The Role of Implicit Feedback on Korean College Students' Learning of the English Dative Alternation: Recasts, Primes, and their Combination

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Lee, Jiyong. 2010. The Role of Implicit Feedback on Korean College Students' Learning of the English Dative Alternation: Recasts, Primes, and their Combination. SNU Working Papers in English Linguistics and Language 9, 121-144. The purpose of this study is to investigate the effects of three types of implicit feedback—recasts, structural primes, and their combination—on Korean college students' learning of the English dative alternation. Forty Korean college students participated in the study. Participants were given pretests, immediate posttests, and delayed posttests on the dative construction over an eight-week period. Ten participants were each placed into a control, recast, prime, or prime + recast group. Each group was provided with the assigned feedback through interaction tasks with the researcher for three weeks. The study revealed that while structural primes had a beneficial effect on Korean learners' grammaticality judgments, neither type of feedback had a significant effect on their oral production. (Seoul National University)

Keywords: English dative alternation, recasts, structural primes, Korean college students

1. Introduction

Though there have been many been studies on the English dative alternation, the controversial issues on its syntax, semantics, and learner use have still yet to be settled. In regards to second language acquisition (SLA), the English dative alternation is a very interesting topic, especially for Korean learners. Korean L2 learners have difficulty acquiring the English dative structure because Korean has only prepositional dative verbs, whereas English has three types of dative verbs: 1) an alternating group that permits both the prepositional dative construction (PDC) and the double
object construction (DOC); 2) a non-alternating group that permits only the PDC; and 3) a non-alternating group that allows only the DOC.

In this respect, the purpose of the present study is to examine how certain types of implicit feedback affect Korean EFL learners’ grammaticality judgments and oral productions of the English dative construction. As Korean learners are expected to have difficulty using English dative verbs appropriately, recasts, structural primes, and their combination were given to learners in the study to find out if they had any beneficial effects.

What best predicts successful acquisition or learning of a second language? Among the studies that aimed to explain the mechanism underlying L2 learning, the Interaction Hypothesis proposed by Long (1996) focuses on the interaction between interlocutors and the negotiation of meaning for comprehensible input. It emphasizes that conversational interaction provides an ideal context for language learning.

Negative feedback, a part of conversational interaction, is also considered important in language learning (Long, Inagaki, & Ortega 1998, McDonough 2005, and Iwashita 2003). Izumi (2000) further states that negative feedback may be potentially beneficial in conversational interaction. As an example of negative feedback, recasts function as implicit negative evidence and assist L2 acquisition.

Also regarded as a subtype of conversational interaction, structural priming is suggested to lead to implicit learning (Chang, Dell, Bock, & Griffin 2000). Structural priming is defined as an “unintentional and pragmatically unmotivated tendency to repeat the general syntactic pattern of an utterance” (Bock & Griffin 2000: 177).

The research questions of the current study are as follows:

1) How do recasts, structural primes, and their combination influence Korean EFL students’ learning of the English dative alternation?

2) Which of the three types of feedback have a greater beneficial effect: recasts, primes, or both combined?
2. Previous studies

2.1 Recasts

Among various types of interactional feedback, recasts have been the focus of many classroom studies and experimental laboratory studies on L2 communicative interaction. Recasts are defined as an interlocutor's reformulation of a learner's previous erroneous utterance while the meaning is kept intact. They can be considered as an ideal type of L2 feedback due to its implicitness, unobtrusiveness, and ability to provide a correct model while putting focus on meaning.

One characteristic of recasts is that they provide learners with negative as well as positive evidence of the target language. They not only contain information about what is grammatical or acceptable (positive feedback), but also indicate any nontarget-like feature(s) in the learner's utterance (negative feedback). The learner notices the gap between the nontarget-like utterance and the following reformulation and eventually learns a particular target language form.

The body of experimental and quasi-experimental research on recasts in SLA is rapidly growing (Ammar & Spada 2006), and so are the number of studies that compare the implicit effects of recasts with those of other explicit types of corrective feedback. Ellis, Loewen, and Balam (2005) recruited 34 low-intermediate ESL learners of various backgrounds and investigated the differential effects of recasts and metalinguistic explanation. The results of an oral imitation test, an untimed grammaticality test, and a metalinguistic knowledge test on the acquisition of the past tense -ed revealed that those who received metalinguistic explanations outperformed those who were given recasts.

Similarly, Ammar and Spada (2006) compared the effects of recasts and prompts. They studied the use of third-person possessive determiners his and her by 64 sixth grade Montreal students taking an intensive ESL class. Participants were divided into three groups—recasts, prompts, and control—and each group was further divided into two subgroups: high proficiency and low proficiency. The researchers obtained results that the group receiving prompts outperformed the group receiving recasts on the
written and oral tests. Furthermore, the proficiency of the learners played a role in deciding the efficacy of the corrective feedback—while the high-proficiency groups benefited equally from the two types of feedback, prompts were more beneficial than recasts for low-proficiency groups.

So far, the focus of previous studies has been on the greater effect of explicit feedback over implicit feedback. However, these studies tend to overlook one of the benefits of recasts—that they do not interrupt the flow of the conversation. Despite previous findings indicating that explicit types of feedback are more beneficial than recasts, there is a need for a more systematic investigation on the advantages of the implicit effect of recasts. Therefore, the present study focuses on making comparisons between recasts and another implicit form of feedback that is also unobtrusive in the flow of the conversation—structural primes.

2.2 Structural primes

According to Branigan, Pickering, Liversedge, Stewart, and Urbach (1998), syntactic priming is the phenomenon whereby exposure to a sentence that has a particular syntactic structure affects the following syntactic processing of an otherwise unrelated sentence. Despite the availability of other semantically equivalent structures, the speaker tends to repeat the structure of the previous utterance.

In the case of experimental approaches to syntactic priming, many researchers have conducted studies with limited types of methods. Focusing on dative alternation (PDC and DOC) and transitivity alternation (active and passive sentence form), Bock (1986) discovered that structural priming occurred during picture description tasks.

On the persistence of structural priming, there are several studies that revealed conflicting results depending upon the type of task employed. Studying participants' written production of dative alternation in sentence completion tasks, Branigan, Pickering, and Cleland (1999) concluded that priming effects observed in adjacent primes and targets rapidly decayed when even one sentence intervened between the prime and target. On the other hand, Bock and Griffin (2000) found that structural priming in spoken
production was long-lasting, lasting over 10 intervening sentences.

Written or spoken production from each individual in experimental studies was collected in the studies mentioned so far. In contrast, the following two studies investigated whether structural priming occurred in dialogues: Bräunig, Pickering, and Cleland (2000) and Cleland and Pickering (2003). Because these studies needed to find out whether speakers would coordinate their utterances according to the syntactic structure of their interlocutors' utterances, a different technique needed to be employed to ensure that speakers would receive primes through interaction.

Accordingly, Bräunig et al. (2000) devised a technique termed 'confederate-scripting technique' in which two types of participants—a confederate of the study who received a script containing primes and an ordinary participant—took turns describing a set of picture cards in front of them and finding the cards that the other person described. As a result, Bräunig et al. (2000) revealed that structural priming occurred for dative alternation and Cleland and Pickering (2003) obtained positive outcomes for complex noun phrases containing a relative clause (e.g. the square that is red). Thus, it can be said that speakers in a dialogue “converge upon coordinated structures for their contributions” (Bräunig et al. 2000: B14).

In contrast to cognitive linguistics, there are only a few studies exploring structural priming in SLA research. The reason behind this is that SLA researchers have just begun to focus on the pedagogical implications of structural priming since the early 2000s. Three related studies will be discussed.

First, McDonough (2006) tested whether 52 English L2 graduate students of various L1 backgrounds would improve in terms of dative alternation when presented with syntactic primes. She employed a baseline-priming-postpriming design and a modified confederate-scripting technique. McDonough concluded that though there were priming effects on FDCs, there were no such effects on DOCs.

Kim and McDonough (2008) conducted a preliminary investigation on the relationship between syntactic priming and Korean learners' passive productions. They recruited 76 Korean EFL undergraduate students, each of with whom the researcher met for
sixty minutes. Results indicate that when describing pictures, Korean learners used more passive constructions when their interlocutor (the researcher) provided them with prompts containing the same verbs as in the target sentences.

In McDonough and Mackey’s (2008) study, 46 Thai undergraduate students were tested to find out whether priming would have a beneficial effect on ESL question development. Participants took a pretest, posttest, and a delayed posttest over a seven-week period. McDonough and Mackey discovered that there was a positive relationship between priming and ESL question development—those who frequently produced advanced questions after exposure to primes tended to move up to a higher stage of question development.

At this point, it is necessary to verify the significance of structural priming. Smith and Wheeldon (2001) claimed that syntactic priming promotes fluency because it “serves to decrease speakers” processing effort and thereby makes speaking “easier, faster, and more fluent” (Ferreira & Bock 2006: 2). Brennan, Pickering, and Cleland (2000) maintain that speakers can reduce the computational load associated with the syntactic processing of their contributions by coordinating syntax in dialogues. In short, structural priming leads to increased fluency due to the ease with which the speakers feel during conversation.

Priming is also conducive to implicit learning. In order for priming to lead to learning, Ferreira and Bock (2006) argue that it needs to have a long-term effect on performance and reflect speakers’ current state of knowledge. Bock and Griffin (2000) provide evidence for each of these requirements: 1) priming effects last over 10 intervening sentences and 2) “structures that were in general less preferred or common exhibited greater structural priming relative to a neutral baseline, whereas structures that were in general more preferred or more common exhibited less structural priming relative to a neutral baseline” (Ferreira & Bock 2006: 5).

2.3 Dative Alternation

According to Chomsky (1965), children acquire language by constructing an internal grammar by testing hypotheses about
possible grammatical rules, combining language input with their innate linguistic knowledge. Braine (1971) claimed that in the process of hypotheses testing, children need to receive data that indicate not only what the correct form of a language is, but also what is incorrect or ungrammatical. In order for the learner to avoid making overgeneralizations of a certain rule, negative evidence is essential.

Despite the acclaimed importance of negative evidence, however, Brown and Hanlon (1970) asserted that children are not much corrected nor misunderstood when they produce ungrammatical sentences. Braine (1971) added that children do not seem to be influenced by the sparse corrections they receive and consequently, negative evidence in the input directed to children is in fact rare.

From the lack of negative evidence arises a learnability paradox (also known as Baker's paradox), for children are bound to make overgeneralizations that should have been restricted by negative evidence. In the case of the English dative construction, children are not given sufficient information that informs them of the ungrammaticality of examples in (1):

(1) a. *John whispered Sue a secret.
   b. *I donated the library a book.
   (Groen, Pinker, & Hollander 1989: 204)

When a child receives input that contains a dative construction either in the PDC or DOC, the learner is liable to extend the use of dative verbs that only require the prepositional forms to ungrammatical DOCs as in (1). Without negative evidence, how can a learner eventually realize that certain dative verbs cannot alternate between the PDC and the DOC?

Mazurkewich and White (1984) suggested an approach to this learnability paradox, which was to be included in Pinker (1984)'s 'criteria-governed productivity hypothesis.' According to these researchers, learners identify phonological, morphological and semantic criteria defining the lexical classes that fit to a certain rule with lexical exceptions. By doing so, learners eventually limit their overgeneralizations and cease to make ungrammatical utterances.

Under the 'criteria-governed productivity hypothesis', the semantic
criterion for verbs that can dativize is that “the first referent of the first (indirect) object must be the prospective possessor of the referent of the second object” (Gropen et al. 1989: 206).

(2) a. John gave/*washed Mary a car.
   (3) a. I sent a package to the boarder/the border.
       b. I sent the boarder/*border a package.
       (Gropen et al. 1989: 207)

Under the semantic criterion, the sentences above are ungrammatical because 1) the washing action does not indicate that Mary possesses the car, and 2) though an animate object such as the boarder may possess a package, an inanimate object—the border—is incapable of such an act.

The most fatal problem the ‘criteria-governed productivity hypothesis’ faces is the existence of ‘negative exceptions’ to the semantic criterion.

(4) a. John threw Bill the box.
       b. Sam told John the story.
(5) a. *John pulled Bill the box.
       b. *Sam whispered John the story.
       (Gropen et al. 1989: 239)

Negative exceptions—verbs that should allow either the PDC or DOC but do not—are presented in (14). Verbs that are not permitted to alternate but actually do—positive exceptions—are not problematic, for positive evidence alone is sufficient to the learner. However, there is no way a child will be able to understand how negative exceptions can exist under the ‘criteria approach.’

In order to provide a solution to this problem, Gropen et al. (1989) and Pinker (1989) proposed a theory suggesting that the dative rule is an operation that takes the structure X causes Y to go to Z as its input and produces the structure X causes Z to have Y’ as its output. That is, a possessor-possessed relation is inherent to the output of the dative rule.

For the newly proposed theory to account for negative exceptions, it needs to place constraints on itself. Thus, Pinker
(1989) states that the dative rule functions at two levels: the ‘broad-range’ dative rule and the ‘narrow-range’ dative rule. The former is a necessary condition on forms, that verbs implying a cause of possession may undergo dativization. The latter is a sufficient condition in that each narrow rule “applies to narrow sets of verbs with similar kinds of meanings” (Groen et al. 1989: 243). If a verb is included in a certain set of verbs to which narrow-range rules apply, then it is automatically permitted in the DOC.

3. Method
3.1 Participants

Forty Korean college students (11 females, 29 males) were recruited from Seoul National University. The ages of the participants ranged from 19 to 28 at the time of testing. Their TOEFL (Test of English Proficiency developed by Seoul National University) scores ranged from 550 to 700, indicating that the participants are learners of low-intermediate to intermediate proficiency.

Participants were randomly categorized into four groups: control, recast, prime, prime + recast groups. The last group was included in order to find out whether recasts and structural primes would have superior effects when combined than when they were given separately to the participants.

Only one person (the researcher) interacted with the participants during the entire study—as all feedback had to be strictly controlled for all groups, choosing only one interlocutor was considered necessary to avoid any conditions that would bring an interlocutor effect.

3.2 Target structure

The target structure of the study was the English dative alternation. There are two ways to express dative constructions—some verbs can emerge in both the PDC and DOC while others can emerge in only one construction. This restricted selectivity of certain dative verbs poses a problem for L2 learners of English as it is known in the literature that both L1 children and L2 learners have difficulty
distinguishing these dative verbs and consequently overgeneralize their uses.

The verbs chosen for the study can first be largely divided into two groups: alternating verbs and non-alternating verbs. Three subclasses in the alternating group were chosen from the pool of subclasses to which narrow-range rules apply, as defined by Pinker (1989) and Levin (1993). These three subclasses contrast with those in the non-alternating group in terms of selectivity of events. This subtle semantic difference is expected to make it difficult for learners to distinguish non-alternating verbs from alternating dative verbs.

Another distinguishable factor between alternating and non-alternating dative verbs of the study is that verbs that appear only in the DOC or those used in idiomatic expressions all concern the concept of possession because they involve ‘prior possession’ and ‘inalienable possession’, respectively. They cannot be used in PDCs because the verbs’ indirect objects are not true recipients or goals, for ‘there is no transfer in the usual sense, unlike the situation with alternating verbs’ (Mazurkewich & White 1984).

3.3 Design

The study was conducted over an eight-week period. On the first day, participants completed a questionnaire requiring personal background information and then took a speeded grammaticality judgment test that served as one of the pretests. On their second meeting with the researcher, they took the other half of the pretest—an oral production test. For the following three weeks participants engaged in interaction tasks with the researcher, once a week for thirty minutes. After the last treatment session on week 5, they immediately took a grammaticality judgment test and an oral production judgment test. Three weeks after the immediate posttest, they were called in for the last time to take the delayed posttests—again, a grammatical judgment test and an oral production test.

The amount of time allowed for the researcher to spend with each participant per week was approximately 30 minutes. During test sessions, all participants were given five minutes to complete the grammaticality judgment test and the remaining time for the
oral production test.

3.4 Materials

A total of 210 pictures used in the oral production tests and interaction tasks showed 1) a picture of a certain situation, 2) a text of approximately one to two sentences describing the situation of the picture, and 3) word cues specifying the (subject for tasks only), verb, indirect object, and direct object in a vertical order written below the text. The word cues were presented to the participants in order to have tight control over their production, for it was expected that some participants would avoid producing the dative construction altogether.

For each test of the study, 20 target pictures and 10 fillers were used. For Tasks 1 and 2, 64 dative pictures and 32 fillers were used. Because participants had to complete the interaction task and immediate posttests in Week 5, the time allowed for the interaction task that week could not be as long as that in the other two treatment sessions. Consequently, 16 dative pictures and 8 fillers were used for Task 3.

3.5 Treatment

Three types of nearly identical interaction tasks were used during treatment sessions. The name of the tasks was called “Finding Out about a Mutual Friend.” It was assumed that the researcher and the participants shared mutual friends, Kathy and David, and one side had more information about one friend than the other. Thus, the researcher and the participant would be interacting with each other to learn more about a certain friend. Information would be obtained by a series of questions and answers. This kind of activity was used to ensure that participants would implicitly learn the English dative alternation through interaction consisting of a series of questions and answers, a type of interaction that commonly occurs in communicative contexts.

During the three treatment sessions with the prime and prime + recast groups, the researcher also had a set of pictures of ‘a mutual friend’ and first asked the participants yes-no questions so that her
production would function as structural primes to the participants. The only difference between the two groups was that the prime + recast group also received recasts when they produced ungrammatical utterances in addition to primes.

The control and recasts groups received different feedback from the prime and prime + recast groups. They did not receive any kind of positive input on the dative construction, unless the recasts for the recast group also functioned as positive evidence. In other words, the researcher did not have a set of pictures to read from as her interlocutors did; she merely provided participants with answers to the yes-no questions (and recasts to the recast group).

3.6 Tests

In week 1, a grammaticality judgment pretest comprising 20 target questions and 10 fillers was administered. The same format was employed for the two posttests. None of the verbs used in each test overlapped with each other, though all of them appeared once during treatment sessions.

The items used in the grammaticality judgment tests consisted of pairs of sentences that contained the same verb in the PDC and DOC. Participants were asked to check either O or X next to the pairs according to their grammaticality—O if grammatical, X if ungrammatical. Scoring was done so that one correctly answered question equaled 1 point and one incorrect answer equaled 0. After these raw scores were added up, they were converted into a percentage. The answers to the filler questions were disregarded. Five minutes were given to the participants to complete the tests.

Each oral production test comprised a total of 30 pictures: 20 target forms and 10 fillers. Below each picture, a text consisting of one to two sentences and a vertical list of the verb, indirect object and direct object were presented. Participants were asked to read the text aloud and make a sentence in the imperative form (instead of an interrogative as in the interaction tasks) using the word ones.

For scoring, 1 point was given for a correct construction, 0 for an incorrect construction, and 0.5 was deducted for each misused preposition (to versus for). Errors other than the dative alternation were disregarded. The sum of raw scores for each participant was
converted into a percentage. Though there was no time limit for the oral production tests, the tests lasted approximately 20 minutes on average.

4. Results

Table 1 contains the mean scores and standard deviation of each group over time (pretest, immediate posttest, delayed posttest). According to the descriptive statistics, all experimental groups except for the control group performed better in the immediate posttest, with the prime and prime + recast group showing mean gains of at least 8 points. The scores of the delayed posttest, on the other hand, show that the performances of the three experimental groups fell back into a state similar to that of the pretest.

Table 1. Means and Standard Deviations of the Grammaticality Judgment Tests

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<th></th>
<th>Pretest</th>
<th>Immediate posttest</th>
<th>Delayed posttest</th>
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<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
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<tr>
<td><strong>Control</strong></td>
<td></td>
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</tr>
<tr>
<td>(n=10)</td>
<td>64.50</td>
<td>4.97</td>
<td>59.00</td>
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<tr>
<td><strong>Prime</strong></td>
<td>58.50</td>
<td>11.32</td>
<td>66.50</td>
</tr>
<tr>
<td>(n=10)</td>
<td></td>
<td></td>
<td>8.18</td>
</tr>
<tr>
<td><strong>Recast</strong></td>
<td>62.50</td>
<td>7.17</td>
<td>63.00</td>
</tr>
<tr>
<td>(n=10)</td>
<td></td>
<td></td>
<td>6.32</td>
</tr>
<tr>
<td><strong>Prime + Recast</strong></td>
<td>61.00</td>
<td>7.38</td>
<td>69.50</td>
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<tr>
<td>(n=10)</td>
<td></td>
<td></td>
<td>6.43</td>
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<tr>
<td><strong>Total</strong></td>
<td>61.63</td>
<td>8.04</td>
<td>64.25</td>
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<td>(n=40)</td>
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<td>8.36</td>
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<td>59.75</td>
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<td>8.91</td>
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Results of a 4 ×3 two-way (Group×Time) mixed analysis of variance (ANOVA) revealed that there was a marginally significant interaction effect between the three grammaticality tests and the treatment groups, F(6, 72)=2.158, p=0.067. According to the results of an analysis run through ezANOVA, a free program that is part of R, there was a significant difference between the control group
and the prime group in the immediate posttest scores, \( t(18) = 2.27, p<0.0358 \); and between the control group and the prime+recast group in their immediate posttest scores as well, \( t(18) = 3.40, p<0.0032 \). Furthermore, the prime+recast group significantly differed from the recast group in the immediate posttest, \( t(18) = 2.28, p<0.0351 \). There were no significant differences in the immediate posttest between the prime group and recast group, \( t(18) = 1.07, p=0.2986 \); and between the prime+recast and prime group, \( t(18) = 0.3741 \).

These results indicate that in the immediate posttests, the prime and prime + recast groups outperformed the control group. Though there was no significant difference between the prime group and the recast group, the two facts that 1) the prime and prime + recast groups surpassed the control group and 2) the prime + recast group significantly exceeded the recast group lead to a tentative conclusion that in the case of participants' grammaticality judgments, structural primes were more effective than recasts.

Table 2 presents the descriptive statistics of the oral production test scores over time. All four groups showed an increase in their scores from the pretest to the immediate posttest, especially for the recast and prime + recast groups. While the prime group obtained the same delayed posttest scores as their immediate pretest scores, the delayed posttest scores of the recast and prime + recast groups fell by several points. The delayed posttest scores of the control group also showed little difference with their immediate posttest scores.
Table 2. Means and Standard Deviations of the Oral Production Tests

<table>
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<tr>
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<th>Pretest</th>
<th>Immediate posttest</th>
<th>Delayed posttest</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Control (n=10)</td>
<td>52.25</td>
<td>7.02</td>
<td>58.75</td>
</tr>
<tr>
<td>Prime (n=10)</td>
<td>58.00</td>
<td>13.37</td>
<td>63.75</td>
</tr>
<tr>
<td>Recast (n=10)</td>
<td>52.50</td>
<td>11.49</td>
<td>70.50</td>
</tr>
<tr>
<td>Prime+Recast (n=10)</td>
<td>57.00</td>
<td>17.59</td>
<td>73.00</td>
</tr>
<tr>
<td>Total (n=40)</td>
<td>54.94</td>
<td>12.70</td>
<td>66.50</td>
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According to the $4 \times 3$ two-way (Group×Time) mixed ANOVA results, there was a main significant effect of time, $F(1,706,61.415)=15.827$, $p=0.000$. Contrasts revealed that there were three significant differences in the test scores: 1) between the pretest and the immediate posttest, $F(1, 36)=23.397$, $p=0.000$; 2) between the immediate posttest and the delayed posttest, $F(1, 36)=6.631$, $p=0.014$; and 3) between the pretest and the delayed posttest, $F(1, 36)=11.740$, $p=0.002$. In the case of the treatment group variable, however, there was no main significant effect, $F(3, 36)=1.451$, $p=0.244$. Neither was there a significant interaction effect between the treatment groups and time, $F(5,118, 61.415)=1.383$, $p=0.242$.

Put simply, when the groups were regarded as a whole, the immediate posttest score was significantly higher than the other two test scores and the delayed test score was significantly higher than the pretest score. However, there were no significant differences between the four groups. Moreover, the non-significant interaction between time and treatment group imply that interactional feedback did not have any significantly different effects over time.
5. Discussion

As the present study revealed that structural primes had a clear advantage over recasts on the grammaticality judgment tests, it is crucial to find out the possible reasons that lead the study to such a conclusion.

5.1 Structural primes versus recasts

5.1.1 Structural priming and implicit learning

Various researchers such as Bock and Griffin (2000) and Ferreira and Bock (2005) have claimed that structural priming conduces implicit learning. One approach that attempts to explain the mechanisms of structural priming asserts that structural priming “might reflect the operation of an implicit-learning process” (Ferreira & Bock 2006: 3). Other evidence that directs toward learning is that structural priming is relatively long-lasting and responds to the speaker’s current state of knowledge. Furthermore, the learning that occurs is implicit because speakers are neither aware nor paying explicit attention to the target feature while performing a task (Bock, Loebell, & Monez 1992, Seger 1994).

In regards to the present study, participants satisfied all the conditions that claim to entail implicit learning—though they may have guessed along the way, they were not informed of the purpose of the study nor the type of feedback they would receive during treatment sessions. Nonetheless, the groups that received structural primes showed significant improvement on the grammaticality judgment tests, supporting the view that structural priming results in implicit learning.

5.1.2 Complexities of recasts

Despite the asserted benefits of recasts in the literature, it is not the case that recasts always work. This section provides potential reasons why recasts did not work for the participants in the present study.

First, recasts can vary across the extent to which they are explicit or implicit. In order for recasts to work, learners must notice the
gap between the nonnativelike utterance and the reformulation. According to Gass and Selinker (2008: 256), “for recasts to work as negative evidence, learners have to recognize their corrective force, which is more likely if the recasts are of the explicit kind.”

Nearly all of the recasts employed in the study, on the other hand, were implicit—they were mostly interrogative in form and were intended not to break the flow of the conversation or embarrass the participant who made the erroneous utterance. Consequently, recasts may not have had a positive effect on the participants.

A second factor could be the ambiguity of recasts. As Lyster (1998) revealed in his study on recasts provided by teachers in immersion classrooms, recasts co-occurred with noncorrective repetitions, topic-continuation moves, and signs of approval. Thus, it was difficult for learners to recognize the kind of feedback they received from their interlocutors. In the present study, there is a possibility that learners mistook the interrogative-formed recasts for confirmation checks or topic-continuation moves.

Another crucial factor in the interpretation of recasts is the proficiency level of the participants. According to Ellis and Sheen (2006), “the key to learner factor is developmental readiness—that is, the extent to which individual learners have reached a stage of development that will enable them to incorporate the target forms addressed in the recasts into their interlanguage.” In other words, recasts will only help those whose English proficiency reaches a certain level. Therefore, the present study could have obtained more positive findings of recasts if the participants possessed higher levels of English proficiency.

As Ellis and Sheen (2006) asserted, another explanation is that recasts show differential effects according to the linguistic target. In Spanish, recasts worked better for number agreement than gender agreement (Leeman 2003). In Japanese, Iwashtta (2003) discovered that recasts had a larger effect for the ze-verb form than initial locative constructions. It might be that recasts do not work well for the English dative alternation, especially if it is the case in which you must implicitly learn how to “undo” an overgeneralization of a certain form.
5.1.3 Feedback during treatment sessions

During the three weeks in which the participants completed interaction tasks with the researcher, different types of feedback were provided to each experimental group. Due to the nature of the interactional feedback employed in the study, there was a difference in the amount of feedback given to the recast group and the groups that received structural primes.

Though every participant was given the same set of pictures during interaction tasks so that the amount of output was equal for everyone, the input they received differed according to the group to which the participant belonged. While the prime and prime + recast groups were presented with structural primes that equally amounted to their output, the recast group received input only when they produced incorrect sentences. As recasts merely function as positive evidence if they go by unnoticed, the amount of positive evidence provided to the experimental groups would greatly differ depending upon the type of feedback they received. In short, the difference in the type and consequently the amount of feedback could have contributed to the greater effect of structural primes over recasts.

5.2 Grammaticality judgment test versus oral production test

5.2.1 Grammaticality judgment test

Further explanation should be given on why significant differences between the two groups were shown only on the grammaticality judgment test and not on the oral production test.

In the present study, primes were more beneficial than recasts on the grammaticality judgment test. This suggests that the two types of feedback had different effects on learners’ grammaticality judgments—though recasts failed to bring positive results due to several probable complexities, primes had a beneficial effect. This indicates that this implicit way of learning a grammatical structure helps learners correctly judge the grammaticality of a language.

Such a claim is supported by Winitz’s (1996) study, in which
college students enrolled in a Spanish course took a grammaticality judgment test. According to the results of the study, students who were in the implicit grammatical instruction classes outperformed those in the explicit grammatical instruction classes on grammaticality judgments. As structural priming falls under the category of implicit instruction, it is only logical that the groups which received primes in the present study performed well on the immediate grammaticality judgment posttest.

The format of the test can also explain the contrasting results of the grammaticality judgment test and the oral production test of the present study. In the present study, the grammaticality judgment test was designed in the simplest dichotomous form—participants were to state whether a given sentence was acceptable or not. Because a ‘not sure’ answer was not included as an option, it is highly possible that a considerable amount of guessing on the part of the participants was involved. Moreover, participants were not required to make any corrections to the sentences that they regarded ungrammatical. In other words, the experimental groups may have scored higher on the immediate grammaticality judgment posttest due to fortunate guesswork, not accurate knowledge of the English dative alternation.

Another problematic issue regarding the format of the study’s grammaticality judgment test is the time allotted for each person to complete each test. According to Han and Ellis, “allowing learners to produce judgments in their own time encourages them to access whatever explicit knowledge of the target structure they possess” (1998: 11). This claim is supported by Bialystok’s (1979) study, in which 117 high school students and adult learners of French were presented with grammatical and ungrammatical French sentences on tape. They were to judge sentences under two conditions—spontaneous (three seconds) and delayed (15 seconds). Bialystok discovered that participants relied on implicit knowledge when judging sentences in the spontaneous condition, but also referred to explicit knowledge in judging incorrect sentences when there was sufficient time.

Unlike Bialystok’s (1979) study which presented one item at a time, all 30 sentences of the present study’s grammaticality judgment test were shown on a single sheet of paper to the
participants in the present study. Participants were allowed to complete the test within 5 minutes, allotting time for each sentence in the way that suited them. Accordingly, they could have skipped the difficult sentences only to go back to them later to think their answers through.

5.2.2 Oral production test

An interesting point about the results of the study is that none of the feedback showed significant effects on the oral production test. The most likely cause would be that the control group also showed gains in the immediate posttest scores as well as the other experimental groups. There are two possible explanations that may have brought such a result.

First, the design of the picture sets given to the participants for output could have been biased towards the production of the DOC. All word cues were listed vertically in the order of verb, indirect object, and direct object. The participants had to tap into their implicit knowledge for instant production of the active construction immediately following a verbal reading of a corresponding text. Some might have felt pressured into simply reading aloud the word cues in the order that they saw, producing a DOC.

Second, all participants were required to perform interaction tasks which were very similar to the format of the oral production tests. Three weeks of practice and increased familiarity with the tasks may have helped all groups, even the control group, to outperform their pretest scores on the immediate posttest.

5.2.3 Language learning process

A final speculation based on cognitive accounts of SLA can be made. According to Anderson’s (1983) ACT theory, a skill is acquired via a process called proceduralization, by which declarative knowledge (knowledge as a set of facts) transitions to procedural knowledge (knowledge about how to do things). In regards to classroom L2 learning, learners begin with “declarative knowledge of grammatical rules (usually supplied by the teacher), which is gradually proceduralized, resulting in the ability to use
the foreign language without thinking” (Ellis 1993: 94). This transition takes place in three steps: a declarative, associative, and finally an autonomous stage in which production rules are executed automatically and implicitly. It is said that errors usually appear in the associative stage, and that practice is the mechanism by which this transition occurs.

In light of this view, it is possible that the participants of the study were in the process of proceduralization and had not yet reached the autonomous stage at the time of the immediate posttest. It can be inferred that the three weeks of interaction with the researcher were too short for proceduralization to take place. As a result, the experimental groups that received feedback could not have shown significant differences from the control group on the immediate oral production posttest.

6. Conclusion

The pedagogical implications of the study are twofold. First, structural primes bring positive effects to Korean adult learners in an EFL situation. The English dative alternation is difficult for language learners to acquire because there are semantic, morphological, and phonological constraints that apply to English dative verbs. In an EFL environment in particular, it is difficult for Korean learners to notice the three constraints and fully master the correct usages of English dative verbs. As the study discovered, positive input in the form of structural primes during interaction can help learners find out how English dative verbs are put in use, subject to the constraints.

The second implication of the study is that negative feedback must be noticed by the learner to be beneficial. Recasts, which can vary in the degree of implicitness/explicitness, should be explicit enough so that learners are able to notice that they are being corrected. Because recasts are only provided when learners produce ungrammatical sentences in their output, their reduced function as positive evidence is not sufficient enough to help learners. Therefore, more explicit types of feedback would be more helpful to learners, especially those whose proficiency levels are low.
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