the learners were forced to use the novel verbs. Six out of twelve questions required the use of novel verbs: three agent-focused questions and three patient-focused questions. Examples of these questions are shown in (7) and (8) with the answering prompts.

(7) What was Gee doing during the trick? (agent-focused question for dack)
Gee ________________________________.

(8) What happened to the ball in front of the visitors? (patient-focused question for dack)
The ball ________________________________.

Note that an additional novel noun was also used in each story so that the learners encountered more than one unknown word.

A distractor story followed the learning phase. This story had the same format as the one in the learning phase but the story was shorter and written in Japanese. The participants were also asked to answer the comprehension questions at the end of the story, but no novel word was included in the distractor story.

In the testing phase, the learners were asked to recall the story provided in the learning phase and to answer eight comprehension questions with the help of four illustrations that depicted the parts of the story. Four comprehension questions out of eight were the test items: two agent-focused questions and two patient-focused questions as in (7) and (8) above.

The second learning phase presented the story including the other novel verb. The formats of the learning phase, the distractor story, and the testing phase for the second novel verb were exactly the same as the first one. The last page of the experimental packet was used for a questionnaire to ask about the participants’ background information.

The experiment was conducted in class, and the task was considered part of class requirements. The participants were asked to stay in the room until all participants finished. It took approximately 30 minutes to complete.

3.3 Coding
The learners' responses to the comprehension questions were classified into five categories: ‘correct’, ‘transitivity errors’, ‘avoidance’, ‘blank’, and ‘ungrammatical’. The responses were considered ‘correct’ if the verbs’ transitivity was appropriately used, including the use of periphrastic causative in the transitive context and the use of passive sentences in the intransitive.
context. The responses were considered to involve ‘transitivity errors’ if learners used the intransitive verb (dack) transitively and the transitive verb (tam) intransitively. Other types of errors were considered ‘ungrammatical’ and categorized separately from ‘transitivity errors’. ‘Avoidance’ is the case in which the learners did not use the novel verbs. If the learners did not answer the questions or did not complete their answers, these responses were categorized as ‘blank’.

4 Results

The production rate, which was calculated by subtracting ‘blank’ and ‘avoidance’ from the total responses, was 75.2% in the learning phase and 74.0% in the testing phase. There was no statistically significant difference between the phases, (t(38) = .531, p = .598). The overall production rate by the preemption group (82.4%) was significantly more frequent than the production rate by the no-preemption group (65.8%), t(34.96) = -3.010, p < .01. Since all participants produced both novel verbs at least once throughout the experiment, we included all participants in our analyses in which we computed the proportion of learners’ ‘correct’ responses and ‘transitivity errors’. Note that the effect of the order of the two novel verbs was not significant in terms of production rate, F(1,37) = .271, p = .606, ‘transitivity errors’, F(1,37) = .128, p = .772, and the interactions between any of these variables (p > .05).

4.1 Learning phase

The learners’ responses in the learning phase are summarized in Table 2. Separate repeated-measures ANOVAs with transitivity (Intransitive/Transitive) as the within-subjects factor and group (Preemption/No-preemption) as the between-subjects factor were performed for ‘correct’ responses and ‘transitivity errors’. In terms of ‘correct’ responses, the effect of group was significant, F(1,37) = 40.764, p < .001, with the correct responses in the preemption group being more frequent than those in the no-preemption group. There was no main effect of transitivity, F(1,37) = .107, p = .745, and the interaction between transitivity and group, F(1,37) = 3.863, p = .057. These results show that the learners in the preemption group benefitted from the preemption cues in learning the transitivity of novel verbs and that they learned the causativization of the intransitive verb and the passivization of the intransitive verb.

On the other hand, the analysis on ‘transitivity errors’ reveals an interesting interaction between transitivity and group, F(1,37) = 6.194, p < .05, as well as significant main effects of both transitivity, F(1,37) = 21.190, p < .001 and group, F(1,37) = 6.658, p < .05. Subsequent analysis with a simple main effect of transitivity indicates that the mean transitivity error rates for intransitive verbs were significantly higher than those for transitive verbs in the no-preemption group, F(1,37) = 23.35, p < .001, but not in the preemption group, F(1,37) = 2.42, p = .128. A simple main effect of group suggests that the mean transitivity error rates for the no-preemption group were significantly higher than those for the preemption group for intransitive verbs, F(1,37) = 6.84, p < .05, but not for transitive verbs, F(1,37) = 1.17, p = .286. The no-preemption group made the transitivity errors with the intransitive verbs 23.1% of the
time, which suggests that causativization of the intransitive verb is difficult without the preemption cues. On the contrary, their errors with the transitive verbs are remarkably low (1.9%), and this appears to be due to relatively high rate of ‘correct’ (55.6%) and ‘avoidance’ (29.6%).

Table 2. L2 learners’ responses in the learning phase

<table>
<thead>
<tr>
<th></th>
<th>Preemption group</th>
<th>No-preemption group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transitive</td>
<td>Transitive</td>
</tr>
<tr>
<td></td>
<td>(tam)</td>
<td>(tam)</td>
</tr>
<tr>
<td>Correct</td>
<td>105 (83.3%)</td>
<td>95 (75.4%)</td>
</tr>
<tr>
<td>Transitivity errors</td>
<td>8 (6.3%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Ungrammatical</td>
<td>1 (0.8%)</td>
<td>2 (1.6%)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>11 (8.7%)</td>
<td>24 (19.0%)</td>
</tr>
<tr>
<td>Blank</td>
<td>1 (0.8%)</td>
<td>5 (4.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>126 (100%)</td>
<td>126 (100%)</td>
</tr>
</tbody>
</table>

(In parentheses are the mean percentages of each category)

4.2 Testing phase

The results of the testing phase are shown in Table 3. A significant main effect of group was found for the ‘correct’ responses, $F(1,37) = 14.042, p < .005$. There was no significant main effect of transitivity, $F(1,37) = .034, p = .856$, and the interaction between transitivity and group, $F(1,37) = .000, p = .989$. The overall correct percentages in the testing phase became lower than those in the learning phase.

With regard to ‘transitivity errors’, a main effects of both group ($F(1,37) = 5.104, p < .05$) and transitivity ($F(1,37) = 17.378, p < .001$) were significant. These results indicate that the errors occurred in the no-preemption group more often than in the preemption group and that the errors with intransitive verbs were more frequent than those with transitive verbs. Unlike the results in the learning phase, the interaction between group and transitivity was not significant, $F(1,37) = 3.415, p = .073$, which is likely to reflect increasing errors with the intransitive verbs by the preemption group. Overall, however, we can say that the learners’ performance patterns are consistent across phases, with their performance in the learning phase being generally better than that in the testing phase.

Now, we focus on ‘transitivity errors’ to question types in the testing phase. Figure 1 shows the percentages of the errors for the question types that elicited the mismatched transitivity: agent-focused questions to intransitive *duck* (Agent-Intransitive) and patient-focused questions to transitive *tam* (Patient-Transitive). The errors with transitive verbs were extremely rare both in the no-preemption group (2.8% of all responses) and in the preemption group (0%). In contrast, for the errors with intransitive verbs, there was a sharp contrast between the two groups. The no-preemption group made the errors 47.2% of the time and the preemption group 11.9% of the time in response to the agent-focused questions, and this difference was statistically significant, $F(1,37) = 7.863, p < .01$. Moreover, Figure 1 shows that the preemption group was able to use intransitive *duck* in the periphrastic causative 57.1% of the time, whereas no one ever
used *dack* in the periphrastic causative in the no-preemption group.

**Table 3. L2 learners’ responses in the testing phase**

<table>
<thead>
<tr>
<th>Preemption group</th>
<th>No-preemption group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intransitive (dack)</td>
</tr>
<tr>
<td>Correct</td>
<td>58 (69.0%)</td>
</tr>
<tr>
<td>Transitivity errors</td>
<td>9 (10.7%)</td>
</tr>
<tr>
<td>Ungrammatical</td>
<td>6 (7.1%)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>6 (7.1%)</td>
</tr>
<tr>
<td>Blank</td>
<td>5 (6.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>84 (100%)</td>
</tr>
</tbody>
</table>

(In parentheses are the mean percentages of each category)

**Figure 1. Percentages of ‘transitivity errors’ according to question types and groups**

Having found that the ‘transitivity errors’ frequently occurred with the intransitive verbs, we also analyzed the learners’ individual performance on the intransitive verbs in the testing phase. We counted the number of participants who made ‘transitivity errors’ with intransitive *dack* at least once in answering to the agent-focused questions, and found that only three out of 21 learners made the errors in the preemption group, whereas 10 out of 18 learners made such errors in the no-preemption group, which reveals statistically significant difference, \( \chi^2(1) = 7.429, p < .01 \). In addition, 11 out of 21 learners were able to use the periphrastic causative for all agent-focused questions in the preemption group, whereas no one ever could use the periphrastic causative for agent-focused questions in the no-preemption group. These results also suggest the effects of the preemption cues in the case of intransitive verbs.
5 Discussion

As predicted, we found that L2 learners made transitivity errors for the manner of motion verbs. The performance by the no-preemption group showed that they made the errors 23.1% of the time in the learning phase, and 29.2% of the time in the testing phase, which suggests that L2 learners are not always conservative. They demonstrated transitivity alternations even though they had never heard of the transitive use of the novel intransitive verb and the intransitive use of the novel transitive verb in the input. This finding suggests that even low intermediate EFL learners are sensitive to the semantic class regarding the manner of motion just as with the verbs of change of state reported in the previous studies (e.g., Montrul, 2000, 2001) and that they are able to detect the semantically coherent classes that fall into transitivity alternations.

We also observed a directionality of errors. The L2 learners often used intransitive verbs in the transitive context, but they rarely used transitive verbs in the intransitive context. Interestingly, this pattern conforms to the general tendency observed in L1 English. Most previous studies on L1 transitivity errors highlight the incorrect use of intransitive verbs (e.g., Bowerman, 1974), and only some studies report that the errors are bidirectional (e.g., Lord, 1979, Marcotte, 2006). Even in Marcotte (2006), who emphasizes the bi-directionality of transitivity errors, frequency counts in her corpus data indicate that the incorrect use of intransitive verbs is much more frequent than that of transitive verbs. Our results are consistent with the previous L1 studies, and this fact implies the possibility that the underlying mechanism for learning verb transitivity may be similar in L1 and L2.

The fact that the L2 learners made transitivity errors with the manner of motion verbs presents a good testing ground to investigate the effect of preemption in L2 acquisition. As the results clearly indicate, the effects of preemption were observed for intransitive verbs. The participants in the no-preemption group used intransitive *dack* transitorily 47.2% of the time, but this type of errors was observed only 11.9% in the preemption group in the testing phase. This difference between the two groups suggests that Japanese-speaking low intermediate learners of English benefitted from the preemption cues. That is, the positive evidence that *dack* is used in the periphrastic causative construction preempts the learners’ expectation that *dack* is an alternating verb. The learners in the preemption group correctly learned the novel intransitive verb by the positive evidence alone without overgeneralization.

This observation is inconsistent with the suggestions of Trahey & White (1993) and Juffs (1996a, 1996b) who explored the effects of preemption on the errors caused by negative transfer from the learners’ L1s. These previous studies showed that the L2 learners’ errors rooted in their L1s are hardly overcome by the preemption cues. To investigate the effects of preemption independent of the negative transfer from L1, the current study examined Japanese-speaking L2

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6 It is not clear how to account for the L2 learners’ predominant errors on the novel intransitive verb because the accounts in the L1 studies are far from conclusive (e.g., Bowerman, 1982; Braine et al, 1990; Brooks & Zizak, 2002; Hochberg, 1986; Lord, 1979; Marcotte, 2006; Pinker, 1989).

7 Interestingly, L1 studies on Japanese-speaking children observed that the transitivity errors were bi-directional, either due to the dominant use of intransitive verbs by children and adults (Nomura & Shirai, 1997) or children’s sensitivity to semantic aspects as to unaccusativity (Suzuki, 1998).
learners. Because there is no transitivity alternation with zero-derivation in Japanese, the Japanese-speaking L2 learners of English are free from negative transfer with regard to transitivity alternations. Although they made transitivity errors, as the no-preemption group demonstrated, their errors must reflect their sensitivity to the semantic constraints that allow transitivity alternations in English and are not caused by linguistic properties that are rooted in Japanese. In this circumstance, the L2 learners did not make overgeneralization errors when they were provided with the preemption cues. This finding is evidence that preemption has its own effects in second language acquisition.

On the other hand, the effects of preemption were not consistent across transitivity. There is a sharp contrast between the preemption group and the no-preemption group in their transitivity errors with the intransitive verb, whereas such a contrast was not observed for the transitive verb. However, this asymmetry is ascribed to the fact that the L2 learners did not make transitivity errors with transitive *tam* in the first place. As Figure 1 shows, the transitivity errors with transitive *tam* by the no-preemption group occurred only 2.8% of the time in the intransitive context, which is in sharp contrast to the errors with intransitive *dack* (47.2%) in the transitive context. Preemption cannot be observed when there are few overgeneralization errors. The correct use of transitive *tam* (25.0%) in the no-preemption group is also remarkable, as compared with their correct use of intransitive *dack* (0%). These contrasts suggest that it is easier to passivize a transitive verb in the intransitive context than to causativize an intransitive verb in the transitive context.

A comparison of the obtained results by the L2 learners with those in the previous L1 studies (Brooks & Tomasello, 1999; Brooks & Zizak, 2002) reveals an important similarity and difference. Namely, the L2 learners’ performance is consistent with that of the older children aged 6 and 7 but not with that of the younger children aged up to 4. The effect of preemption was observed only in the older children in Brooks & Tomasello (1999) and Brooks & Zizak (2002). According to these L1 studies, the young children’s failure to learn appropriate transitivity may be due to their lack of their grammatical knowledge that associates intransitive with the passive and transitive with the periphrastic causative. However, the L2 learners in the present study had explicitly learned these constructions in the classroom settings. Although it is not clear whether the L2 learners are conscious of the transitivity statuses of the alternative constructions to the simple intransitive and transitive, their knowledge about the transitivity may have made it possible for preemption to work.

It is generally said that children learn better and adults learn faster (e.g., DeKeyser, 2003) in the sense that children achieve native proficiency and adults are good at explicit learning. Adult L2 learners can use their analytical abilities to capture structural properties of intransitive and transitive sentences, and they may correlate these sentence types with the alternative constructions. However, this does not necessarily mean that they can acquire the verb transitivity

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8 This may reflect the difference in the time of the introduction of these grammatical aspects in the educational settings. The periphrastic causative is introduced much later than the passive in the textbooks authorized by the Ministry of Education in Japan. We examined eight textbooks commonly used in junior high schools and in high schools in Japan and confirmed that passives are introduced in the textbooks used in junior high schools, whereas periphrastic causatives are used exclusively in the textbooks used in high schools.
in the end. The long-term effect of preemption is unknown from the results of this study. Nonetheless, it should be stressed that L2 learners cannot acquire linguistic knowledge without learning it in the first place. Thus, our findings on the effect of preemption in the initial learning of verb transitivity suggest the possibility that part of L2 grammar is acquired through preemption.

6 Conclusion

We conclude that preemption has its own place in second language acquisition based on the results that low intermediate Japanese learners of English were able to learn and unlearn transitivity alternations in English. While previous L2 studies observed that preemption could not overcome the errors that were ascribed to negative transfer from L1, the present study has demonstrated that preemption works for overgeneralization errors that are not rooted in the learners’ L1 properties. This finding indicates that preemption itself is available in L2 learning and that the learners’ analytical abilities should facilitate learning based on preemption. If this is true, learning grammar without negative evidence is possible at least in some respects of grammar learning. Although we must wait for future research to solve the questions regarding a long-term effect of preemption on transitivity alternations, we claim that preemption itself is available as a learning mechanism or strategy in second language acquisition.

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References


**Appendix**

**Story 1** A short story, including intransitive *dack*, and comprehension questions used in the learning phase. The preemption cues underlined were provided only with the preemption group. (Novel words are shown in bold for the sake of convenience.)

There is a strong elephant called Gee in Africa. Gee is 40 years old and likes to play in the water. Many of the elephants in his group like Gee. However, one day, Gee has a fight against another strong elephant named Zack because of a little thing. Gee gets hurt and collapses on a *fird*. Some of the elephants try to do something for Gee, but there is nothing they can do. Several hours later, the man who is a member of Animal Protection Group appears. He takes Gee to an animal hospital. Thanks to the treatment, Gee recovers from the injury. The man tries to get Gee back to the group, but the group does not accept him. Then, the staff hits upon the idea that Gee can be sent to a popular zoo in Japan.

A few months later, a staff member of the zoo decides to train Gee. Gee is trained every day in order to give a good performance for a show in Tokyo. It is difficult for Gee to do a trick. However, both the staff and Gee never give up. Finally, Gee can perform the trick. In the playhouse, the staff says to Gee, “*Yes, the ball is dacking!* Great! The ball is dacking!! The ball is dacking all around!!” Gee makes the ball *dack* several more times in front of the staff.

On the day of the show, many visitors come to the zoo. A visitor says, “Hey, look at the elephant!” “Oh, the ball is dacking! That’s amazing. The ball is dacking!! The ball is dacking...
all around!!" Gee makes the ball **dack** many times in front of the visitors. A lot of visitors are surprised at his performance. In the end, Gee is popular among people in Japan.

1. How old was Gee?
   Gee was _____________.

2. What did Gee do in the trick?
   Gee _________________.

3. What was the name of the elephant that fought against Gee?
   It was _________________.

4. What happened to the ball in front of the staff?
   The ball _________________.

5. Who took Gee to an animal hospital?
   ____________ did.

6. What did Gee do several times in front of the staff?
   Gee _________________.

7. Where was the zoo?
   It was in _____________.

8. What happened to the ball in the playhouse?
   The ball _________________.

9. Was it easy for Gee to do the trick?
   No, _________________.

10. What did Gee do in front of many visitors?
    Gee _________________.

11. Was Gee popular in Japan?
    Yes, _________________.

12. What happened to the ball in front of the visitors?
    The ball _________________.

**Story 2** A short story, including transitive tam, and comprehension questions used in the learning phase. The preemption cues underlined were provided only with the preemption group. (Novel words are shown in bold for the sake of convenience.)
Mary has a cool dog named Max. Max is 8 years old, likes milk, and dislikes vegetables. His character is very active. One sunny day in the morning, Max decides to have an adventure in the woods that are called "mysterious woods." The origin of the name comes from the fact that a lot of people never come back once they go into the woods.

At noon, Max leaves his house. All of a sudden, it starts to rain. Max runs to the woods as fast as he can in order to take shelter from the rain under a tree. Then, Max finds something strange by the tree. It is a toy which is attached to a rope from the tree. Max tams the toy. However, nothing happens. After a moment, Max tams the toy again. The toy is tammed several more times by Max.

It stops raining when Max is tamming the toy. Suddenly, Max feels sleepy and goes to sleep. When Max wakes up, he realizes that he is not in the woods. There are many things that Max has never seen before. The view is like heaven. Max thinks that he has died. Max walks around the world and sees a pattapa. One hour later, Max gets to a beautiful river and drinks water. After drinking water, Max finds the same toy as in the woods near the river. Max looks at the toy carefully and tams it. Nothing happens. Max tams the toy again. The toy is tammed several more times by Max. It starts to rain when Max is tamming the toy. Max feels sleepy and goes to sleep. Max wakes up and realizes that he is in his house. Max thinks himself, "It was just a dream."

1. What did Max dislike?
   Max disliked ____________.

2. What was Max doing in the woods when the rain stopped?
   Max ________________.

3. How was the weather in the morning?
   It was ____________.

4. What happened to the toy in the woods?
   The toy ________________.

5. Why was the wood called "mysterious woods"?
   Because a lot people ________________.

6. What did Max do after he looked at the toy carefully?
   Max ________________.

7. When did Max leave his house?
At ________.

8. What happened to the toy in the heaven-world?
   The toy ________________________.

9. Did Max drink water from the river?
   Yes, __________.

10. What was Max doing when it started to rain in the heaven-world?
    Max______________________.

11. Did Max have an adventure in the woods in the real world?
    No, __________.

12. What happened to the toy several times both in the woods and in the heaven world?
    The toy ________________________