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NEGATIVE FEEDBACK AND POSITIVE EVIDENCE IN TASK-BASED INTERACTION

Differential Effects on L2 Development

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This study examines the role of task-based conversation in second language (L2) grammatical development, focusing on the short-term effects of both negative feedback and positive evidence on the acquisition of two Japanese structures. The data are drawn from 55 L2 learners of Japanese at a beginning level of proficiency in an Australian tertiary institution. Five different types of interactional moves made by native speaker interlocutors during task-based interaction were identified, by way of which learners received implicit negative feedback and positive evidence about the two target structures. The relative frequency of each interactional move type was calculated, and associated changes in the learners' performance on immediate and delayed posttests were examined. It was found that, although native speaker interactional moves containing positive evidence about the two target structures were 10 times more frequent during task-based language learning than those containing implicit negative feedback, only learners who had an above-average score on the pretest benefited from the positive evidence provided. Implicit negative feedback,

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on the other hand, had beneficial effects on short-term development of the grammatical targets regardless of the learner's current mastery of the target structures. Moreover, recasts were found to have a larger impact than other conversational moves on short-term L2 grammatical development.

A growing body of research has investigated the role of conversational interaction in SLA, especially in regard to how an interlocutor's feedback promotes interlanguage development. The theoretical foundation of this work rests on Long's (1981, 1983) Interaction Hypothesis. Long proposed that conversational interactions, which occur in a variety of forms as interlocutors respond to their conversational partner's requests for clarification or confirmation, promote L2 learning even though the immediate purpose of such modifications in conversation is to make speech comprehensible. Recent reviews of conversational interaction studies (Pica, 1993, 1994a, 1994b) have suggested that learners attend to both message and form during negotiation and that three functions of negotiation can be established: comprehension, opportunity for output, and feedback. In an update of the Interaction Hypothesis, Long (1996, pp. 451–452) stressed the facilitative role of implicit negative feedback in conversational interaction because such feedback draws learners' attention to mismatches between input and output. The present study investigates five types of interactional moves involving implicit negative feedback and positive evidence in native speaker (NS)–nonnative speaker (NNS) interaction and explores the extent to which each of these five moves had an impact on the short-term development of two Japanese grammatical structures.

As employed in this paper, the term "feedback" refers to some kind of NS response to what the learner has said; the feedback that learners receive during interaction can either be positive or negative. Negative feedback is an interlocutor's interactional move that indicates explicitly or implicitly any nontargetlike feature in the learner's speech.[1] Recasts and negotiation moves are generally seen as interactional moves providing implicit negative feedback (e.g., Oliver, 1995), as illustrated in (1) and (2).

(1) NNS: *onna-no-hito, hai an wa yom- hanashimasu.*
woman yes um TOP *and talk*
"A woman talks."
NS: *hanashiteimasu.* (recast)
"(She) is talking."
NNS: *hanashiteimasu*
"is talking" (Learner 32, Task 2)

(2) NNS: *shatsu aoi seetaa arimasu.*
shirt blue sweater are
"There are a shirt and a blue sweater."
NS: *sumimasen, mooichido onegaishimasu?* (negotiation move)
excuse-me once-more please
"Excuse me, could you repeat?"

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NNS: *otoko-no-hito shatsu to aoi seetaa o kimasu.*
man shirt and blue sweater ACC *wear*
"The man is wearing a shirt and a blue sweater." (Learner 9, Task 3)

Positive evidence, on the other hand, is a NS's interactional move that follows a NNS's utterance and provides a model of the target language, as illustrated in (3).

(3) NNS: *violin wa nihongo de nan desu ka?*
violin TOP *Japanese* INST *what is* QUES
"What is 'violin' in Japanese?"
NS: *baiorin*
NNS: *hai bai, baiorin o*
yes vio- violin ACC
NS: *hiiteimasu*
"is playing"
NNS: *hiiteimasu*
"is playing" (Learner 9, Task 3)

THE ROLE OF NEGATIVE FEEDBACK AND POSITIVE EVIDENCE IN L2 ACQUISITION

Early studies of feedback mainly examined the role of negative feedback in the context of the teachers' error correction (e.g., Allwright, 1975; Chaudron, 1977; Holley & King, 1971; Long, 1988). This research indicated that teachers' attempts at error correction were frequently ambiguous and inconsistent and, therefore, that the value of correction was not clearly demonstrated. Other studies explored error correction by NSs in more naturalistic conversations (Chun, Day, Chenoweth, & Luppescu, 1982; Day, Chenoweth, Chun, & Luppescu, 1984), which revealed that NSs rarely correct learners' errors in conversation.

More recently, a growing number of studies of negative feedback in both L1 and L2 acquisition have concentrated on addressing caveats about the effectiveness of negative feedback in language learning put forth by language researchers who, from a nativist stance, deny environmental variables a central role in language learning (e.g., Grimshaw & Pinker, 1989; Pinker, 1989, for child L1 acquisition; Beck & Eubank, 1991, for L2 acquisition). These researchers have argued that, prior to discussing environmental contributions, such as negative evidence, to language acquisition, four empirical facts need to be established: (a) that negative evidence exists, (b) that it exists in usable form, (c) that it is used, and (d) that it is necessary for language acquisition.

To examine these four conditions, many L2 studies have used descriptive and interpretive experimental and quasi-experimental research designs in both classroom and laboratory settings. The participants ranged from young learners in immersion programs or intensive language centers to adult learners in foreign language programs at the postsecondary level. Target languages have varied (English, Dutch, Spanish, and Japanese), and the linguistic focus

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has been predominantly placed on grammatical structures (e.g., Doughty, 1994; Doughty & Varela, 1998; Inagaki & Long, 1999; Lyster & Ranta, 1997; Oliver, 1995; Ortega & Long, 1997; Rabie, 1996; Richardson, 1995; Van den Branden, 1997; Yamaguchi, 1994; see Iwashita, 1999, and Long, 1996, for reviews).

Built largely on the interactional moves identified in the negotiation studies of the 1980s (e.g., Long, 1981; Varonis & Gass, 1985), descriptive studies of negative feedback have examined a variety of interaction patterns in which NS interlocutors provide feedback in task-based conversation. Oliver (1995) investigated the existence and use of two types of negative feedback—recasts, as in (1), and negotiation of meaning, as in (2)—in the interactions carried out by eight child NNS-NS dyads, suggesting that negative feedback exists for child L2 learning and is also used by learners. Izumi (1998) continued Oliver's work, exploring the availability and usefulness of negative feedback in task-based conversations carried out by 10 adult NS-NNS dyads. Izumi analyzed conversational interaction according to modified categories first developed by Oliver and found a relatively infrequent occurrence of negative feedback and low incorporation (or "uptake"; see the following discussion). Izumi therefore suggested that activities with a predominant focus on meaning, but with an added focus on form, might be needed to draw learners' attention to form.

In a similar vein, Richardson (1995) and Yamaguchi (1994) followed Farrar's (1992) L1 acquisition categories of corrective and noncorrective recasts to investigate whether L2 learners utilized feedback. Farrar used the term "recast" to refer to parental feedback containing target grammar features, whether the feedback corrects the child's utterance or not. Corrective recasts referred to parental feedback that corrected an error in the child's previous utterance, whereas noncorrective recasts referred to parental feedback that provided a target model. The results of Richardson's and Yamaguchi's studies were similar to those found by Farrar for L1 children, showing that learners were more likely to repeat the target language morphemes after a corrective recast than after a noncorrective recast. Although the descriptive L2 studies of negative feedback summarized thus far provided data showing that negative evidence is available and used by learners, their findings need to be interpreted with caution because the sample size was small in all studies and also because the relationship between interaction and L2 learning was not directly investigated by any of these researchers.

A number of laboratory L2 studies have investigated the short-term impact of positive evidence and negative feedback through two NS interactional moves (recasts and models) on L2 development, building on experimental studies conducted in child L1 acquisition studies. Mito (1993), Ortega and Long (1997), and Inagaki and Long (1999) compared the effects of these two interactional moves on the short-term development of target grammatical structures using variations of a design developed for a child L1 acquisition study of recasts and models by Baker and Nelson (1984). The combined results of the three studies suggested more advantages for learning under the recast condition than under the modeling condition, but in each of the studies, no learning was

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reported under either condition for at least one of the target structures. Summarizing the findings, Long, Inagaki, and Ortega (1998) discussed the difficulties of investigating the short-term effects of L2 negative feedback: They argued that short-term cross-sectional studies cannot address the methodological difficulties they identified, and they proposed refinements to future studies, including delayed posttests and a longitudinal design.

Using a pretest-posttest and control group experimental design similar to that of the studies previously discussed, Rabie (1996) investigated the effectiveness of positive evidence (models) and negative feedback (viz., recasts) for vocabulary learning under more natural conditions. Her findings showed that NS conversation partners provided abundant corrective feedback on the target vocabulary in the process of task-based interaction. Participants learned the highest percentage of the target vocabulary items when the requested model (i.e., the model that was supplied by the NS in response to a NNS request) was given, followed by recasts and models that were not requested. Summarizing her findings, Rabie argued that the provision of models versus recasts had differential effects on the NNSs' ability to learn the new vocabulary.

These experimental studies all investigated the effects of a particular type of interactional move (e.g., recasts) on the short-term development of grammatical or lexical acquisition targets, but they did not examine the relationship between learners' responses to the move and the development of the target structure. To address this deficiency, Mackey and Philp (1998) investigated the effect of intensive recast treatment on the short-term development of question forms. ESL learners were classified as belonging to one of two levels on the basis of the developmental sequence for question formation in ESL identified by Pienemann and Johnston (1987). Learners at each level ("ready" and "unready") in the experimental group received intensive recast treatment whenever they produced nontargetlike utterances. The findings showed that, for the ready learners, interaction with intensive recasts was more beneficial than interaction alone in facilitating an increase in production of target higher level question types. However, no relationship was found between types of learner response to the recast (e.g., incorporation of targetlike form vs. topic continuation) and short-term development.

There have been a number of classroom-based studies focusing on negative feedback and learner responses to a teacher's interactional moves—responses that are often referred to as uptake. These studies were mainly concerned with the treatment of errors by a teacher and with learner responses to the teacher's moves in communicative language classes. Lyster and Ranta (1997) studied teacher-student interaction in four elementary French immersion programs in Canada. The frequency and distribution of six different feedback types used by teachers, as well as students' responses to the feedback, were analyzed. The term "uptake" was used to refer to a student's utterance that immediately follows a teacher's feedback and constitutes a reaction in some way to the teacher's intention to draw attention to

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some aspect of the student's initial utterance. The results showed an overwhelming tendency for teachers to use recasts, but little learner uptake was observed.

On the basis of previous work (Lyster & Ranta, 1997), Lyster (1998b) examined different types of recasts and corrective repetition by teachers and the students' responses to them. He suggested that teacher moves encouraging learners to self-correct, rather than repetition of teacher feedback, are beneficial to L2 learning. Specifically, Lyster proposed that teacher feedback that does not provide the target forms but instead draws learners' attention to forms they already know, such as clarification requests, is more beneficial than recasts. The usefulness of recasts, however, was questioned because they can appear to be ambiguous to the learner due to their implicit nature. Using the same database as in the previous two studies (Lyster, 1998b; Lyster & Ranta), Lyster (1998a) further explored the relationship between types of learner errors, teacher feedback, and learner response. He found that different learner error types triggered different types of corrective feedback by teachers and that learner responses to the feedback varied according to the types of learner errors.

Doughty and Varela (1998) designed a quasi-experimental study consisting of 34 intermediate-level ESL learners to examine the effects of recasts on the development of two grammatical structures in an L2 content-based classroom. One intention of the investigators was to draw the participants' attention to corrective recasts. For example, the teacher reminded students of nontargetlike utterances through a repetition of the utterance with rising intonation followed by a recast. In this regard, the corrective recasts in their study have an explicit component (i.e., the rising intonation signal).[2] Students were also encouraged to repeat the recast. Learners who received corrective feedback on both oral and written measures showed significant gains in the posttest, whereas no significant group median change was observed for the control-group participants. Doughty and Varela attributed learners' enhanced targetlike use of the past tense to the immediacy and saliency of the recast treatment provided in the content-based lesson.

Ohta (2000) investigated the role of private speech as a learner response to recasts in teacher-student interaction in a Japanese language classroom. In particular, she examined the salience and potential effectiveness of recasts through occurrence of private speech, defined as "oral language addressed by the student to himself or herself" (p. 52). Ohta explained that private speech provides insight into the mental activity that learners engage in with respect to corrective feedback. Seven first-year and three second-year students of Japanese were observed over 34 hours of classroom instruction throughout the academic year. Individual microphones were used to capture the students' responses to recasts. In addition to the audio-recorded data, observation data with detailed field notes and classroom materials were also collected. Fine-tuned analysis of teacher-student interaction revealed that learners produced private speech when they responded to teacher recasts not directly ad-

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dressed to them; this type of response was referred to as an auditor response to recasts. Private speech also occurred after other students' choral utterances were addressed by the teacher. (These choral utterances are referred to as vicarious responses, and the contrasting utterances produced by other students are called incidental recasts.) Ohta argued that the fact that learners' responses to teacher recasts were addressed to other students through private speech provided evidence of the saliency and usefulness of recasts. She further explained that private speech gives learners an opportunity to try out their own utterances and, as a result, to receive incidental recasts. However, it was also suggested that what was salient and drew attention varied among learners.

Using the same corpus, Ohta (2001) analyzed instances of corrective feedback, further learner uptake of recasts, and incidental recasts in both teacher-fronted and peer-learning settings. Corrective feedback was defined as any utterance produced by a teacher or learner that either initiates repair of a malformed utterance or contrasts with a learner's malformed utterance (p. 135). The instances of corrective feedback were further classified into 10 subcategories. In both teacher-fronted and peer-learning settings, a number of instances of a variety of corrective feedback were observed. Further analyses of learner response to recasts and incidental recasts were conducted to explore their immediacy and saliency. The responses were classified as uptake, noticing, and no uptake. The analyses showed that frequent uptake was observed in recasts and incidental recast episodes (both teacher-fronted and peer-learning settings). It was noted that there were few instances of recasts and that they varied by individual.

Two additional studies have examined learners' noticing of negative feedback. Mackey, Gass, and McDonough (2000) explored learners' perceptions of implicit negative feedback obtained during task-based dyadic interaction with either an English or Italian NS. While viewing the videotapes of the interaction in which they participated, ESL learners and learners of Italian as a foreign language were asked to provide an introspection of their thoughts at the time of interaction. Mackey et al. reported that learners' perceptions of lexical, semantic, and phonological feedback were relatively accurate, whereas they appeared not to notice morphosyntactic feedback. Philp (1998) investigated the extent to which learners may notice nontargetlike forms in their interlanguage grammar as a result of interaction. Thirty-three adult ESL learners participated in task-based conversation with a NS over 2 weeks and received recasts of their nontargetlike utterances. Philp found that learners noticed 60–70% of recasts but that noticing was constrained by the level of the learner and by the length and number of changes in the recast.

Although the majority of recent L2 studies have shown the availability of negative feedback in NS-NNS, task-based interaction as well as in teacher-student L2 classroom interaction, the findings on learner response to negative feedback are rather mixed, which may be partly explained by the different focus each study placed on learner responses. For example, several of the stud-

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ies whose results are similar to those of child L1 acquisition studies (e.g., Bohannon, MacWhinney, & Snow, 1990; Bohannon & Stanowicz, 1988; Farrar, 1992; Moerk, 1992) examined learners' sensitivity to recasts and compared the instances of their responses to corrective and other noncorrective recasts (Richardson, 1995; Yamaguchi, 1994). Oliver (1995) and Mackey and Philp (1998) focused exclusively on the various types of learner responses to recasts. Other studies, however, employed more elaborate coding schemes to compare learner response (i.e., uptake) to various forms of teacher feedback (e.g., Lyster, 1998a, 1998b; Lyster & Ranta, 1997). Ohta (2000, 2001) explored the occurrence of private speech as a response to recasts.

Learner perception of feedback and individual differences among learners have also been recently investigated (Mackey et al., 2000; Philp, 1998). Some researchers (e.g., Lyster, 1998a, 1998b; Lyster & Ranta, 1997) have questioned the effectiveness of recasts, at least in communicative classroom contexts. The main reason for this skepticism was the low perceptual saliency of recasts, their low rate of incorporation in L2 classroom interaction, and the observed advantage of self-repair (i.e., self-correction). Further, the relevance of more positive findings gleaned in laboratory studies that investigated the effects of recasts on short-term learning (e.g., Long et al., 1998) has been questioned because of the fundamental differences between laboratory and classroom learning contexts (Lyster; see Doughty & Varela, 1998, for a counterargument).

However, it is significant that, with the exception of Ellis (1995) and Rabie (1996), most experimental and quasi-experimental studies on conversational interaction (including negative feedback and negotiation of meaning) have mainly investigated test-score changes before and after the treatment (e.g., Loschky, 1994) to establish a direct link between interaction and acquisition. What they did not examine was the quality of task-based interaction. These studies further assumed that the learner-directed and highly contextualized positive evidence afforded during task-based interactions does not play a role in expanding competence. In particular, positive evidence moves (i.e., models of the target structures) have not been discussed or examined.

TASK-BASED INTERACTION AND NEGATIVE FEEDBACK WITH BEGINNING LEARNERS IN FOREIGN LANGUAGE SETTINGS

The role of tasks and group work is important in communicative language classrooms, as Long and Porter (1985) argued, because group work enhances language opportunities and improves the quality of students' speech. Empirical studies on group work and tasks have demonstrated that task-based conversation facilitates conversational interaction in comparison to free conversation (e.g., Brock, Crookes, Day, & Long, 1986; Crookes & Rulon, 1988; Long, 1981; Pica, Holliday, Lewis, & Morgenthaler, 1989).

Providing an optimal opportunity for conversational interaction has been explored in studies comparing various types of tasks (e.g., Duff, 1986; Long, 1981; Pica & Doughty, 1985; Pica, Young, & Doughty, 1987; Plough & Gass,

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1993; see Pica, Kanagy, & Falodun, 1993, for review). Pica et al. (1993) classified tasks according to types of goals and directions of communication. They claimed that tasks are distinguished according to the information that participants hold and deliver. In a two-way task (e.g., jigsaw), each participant has information that his or her partner does not have, requiring both participants to ask for information from their partner. Participants may produce negative feedback when they have not understood their interlocutor's speech. In a one-way task (e.g., information gap), on the other hand, one participant holds all the information required to complete a task (i.e., information flows only in one direction). Negotiation of meaning occurs when an information-receiving participant does not understand the information that the original sender provides. Tasks like problem-solving, decision-making, and opinion exchange can be either one-way or two-way tasks but differ from the typical jigsaw and information-gap tasks in that interactions are not necessarily required. As Pica et al. explained, participants in these types of tasks might work individually at first, using the information to solve the problem, make the decision, and then exchange information. Thus, in the extreme case, one participant may dominate the conversation, solve the problem, and make the decision by asking for agreement from the rest of the group with a "yes" and the task has been completed. Taking an interaction requirement and goal orientation into consideration, Pica et al. argued that the most effective tasks in terms of generating negotiation of meaning are information-gap and jigsaw tasks, whereas the least effective is the opinion-exchange task.

Even though a positive role for conversational interaction through task-based conversation in L2 learning for both grammar and vocabulary has been shown in the findings of recent experimental studies (e.g., Gass & Varonis, 1994; Mackey, 1999; Mackey & Philp, 1998; Rabie, 1996), the question remains as to whether their results are applicable to beginners in foreign language settings. Compared to learners in an L2 environment, those in a foreign language setting have obvious disadvantages in terms of exposure to the target language and opportunities to use it. Though recent advances in foreign language teaching methodologies have provided increased opportunities for such learners to use the target language in class, learners often struggle to understand interactions with NSs. One explanation for this may be that learners are used to listening solely to the few NSs who are among their teachers. This phenomenon is especially evident for beginning learners. Pica (1994a) reported that learners at a postbeginner level are better prepared for making use of conversational interaction and modification in task-based conversation; she further suggested that beginning learners are more likely to be input receivers than output providers in task-based conversation, perhaps because their production is restricted by limited grammatical and vocabulary resources and a tendency to rely on formulaic speech. Additionally, beginners may take longer to become accustomed to speaking with a NS and may take shorter turns with more time between turns. This is especially evident for learners of Japanese, an L2 that is considered to be more difficult for NSs of English than other com-

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monly taught foreign languages, such as French, German, and Spanish, because of its typological distance from English (Odlin, 1989).

Alternatively, it may be that, because beginners are likely to produce unclear utterances, the NS may be more likely to reformulate the utterance in the form of a confirmation check or a recast. Therefore, more interactional work involving negotiation of meaning and negative feedback may be called for in the beginning-level classes than in task-based interactions with higher level learners. Whether beginning learners make use of the opportunities created through conversational adjustments and other interactional moves in response to NNSs' speech may in part depend on the learnability of the structures based on the learners' current developmental level (Mackey, 1999; Pica, 1994b).

THE PRESENT STUDY

Research Questions

The present study was motivated by the need to investigate simultaneously the processes fostered during task-based interaction (i.e., the quality of interactional moves) and their measurable effects on the learning of L2 grammar. Additionally, there is a need to tease out the relative contribution to L2 learning of both negative feedback and positive evidence afforded to L2 learners during task-based interaction. To this end, a pretest-posttest experimental design with a control group was adopted. The design was enhanced by an analysis of the actual interactional moves employed during the task-based conversations. Also, to look simultaneously at test performance and interactional move types (including implicit negative feedback and positive evidence), multiple regression analysis was performed. Another novel contribution of the study is that it addresses the general question of whether the benefits of interaction documented for more advanced L2 learners in L2 settings in previous studies would be observed with beginning L2 learners in a foreign language context. Three research questions were addressed:

1. How do NSs respond to NNSs' nontargetlike utterances?
2. Does task-based interaction promote short-term development of grammatical competence among beginning-level learners of Japanese as a foreign language?
3. What is the relative impact of five types of interactional moves (including implicit negative feedback and positive evidence) on the short-term development of target grammar structures?

Method

Participants. The participants included 55 learners of Japanese enrolled in a beginning-level course at an Australian university and 55 Japanese NSs. The learners were monolingual NSs of English or bilingual speakers of Chinese

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(Cantonese or Mandarin) and English. Among the participants, several had studied for a few years at junior secondary level but had not continued to matriculation level; some had visited Japan for a short period (1 day to a few weeks), but students who had spent longer than 3 months in Japan were excluded. All of the Chinese–English bilinguals had been in Australia for more than 3 years and had received instruction in both languages. Participants were recruited during the researcher's visits to classes. All participants were between 18 and 22 years of age ($M = 20.8$ years). Their conversation partners were NSs of Japanese ($M = 24.6$ years) who were all studying English as an L2 and had been in Australia for less than 6 months at the time of data collection.

Data Collection Procedure. All participants were randomly assigned to either the treatment or control group, with 41 dyads in the treatment group and 14 in the control group. Participants in both groups took a pretest, and then the treatment-group participants carried out three communication tasks with a NS conversation partner. The control-group participants talked with a NS partner on any topic of their choice. A posttest was administered immediately after the treatment or free conversation, and a delayed posttest was given 1 week later. The NNSs' oral production in all phases of the study was audio-recorded and later transcribed using standard orthography.

Acquisition Targets. Two grammatical structures were chosen for the study: the Japanese locative-initial construction and a verb morpheme (*te*-form verb), which were selected on the basis of their frequency, obligatoriness, and learnability.[3] These structures are illustrated in (4) and (5).

(4) Locative-initial construction (word order and particle use)
Eki no mae ni yuubinkyoku ga arimasu.
station GEN *front* LOC *post-office* SUB *there-is*
"In front of the station there is a post office."

(5) Verb morpheme (*te*-form)
a. *Terebi o mi-teimasu.*
television ACC *watching*
"(I am) watching television."
b. *Akai doresu o ki-teimasu.*
red dress ACC *wearing*
"(I am) wearing a red dress."

With respect to (4), the existence and location of objects or people are usually expressed in Japanese through the use of a complex noun phrase with two types of particles (the genitive particle *no*, and the locative particle *ni*) and the existential verb *arimas* (or *imas*). The sentence in (4) can also be expressed (though with a change in focus) by a subject-initial locative, as in (6).

(6) *Yuubinkyoku wa eki no mae ni arimasu.*
post-office TOP *station* GEN *front* LOC *there-is*
"There is a post office in front of the station."

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In describing objects and their locations, many learners start by using the subject-initial construction exemplified in (6), although, on the basis of NS baseline data,[4] they might have been expected to use the locative-initial construction exemplified in (4). The early use of subject-initial order is supported by Givón's (1985) proposal of an early topic-comment stage in L2 acquisition. Givón argued that the type of communication strategy used by adult learners is largely governed by pragmatic considerations and is characterized by features such as topic-comment structure, loose coordination, no use of grammatical morphology, and so forth (see Sato, 1990, for a longitudinal case study testing Givón's claims). A subject-initial sentence in the locative construction is a topic-comment structure, so it would be easier for learners at beginning levels to produce subject-initial constructions rather than locative-initial ones.

As for the *te*-form verb in (5), child L1 acquisition studies of Japanese (e.g., Clancy, 1985) have reported that this inflectional morpheme emerges at a very early stage and is used to indicate commands and requests. Parents often use the form in talking with their children, and it is therefore one of the first forms that children produce to indicate a command or request. Many adult L2 learners, however, find it difficult to add the morpheme to verbs correctly. The way they appear to learn the *te*-form is by trying to apply a derivational rule, which is complex and requires that learners know to which category (strong, weak, or irregular) the verb belongs,[5] through rote learning of the form as a word, or both.

Materials

Treatment Tasks. Two types of communication tasks were used as treatments in the experimental groups. These include a single two-way jigsaw task (a "spot-the-difference" task) and two one-way information-gap tasks (picture-description tasks). They are all communicative, "closed" (i.e., yielding one predetermined outcome) tasks in which interlocutors are expected to interact to complete them. The single two-way task was completed before the two one-way tasks. In the two one-way tasks, the order of task completion and the NNS interlocutor role (i.e., information sender or receiver) were counterbalanced. In this experimental design, it was hoped that the tasks would elicit the acquisition targets and that interactional moves would focus on the targets in (4) and (5), but there was no guarantee of interaction concerning any nontargetlike use of the grammar targets by the learners. Additionally, before conducting the experiment, the treatment tasks were piloted by NSs to check whether they would use locative-initial constructions in carrying out the tasks. An example of the tasks and instructions given to the participants is provided in the Appendix.

Pretest and Immediate and Delayed Posttests. For all tests, learner performance on the two grammatical structures was examined via oral produc-

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Table 1. Categories of interactional moves analyzed in the present study

Interactional move	Definition
Implicit negative feedback	
Recast	An interactional move that reformulates the NNS's utterances without changing the meaning of the utterance
Negotiation move	An interactional move intended to clarify the meaning of a NNS's nontargetlike or incomplete utterance
Positive evidence	
Completion model	An interactional move that completes the NNS's incomplete utterance
Translation model	An interactional move that is given in response to a NNS's request for a model by using an L1 word or in response to a NNS's use of L1 words
Simple model	An interactional move that continues a NNS's targetlike utterance

tion. Participants were asked to describe a picture (a different picture than the one used during the treatment phase). The same test with a different picture (A, B, and C) was administered to each learner (in random order) for the pre-, immediate post-, and delayed posttests to avoid the practice effect of using the same picture for subsequent tests. The order of the three different pictures was counterbalanced. In the locative-initial construction, learners' performance was assessed on two aspects: the order of the locative phrase with respect to the subject (word order) and particle use. Test performance on word order in the locative-initial construction was scored by calculating the correct word order as a percentage of the total number of occurrences of the locative-initial constructions used by the participant. For the *te*-form verbs and particle use in the locative-initial construction, the formula of targetlike use analysis (TLU) developed by Pica (1983) was used. Learner output was transcribed and scored by two judges; interrater reliability was 98%.

Analysis

Coding of Interaction. Interactional episodes during the treatment were identified following the three-part sequence identified by Oliver (1995): NNS initial turn, NS response, and NNS reaction. The interaction patterns used for coding these episodes were also developed following Oliver's categories (1995, 1996, 2000). The NNS initial turn was either targetlike or nontargetlike (solely in relation to the three grammar targets) or an incomplete utterance. NS interactional moves, on the other hand, were classified into the five major types defined in Table 1.[6] To establish interrater reliability, 20% of the transcripts were coded and categorized according to the five major interactional move types by a second coder. The overall interrater reliability was 92%.

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The two types of interactional moves generally viewed as providing implicit negative feedback that are examined in the present study are recasts, as in (7), and negotiation moves, as in (8), though they differ in terms of the purpose of the move and the clarity of the NNS's preceding nontargetlike utterances (Oliver, 1995).

(7) Examples of recasts
NNS: *to 'ring'?*
"And 'ring'?"
NS: *yubiwa*
"Ring"
NNS: *yubiwa, iro wa aoi desu.*
ring color TOP *blue is*
"The color of the ring is blue."
NS: *yubiwa no iro ga*
ring GEN *color* SUB
"The color of the ring"
NNS: *iro ga*
color SUB
NS: *aoi*
"Blue"
NNS: *aoi*
"Blue"
NS: *sono yubiwa wa doko ni arimasu ka?*
that ring TOP *where* LOC *there-is* QUES
"Where is the ring?"
NNS: *aa yubiwa ue ni tsukue*
ah ring top LOC *table* (*desk*)
NS: *tsukue no ue ni*
table (*desk*) GEN *top* LOC
"On top of the table (desk)"
NNS: *tsukue no ue ni, hai.*
table (*desk*) GEN *top* LOC *yes*
"On top of the table (desk), yes." (Learner 23, Task 3)

(8) Examples of negotiation moves
NNS: *fountain wa*
'water fountain' TOP
NS: *funsui*
"Water fountain"
NNS: *funsui hito hito hitosu tonari funsui arimasu.*
water-fountain person person one next-to water-fountain there-is
NS: *funsui no hidari?* (confirmation check)
water-fountain GEN *left?*
NNS: *'one person' wa nihongo de nan desu ka?*
'one person' TOP *Japanese* INST *what is* QUES
"What is 'one person' in Japanese?"
NS: *hitori*
"One person"
NNS: *hitori tonari funsui arimasu.*
one-person next-to water-fountain there-is
"There is a fountain next to the person."
NS: *aa sono hito wa funsui no doko ni imasu ka?*
ah that person TOP *water-fountain* GEN *where* LOC *is* QUES
"Ah where in the water fountain is the person?" (clarification request)

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NNS: *'left' wa*
'left' TOP
NS: *hidari gawa?*
"Left side?"
NNS: *hai.*
"Yes." (Learner 8, Task 3)

Recasts are utterances that reformulate an interlocutor's utterance without changing its meaning; they are typically provided after an utterance that contains nontargetlike use but whose meaning is clear. Negotiation moves, on the other hand, are provided when the meaning of the NNS's preceding utterance was not clear for whatever reason (e.g., due to a nontargetlike utterance in terms of syntactic, lexical, or pronunciation aspects) or was incomplete and thus needs to be clarified. Three types of this kind of move were investigated: clarification requests, confirmation checks, and repetitions (for definitions of the former two types, see Long & Sato, 1983). Some negotiation moves, such as confirmation checks, can overlap with recasts when nontargetlike utterances are both reformulated and used for confirmation checks. In this study, such moves were coded as recasts rather than as negotiation moves.

A model is a type of positive evidence: It is a NS's interactional move that follows a NNS's targetlike or incomplete utterance and provides a target model of the grammatical structures under study. This type of move is given (a) by completing the NNS's incomplete utterance (completion model), (b) in response to a NNS's request for a model by using an L1 word or in response to a NNS's use of L1 words (translation model),[7] or (c) to continue a NNS's targetlike utterance (simple model). Examples of each are provided in (9)–(11).

(9) Example of a completion model
NNS: *kono hondana no ue wa senpuuki.*
this bookshelf GEN *top* SUB fan
"On the top of this bookshelf (there is) a fan."
NS: *hai, ga arimasu.*
yes SUB *there-is*
"Yes, there is (a fan)."
NNS: *'vase' wa nihongo de nan desu ka?*
vase SUB *Japanese* INST *what is* QUES
"What is 'vase' in Japanese?" (Learner 29, Task 2)

(10) Examples of a translation model
a. NNS: *aa an ichiban ichiban hidari hidari hito no 'standing'*
ah um the-first the-first left left person GEN *standing*
NS: *tatteimasu*
"is standing"
NNS: *tatteimasu, hai tatteimasu*
"is standing, yes, is standing"
NS: *ichiban migi no otoko-no-hito wa tatteimasu ka?*
the-first right GEN *man* TOP *is standing* QUES
"Is the first person on the right standing?"
NNS: *hai, tatteimasu.*
"Yes, (he) is standing." (Learner 19, Task 1)

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b. NNS: *'in front of' wa nan desu ka?*
in front of TOP *what is* QUES
"How do you say 'in front of' (in Japanese)?"
NS: *nani nani no mae ni*
what what GEN *front* LOC
NNS: *mi mi no mae, hidari hidari hitotsu aa 'two persons' wa nihongo*
GEN *front left left one* TOP *two persons* SUB *Japanese*
de nan desu ka?
INST *what is* QUES
"Front of, left, left, one, what are 'two persons' in Japanese?"
NS: *futari*
"two persons"
NNS: *futari*
"two persons"
NS: *futari no hito ga doko ni imasu ka?*
two GEN *persons* SUB *where* LOC *are* QUES
"Where are the two persons?"
NNS: *mae ni funsui ni arimasu*
front LOC *water-fountain* LOC *there-is*
NS: *futari no hito ga funsui no mae ni imasu.*
two GEN *persons* SUB *water-fountain* GEN *front* LOC *are*
"Two persons are in front of the water fountain."
NNS: *hai*
"Yes" (Learner 9, Task 3)

(11) Example of a simple model
NNS: *aa heya wa fan chikai desu.*
ah room SUB *'fan' near is*
"A room, a fan is near."
NS: *heya ni*
room LOC
"In the room"
NNS: *air conditioner senpuuki wa arimasen.*
'air conditioner' fan TOP *there-is-not*
"There is no fan."
NS: *neko no tonari ni soojiki ga arimasu ka?*
cat GEN *next* LOC *vacuum-cleaner* SUB *there-is* QUES
"Is there a vacuum cleaner next to the cat?" (Learner 7, Task 1)

Models differ from negative feedback in that NNSs' preceding utterances do not contain nontargetlike features of the grammatical structures under study. Moreover, unlike recasts, moves containing a model do not correct errors implicitly; unlike negotiation moves, they do not clarify the NNS's preceding utterance either but rather serve to continue the conversation by providing the target model. In essence, they provide positive evidence to the learner regarding targetlike realization of the Japanese grammar constructions.

RESULTS

Frequency and Distribution of Types of NS Interactional Moves

With respect to research question 1, the frequency of each interactional move type used by treatment-group participants in relation to each target structure

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Table 2. Patterns of interactional moves

Interactional move	Locative word order			Locative particle use			Verb morpheme (*te*-form verb)		
	Total	%	*M*% (*SD*)	Total	%	*M*% (*SD*)	Total	%	*M*% (*SD*)
Implicit negative feedback									
Recasts	36	5.80	5.39 (6.48)	64	5.63	6.17 (7.08)	121	11.35	14.38 (19.60)
Negotiation	16	2.58	2.77 (5.83)	20	1.76	2.29 (4.40)	10	0.94	1.24 (2.78)
Subtotal	52	8.38	8.16	84	7.39	8.46	131	12.29	15.62
Positive evidence (models)									
Completion	42	6.76	7.63 (8.56)	38	3.34	3.58 (4.40)	48	4.50	4.90 (7.51)
Translation	5	0.81	0.80 (2.61)	2	0.18	0.41 (1.84)	58	5.44	5.94 (10.20)
Simple	522	84.06	83.41 (11.97)	1013	89.09	87.55 (11.07)	935	77.77	73.53 (26.70)
Subtotal	569	91.63	91.84	1053	92.61	91.54	1041	87.71	84.37
Total	621	100	100	1137	100	100	1172	100	99.99

is summarized in Table 2. For all three target forms, the largest proportion of moves was simple models. That is, learners were given approximately 10 times more positive evidence than negative feedback about the targets. When negative feedback after a nontargetlike utterance was offered, however, NSs overwhelmingly preferred recasts over negotiation of meaning moves. In fact, the second largest percentage of all moves topicalizing the two target structures was recasts (approximately 5–14% of the total interactional moves).

Task-Based Interaction and Its Impact on Short-Term Development

Preliminary Analysis. Before examining the data in relation to research question 2, a preliminary analysis was conducted to check (a) the equivalence of test versions and (b) participants' prior knowledge of the target grammatical structures across the treatment and control groups. To this end, a two-way repeated measures ANOVA was performed. The between-subjects variable is group (treatment or control), and the within-subjects variable is time (pretest and immediate posttest). Descriptive statistics for the pretest, immediate posttest, and delayed posttest scores for the three grammatical targets are given in Table 3.

The ANOVA yielded no significant effect for test versions on the test score for any of the three targets: word order in the locative construction, $F(1, 2) = 0.30$, $p = .74$; particle use in the same construction, $F(1, 2) = 0.48$, $p = .61$; *te*-form

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Table 3. The effect of task-based conversation: Descriptive statistics

		Pretest	Immediate posttest	Delayed posttest
Structure	*n*	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Locative word order				
Treatment	41	25 (29)	50 (33)	51 (35)
Control	14	19 (24)	24 (29)	—
Locative particle use				
Treatment	41	35 (35)	56 (34)	61 (32)
Control	14	30 (34)	27 (31)	—
te-form verb				
Treatment	41	11 (20)	45 (37)	45 (39)
Control	14	5 (9)	22 (27)	—

Table 4. The effect of task-based conversation: Two-way repeated measures ANOVA

	Within subjects			Between subjects		
Structure	*df*	*MSQ*	*F*	*df*	*MSQ*	*F*
Locative word order	1	.403	11.63**	1	.904	4.20*
Locative particle use	1	.279	5.33*	1	.630	3.52
Verb morpheme (*-te* form)	1	1.261	21.2**	1	.406	4.00*

*$p < .05$. **$p < .001$.

verb, $F(1, 2) = 0.87$, $p = .41$. The results indicated that the difficulty of the three versions of the test could be considered equivalent. Similarly, comparison of the pretest scores among the group members was found to be nonsignificant for all grammatical structures: word order in the locative-initial construction, $F(1, 2) = 0.25$, $p = .62$; particle use in the same construction, $F(1, 2) = 0.29$, $p = .59$; and *te*-form verb, $F(1, 2) = 0.78$, $p = .41$. Therefore, the treatment groups may be regarded as having equivalent knowledge of grammatical structures at the onset of the study.

The Effect of Task-Based Interaction. The pretest and immediate-posttest scores for grammatical structures were examined between subjects and also within subjects using two-way, repeated measures ANOVAs. As shown in Table 4, significant differences were observed in the immediate-posttest scores between treatment- and control-group participants for two grammar targets (locative word order and *te*-form verbs). Additionally, a significant treatment effect was found in the treatment-group subjects for all grammar targets.

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Learners in the treatment groups improved on grammar performance as a result of engaging in interaction through the three tasks, whereas the control group, without the benefit of task-based interaction, performed no better on the immediate posttests than they did on the pretest. Furthermore, as shown in the results of the delayed posttest, participants performed at approximately the same level 1 week after the treatment (see Table 3). Last, a large individual variation (indicated by large standard deviations) may support the assumption that the target structures were difficult for some learners.

The Differential Effects of NS Interaction Move Types on Short-Term Development

With respect to research question 3, a series of multiple regression analyses was performed to examine the differential effects of the five types of NS interactional moves (recasts, negotiation moves, simple models, completion models, and translation models) on the immediate-posttest scores. These five types were considered as possible independent variables; in other words, each of the five moves could have potentially affected the learners' immediate-posttest performance. However, the ability of a particular interactional move to have such an impact might be influenced by a learner's current mastery of the target grammar structure at the onset of the study, as indicated by his or her pretest score. Consequently, the interaction effect of move and pretest score was also considered. The initial screening of the data suggested that certain independent variables were related to other independent variables.[8] Accordingly, the following were excluded from the final analysis: (a) translation models for all three structures, (b) negotiation moves for word order and particle use in the locative-initial construction, and (c) completion models for particle use in the locative-initial construction.

The results of the multiple regression analyses are summarized in Table 5. There was a significant positive relationship between NSs' interaction behaviors, measured by the relative frequency of four different interactional moves (translation models having been excluded), and the subsequent learning of the three grammar targets. In other words, learners improved their performance on the structures after interacting with NSs, and some, but not all, NS interaction move types had a positive impact on the improvement. These findings are explained in detail below for each target structure.

For word order in the locative-initial construction, three independent variables (simple models, simple models + pretest score, and completion models) contributed significantly to predicting the immediate-posttest score, with 23% of the variance in the immediate-posttest scores accounted for by these independent variables. The positive coefficient of the value of completion models indicates that positive evidence of this type had a beneficial impact on subsequent learning of word order in this construction. The findings for simple models, however, were more complex. As illustrated in Table 5, the coefficient of the value of simple models was negative, whereas the interaction effect of

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Table 5. Summary of multiple regression analysis for interactional moves predicting short-term development of the target structures

	Locative word order		Locative particle use		Verb morpheme (*-te* form)	
Variable	β	*t*	β	*t*	β	*t*
Pretest	–0.005	–0.032	–0.021	–0.123	0.026	0.147
Simple models	–1.72***	–3.4	–1.65***	–3.29	–0.24**	–3.75
Simple model + pretest	0.035***	3.5	0.034***	3.38	0.028***	4.13
Negotiation	—	—	—	—	–9.77**	–2.51
Negotiation + pretest	—	—	—	—	0.99*	2.43
Recasts	–0.074	–1.23	–0.069	–1.17	0.066**	2.9
Completion model	0.24*	2.5	—	—	0.084	1.7
Constant	50	165	49.9	166.3	9.9	31.9

Note. $n = 41$ for all variables. $R^2 = .23$ for locative word order and for locative particle use; $R^2 = .38$ for *te*-form verb.
*$p < .05$. **$p < .01$. ***$p < .001$.

simple models and pretest score was positive. That is, the more simple models provided to the learners by the NSs, the lower their scores on the immediate posttest. However, in combination with a high pretest score, simple models positively influenced the immediate-posttest scores of a subset of learners. In other words, the positive coefficient of the interaction effect between simple models and pretest score suggests that simple models were statistically significantly effective for learners at an above-average level (i.e., above the median score on the pretest) but had a negative effect for learners at a below-average level (i.e., below the median score on the pretest).

The results of the analysis for particle use in the locative-initial construction were very similar to the word-order results. Twenty-three percent of the variance in the immediate-posttest scores was explained by the independent variables. The coefficient of the value of simple models was negative, but the interaction effect for simple models and pretest score had a significantly positive impact on the immediate-posttest scores. That is, for particle use in the locative-initial construction, simple models were beneficial for learners at an above-average level but not effective for learners at a below-average level.

The case of the *te*-form verb yielded somewhat different results. As shown in Table 5, three interactional moves (recasts, simple models, and negotiation moves) and the interaction effect of the pretest score and the two interactional moves (negotiation moves and simple models) predicted the immediate-posttest scores for this target structure. However, the value of the coefficients of simple models and negotiation moves was negative. This means that the more simple models and negotiation moves provided to the learners by the NSs, the lower their score on the immediate posttest. However, in combination with a high pretest score, these two interaction moves positively influenced the immediate-posttest score. Recasts, by contrast, had a positive

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impact on the *te*-form verb immediate-posttest score, regardless of the pretest score—that is, even though the frequency of recasts was far less than that of simple models, recasts provided on the *te*-form verb had a uniformly positive effect on every learner regardless of their pretest score.

These findings, however, should be interpreted with caution because a low value of R^2 (23–38% on average) across the three structures indicates that a number of factors other than the NSs' four interaction moves and the learner's mastery level of the target structures might have affected the subsequent development of the grammatical structures.

DISCUSSION

Types of NS Interactional Moves

Research question 1 concerned the types of interactional moves given by NS conversation partners in response to Japanese learners' nontargetlike utterances involving three grammar targets. In general, simple models (a form of positive evidence) were the single most frequent of the five NS interactional moves for all acquisition targets. After simple models, recasts were provided more often than any other interactional move (approximately 5–14% of all positive and negative evidence; see Table 2). Additionally, four qualitative patterns were observed in the data: (a) There were many instances in which a NS interlocutor ignored a nontargetlike utterance containing the target structures; (b) overall negotiation of meaning was markedly rare in comparison to the frequencies reported in other studies (e.g., Oliver, 1995); (c) frequent instances were found in which an interlocutor repeated the same move several times within the same feedback episode; and (d) the distribution of NS interactional move types was different depending on the particular acquisition targets. I examine each of these patterns in turn.

Instances of Ignored Nontargetlike Utterances. The standard deviations shown in Table 2 indicate that there was a large difference among the 41 NSs in terms of interlocutor behavior. That is, whereas some interlocutors provided many interactional moves in response to a NNS's nontargetlike and incomplete utterances, others did not. To investigate this further, the instances in which NS partners ignored learners' nontargetlike utterances and carried on the conversation were coded as "ignored."[9] An illustration of an ignored nontargetlike feature is provided in (12) in which the NNS is explaining the color of the clothes the man was wearing and also what he was doing.

(12) NS: *Eeto eeto nani iro no yoofuku o kiteimasu ka?*
um um what color GEN *dress* ACC *is-wearing* QUES
"What color of the dress is he wearing?"
NNS: *Yoofuku, eiga wa yoogo nan desu ka, yoogo?*
dress English TOP *dress what is* QUES *dress*

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Table 6. NS responses to NNS nontargetlike utterances

	Locative word order			Locative particle use			Verb morpheme (*te*-form verb)		
Interactional move	Total	%	*M*% (*SD*)	Total	%	*M*% (*SD*)	Total	%	*M*% (*SD*)
Recasts	36	32.73	35.0 (30.1)	64	31.07	36.81 (32.58)	121	39.90	41.6 (38.5)
Negotiation	16	14.55	17.7 (21.8)	20	9.71	9.29 (4.40)	10	3.3	5.11 (11.5)
Ignored	58	52.73	48.0 (31.5)	122	59.22	53.9 (30.75)	172	56.8	53.29 (41.8)
Total	110	100	100	206	100	100	303	100	99.99

Note. Because recasts and negotiation moves were given in response to nontargetlike utterances of the NNSs, only recasts and negotiation moves were considered in the calculation of the proportion of ignored moves.

NS: *Eiga*
"English"
NNS: *Eiga wa yoogo wa nan desu ka?*
English TOP *dress* TOP *what is* QUES
NS: *Wakari masen u:: aa.*
understand NEG
"I don't understand."
NNS: *Aan an ushiro wa ushiro no soba wa*
back TOP *back* GEN *beside* TOP
NS: *Un*
NNS: *an hito no ongaku o kikimasu ka?*
person GEN *music* ACC *listen* QUES
"Does this person listen to the music?"
NS: *Iie*
"No"
NNS: *Iie*
"No"
NS: *Ongaku o kiiteiru hito wa imasen.*
music ACC *is-listening person* TOP *there-is-not*
"There is nobody who listens to the music."
NNS: *Imasen.*
there-is-not
"There isn't." (Learner 10, Task 1)

In this interactional episode, the NNS produced the present verb *kikimasu* "listen" to describe a man listening to the music instead of the targetlike form *kiiteimasu* "playing" but the NS interlocutor did not correct the nontargetlike use and continued the conversation. Of all nontargetlike utterances involving the three target structures, the proportion of ignored episodes versus episodes containing a recast or a negotiation of meaning move is shown in Table 6.

Across all three grammatical forms, approximately half of the NNSs' nontargetlike utterances were followed by implicit negative feedback (most frequently recasts and occasionally negotiation moves), but the remaining half

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were ignored. This was a very high proportion compared with the results of Oliver's (1995, p. 470) study in which only 39% of nontargetlike utterances were ignored, 22.38% received recasts, and 38.56% were negotiated.

Rare Instances of Negotiation Moves. Of the nontargetlike utterances that were not ignored, 17.7% or less were negotiated ($M = 17.7\%$ for locative word order, 2.29% for particle use, and 5.11% for *te*-form verb; see Table 6). Further, negotiation of meaning moves containing the target structures accounted on average for 1–3% of all interactional moves (see Table 2). This was a very low proportion of negotiation of meaning, strikingly so compared to the proportions found by Oliver (1995), who showed that negotiation moves followed 38.56% of nontargetlike utterances and argued that this move type was preferred when the meaning of the NNS utterances was not clear.

Frequent Instances of Repetition Moves. Some NS conversation partners repeated the target form a number of times after their interactional moves. This amounted to an intensification of particular move types that might have affected the overall observed impact of each type. Examples of repetition moves are provided in (13), in which the NNS and NS exchanged information on what the man was doing in their pictures. The NS provided the recast *Nani o shiteimasu ka?* "What is he doing?" following the NNS's nontargetlike question, *Nani o shimasu ka?* "What does he do?" Then the NS described what the man in her picture was doing *Tabako o sutteimasu* "He is smoking a cigarette" and repeated the utterance.

(13) NNS: *Sono hito*
"That person"
NS: *Mannaka no hito desu ka?*
middle GEN *person is* QUES
"Do you mean the man in the middle?"
NNS: *Sono hito wa suwatte chizu o yomita yomimasu.*
that person TOP *sitting map* ACC *read read*
"The person is sitting and reads."
NS: *Iie, yondeimasen.*
"No, he is not reading."
NNS: *Soshitara nani o shimasu? Nani o shimasu ka?*
then what ACC *do what* ACC *do* QUES
"What does he do?"
NS: *Nani o shiteimasu ka? Eeto tabako o sutteimasu. Tabako o sutteimasu.*
what ACC *is-doing* QUES *ah cigarette* ACC *is-smoking cigarette* ACC *is-smoking*
"What is he doing? Well, he is smoking a cigarette. He is smoking a cigarette."

Table 7 shows the mean frequency and standard deviation of repetition moves, the total NS moves, and repetition moves of the total NS interactional moves. The frequency of repetition across target structures varied. For example, comparison of the percentage of repetition moves of the total NS moves

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Table 7. Mean frequency and *SD* of instances of repetition and total NS interactional moves

	Repetition		Total NS moves		Repetition-NS move (%)	
Structure	*M*	*SD*	*M*	*SD*	*M*	*SD*
Locative word order	1.49	1.87	11.07	5.09	10.00	10.00
Locative particle use	1.76	2.03	16.15	6.84	10.00	1.00
Verb morpheme (*-te* form)	8.44	4.85	27.12	10.83	36.00	26.00

for all three grammar targets shows that the *te*-form verb received more repetition ($M = 36\%$) than word order in the locative-initial construction ($M = 10\%$) and particle use ($M = 10\%$) in the same construction.

Different Distributions of Move Types across the Acquisition Targets. A close examination of the data shows that there were differences in the types of moves provided across the three grammatical structures. For example, very few translation models were given for word order in the locative-initial construction ($M = 0.8\%$), whereas quite a few instances of translation models were observed for the *te*-form verb ($M = 5.94\%$); see Table 2. These differences were perhaps due to characteristics of the particular grammar structures. For example, for word order in the locative-initial construction, instead of asking for the Japanese equivalent sentence form, learners tended to use the subject-initial construction. According to Huter's (1996) categorization of the developmental sequence of the acquisition of Japanese syntax, the subject-initial construction occurs before locative-initial constructions. An example is provided in (14), in which the NNS was describing the location of an ashtray in a picture.

(14) NNS: *'ashtray' wa teeburu no ue ni arimasu.*
'ashtray' SUB *table* GEN *top* LOC *there-is*
"The ashtray is on the top of the table."
NS: *Teeburu no ue ni 'ashtray'?*
table GEN *top* LOC *ashtray*
"On the top of the table, is there an ashtray?" (Learner 21, Task 1)

In response to the NNS's utterance, the NS provided a recast in the form of a confirmation check. In (15), from a spot-the-difference task describing what the person in the picture frame was doing, the learner attempts to use the target structure (*te*-form verb), but her attempt is unsuccessful. Then, in response to the NS's partial repetition of the utterance, she decides to use an English word instead. In reply to the English word, the NS partner supplies the target model through an implicit translation model.

(15) NNS: *E no hito wa gitaa o hi, hikumasu.*
picture GEN *person* SUB *guitar* ACC *plays*
"The person in the picture plays the guitar."

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NS: *gitaa*
"Guitar"
NNS: *playing*
NS: *hiiteimasu*
"Is playing"
NNS: *hiiteimasu*
"Is playing" (Learner 10, Task 1)

The interaction turned out to be lexical in that the progressive-form verb was treated as a lexical item. That is, this learner used a word in English (*playing*) when unsure of the *te*-form. There were several other instances like this for the *te*-form verb, as shown in (16). The learner was trying to describe a girl running but did not know the Japanese equivalent of the verb.

(16) NNS: *Eeto, baiorin no ushiro no onna-no-hito wa 'running.'*
ah violin GEN *behind* GEN *woman* TOP *'running'*
"Ah, the woman behind the violin 'is running'."
'Running' wa nihongo de nan desu ka?
'running' SUB Japanese INST what is QUES
"What is 'running' in Japanese?"
NS: *'running'?*
NNS: *'running.'*
NS: *aa hashiru, hashitteimasu.*
"Ah run, running."
NS: *Onna-no-hito ga hashitteimasu ka?*
woman SUB *is-running* QUES
"Is the woman running?" (Learner 5, Task 3)

In this case, the NNS knew that she had to use the progressive form so she asked the NS interlocutor to supply the progressive verb form *running* in Japanese. The translation model given to the NNS was the progressive verb form of *run* in Japanese. In other instances, in describing a man reading a newspaper the NNS used the present form instead of the progressive form when he or she did not know the word and received a recast from the NS partner, as shown in (17).

(17) NS: *Atoo moo hitori no otoko-no-hito wa koora o nondeimasu.*
another GEN *man* TOP *cola* ACC *is-drinking*
"Another man is drinking coke."
NNS: *Koora.*
"Cola."
NS: *Kokakoora o nondeimasu.*
Coca cola ACC *is-drinking*
"(He) is drinking Coke."
NNS: *Ano hito wa shinbun o yomimasu.*
that person TOP *newspaper* ACC *reads*
"That person reads a newspaper."
NS: *Aa ano hito wa shinbun o yondeimasu.*
ah that person TOP *newspaper* ACC *is-reading*
"That person is reading a newspaper."

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NNS: *Shinbun o yondeimasu.*
newspaper ACC *is-reading*
"(That person) is reading a newspaper." (Learner 6, Task 1)

To summarize the findings in relation to research question 1, NS interlocutors provided the L2 Japanese learners with simple models of the three target structures far more frequently than they supplied any other interactional move type; recasts were the next most frequent move for the two target structures, which accounted for approximately 5–14% of all interactional moves, including implicit negative feedback and positive evidence. These findings must be interpreted within the context of very low rates for negotiation-of-meaning moves (only about 3% or less of all nontargetlike utterances) and a marked tendency by many NSs to ignore nontargetlike use about half of the time. Additionally, individual variation in NS interlocutor behavior was large, and NSs seem to have intensified the force of moves in repetition episodes and to have preferred certain interactional types depending on the particular structure at hand.

Across all acquisition targets, approximately half of the NNSs' nontargetlike utterances were ignored, only about 17% or less were negotiated, and 35–41% were recasts (see Table 6). As previously noted, this is a strikingly high proportion of ignored episodes and a very low proportion of negotiation of meaning, compared with the results of Oliver's (1995) study. The differences between the findings in the present study and those reported by Oliver may be related to the age of the participants, their culturally determined interactional styles, or a combination of factors. Of course, one way of reconciling the differing amounts of ignored episodes and negotiation of meaning observed in the two studies might be to assume that in the present study few NNS utterances were unclear and therefore few required negotiation of meaning. This is indeed a plausible explanation in that the length of utterances produced by the L2 Japanese beginners in the present study was relatively short (four or five words on average), and thus the meanings of these short utterances might have been clear enough not to require negotiation of meaning. Also, the children in Oliver's study were more likely to have been reliant on linguistic features. They were also less skilled at inferring meaning and therefore able to carry out the task interacting without feeling inhibited, whereas the Japanese NSs may have tried to solve the lack-of-understanding problem without negotiation and could have felt more inclined to ignore errors. This explanation is supported by some studies (e.g., Aston, 1986; Hawkins, 1985), which have pointed out that interlocutors fake comprehension to avoid face-threatening confrontations. During the informal interview conducted after the treatment period, several of the Japanese interlocutors remarked that they felt rather awkward asking for clarification in situations where the nontargetlike nature of learner speech caused difficulty in understanding.

Finally, it is possible that the low frequency of negotiation moves may have been partly due to a task effect (e.g., the concreteness of the pictures used)

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and the background of the Japanese NSs. Many anthropological linguists have demonstrated that participants in interaction must display to one another what they are doing and how they expect others to align themselves to the activity (e.g., Goffman, 1981; Goodwin, 1990; Philips, 1972), but this may have not been the case for the Japanese interlocutors, who come from a society in which silence is regarded as a virtue.

As shown in Table 6, even though the proportion of NNSs' nontargetlike utterances that received implicit negative feedback in the present study was not as high as in Oliver's (1995) study, the incidence of implicit negative feedback in the present study was still higher than the 25% rate that researchers in child acquisition claim is sufficient for children to learn the correct linguistic rule (Bohannon, MacWhinney, & Snow, 1990).[10] The issue as to whether the NS interlocutors' behavior in ignoring nontargetlike utterances had any impact on learner performance on the immediate posttest will require further research. The high rate of ignored nontargetlike utterances notwithstanding, it should be recalled that pretest to immediate-posttest score comparisons on grammar tests showed a beneficial impact of interaction on short-term development of the target structures.

The Effects of Task-Based Conversation on Short-Term Development

Research question 2 concerned the effects of task-based conversation on the short-term development of grammatical structures, as evidenced in statistically significantly improved scores on the immediate and delayed posttests. It was found that the treatment groups improved on grammar performance as a result of participating in task-based interaction, whereas the control group, without the benefit of focused task-based interaction that fostered the natural use of the target grammar structures, did not improve as much as the treatment group. Furthermore, NNS interlocutors in the treatment groups maintained approximately the same level of performance 1 week after the treatment. These results support the claim that focused task-based interactions that make the forms essential or at least useful to the task (Loschky, 1994; Loschky & Bley-Vroman, 1993) are facilitative of learning.

Although in this study NNS interlocutors in the treatment groups kept the same level of performance 1 week after the treatment, in other task-based studies the benefits of interaction have been observed to increase over time rather than to be maintained. Specifically, Mackey (1999) found some improvement on her delayed posttests for the group that participated in interaction and explained these results by citing Gass and Varonis (1994), who suggested that delayed development may be expected in task-based language learning because learners require sufficient time to process and incorporate the new structures (p. 286). The process through which learners internalize the structures into their interlanguage system may be facilitated by increased awareness of the structures through continuous exposure to them in tasks carried

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out over time. However, the participants in these two studies were learners in L2 settings who would have had ample opportunities to hear the target language outside class, which might have helped them notice the form as well as to process and incorporate it. In the present study, however, participants had rarely been exposed to the target language outside class; therefore, even if they had been alerted to the structures tested in the study through the treatment, they would have had little chance to improve their awareness of the structures and internalize the target language system through exposure to the L2. This may have been why their performance did not show further improvement on the delayed posttest. Additionally, the time gap between the immediate and delayed posttests was only 1 week, which might not have been long enough to see any further improvement. Long-term observation is required in order to explore the process of improvement over time. Nevertheless, learners were able to maintain the gains accrued by the treatment in spite of the novelty and difficulty experienced during their first-time interactions with NS interlocutors. In debriefing interviews, many participants said that they had felt more confident and had been able to describe the picture in Japanese in detail during the delayed posttest.

The Effects of Interactional Moves on the Short-Term Development of Grammatical Structures

The purpose of research question 3 was to examine types of NS interactional moves that would promote the short-term development of the acquisition targets. The choice of multiple regression as a tool to examine this question made it possible to explore the specific effects of interaction processes (five different moves containing implicit negative feedback and positive evidence) on the learning outcomes of the same interactions (immediate- and delayed-posttest scores) while taking into account learner level (pretest scores) as a moderator variable. Recasts had a beneficial impact on *te*-form verbs but not on the two locative-initial targets.

For these two targets (word order and particle use in the locative-initial construction), positive evidence in the form of simple and completion models (only for word order) led to better learning. Nonetheless, the beneficial effects of simple models on the locative-initial construction targets were moderated by the pretest score (i.e., only higher level learners benefited from models on the locative-initial construction). However, the beneficial effects of recasts on *te*-form verbs were not constrained by the learner's current mastery level of the target structure. Another interesting finding was that short-term development of the *te*-form was statistically significant in relation not only to recasts but also to simple models and to negotiation of meaning moves (but only for above-average-level learners).

When all results are compared in terms of target structures, they seem to suggest that the learner's current level operates more on the locative-initial construction than on the *te*-form verb. Comparison of the pretest and immedi-

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ate-posttest scores of the three grammar targets (see Table 3) shows that participants improved their performance on *te*-form verbs far more than other structures (i.e., the mean *te*-form score increased by more than four times compared to a 75% and 100% increase for particle use and word order, respectively). The relative difficulty of the three target structures may be explained in two ways. First, both implicit negative feedback (recasts and negotiation of meaning) and positive evidence (simple models) contributed to short-term gains for *te*-form verbs, whereas only positive evidence (simple and completion models) was beneficial for the two targets involved in the locative-initial construction. Second, all effects associated with the learning of the locative-initial construction were constrained by the learners' mastery level of the target structures. Future studies will need to explore the differential acquisition difficulty of these structures in L2 Japanese and, most importantly, the relative effectiveness of instructional interventions (including task-based treatments and negative-feedback treatments) as a function of the nature of the grammatical targets on which they focus (e.g., Norris & Ortega, 2000; Spada, 1997; Williams & Evans, 1998).

A close examination of the relationship between frequency of move types during the interactions (investigated in research question 1) and the contribution of move type to the learning of the grammar targets (investigated in research question 3) sheds some light on an important argument about the effectiveness of implicit negative feedback debated in past research—namely, most discussions of empirical results have assumed that, to be effective, negative feedback needs to be provided with high frequency (see Doughty & Varela, 1998; Lyster, 1998a, 1998b; Oliver, 1995). Given that the frequency of suppliance of simple models during the task-based interactions was far higher (approximately 10–20 times more frequent) than that of any other interactional move, models would naturally be expected to contribute to the immediate-posttest score. However, recall that the value of the multiple regression coefficient for simple models alone was found to be negative across all grammar targets and that it was the interaction effect between simple models and pretest scores that was positive. The effect of recasts on the *te*-form verb, on the other hand, was positive on learners regardless of pretest score, even though the frequency of recasts was far less than that of simple models.

These findings need to be explained in terms of saliency versus frequency. Saliency refers to how noticeable the target structures are to the participants. For example, simple models were extremely frequent but probably not very salient. Completion models, on the other hand, were much less frequent, but two of the three grammar targets (both embedded in the locative-initial construction) were learned better (by above-average-level learners) through this move. Recasts, which were much less frequent than simple models, led to significant gains on the *te*-form verbs. Thus, arguments that equate high frequency of suppliance with likelihood of effectiveness should be treated with caution; in future investigations of negative feedback and positive evidence, frequency effects need to be empirically examined in conjunction with sali-

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ency effects. It should be noted, however, that the saliency of NS feedback cannot be established without examining the beliefs and perceptions of the learner; examples given in this article are not sufficient evidence of saliency, providing only grounds for speculation.

In addition to frequency and saliency, intensity achieved via repetition moves needs to be considered when teasing out the impact of simple models, recasts, or negotiation moves on short-term development of *te*-form verbs versus the observed lack of impact on the locative-initial forms. It is not clear, however, precisely how repetition moves helped participants in the study to internalize the target grammar items. VanPatten (1990) proposed that beginning learners are not able to attend to both meaning and form. However, repetition of the NS move would enable NNSs to attend to both meaning and form through repeated target model utterances, and this might have resulted in short-term development. Further research will be required to show whether such NS repetition moves have any impact on the short-term development of acquisition targets as initially speculated by Rabie (1996) and tentatively supported in the present study.

By confining themselves to ANOVAs, previous studies of the effectiveness of negative feedback could not detect the effects of learner mastery of the target structures as a moderator variable. The results gleaned from the multivariate analyses (see Table 4) indicate significant improvement on the immediate-posttest scores, but the results obtained through multiple regression analyses (see Table 5) reveal that the participants who did not improve in performance on the target forms through the treatment were precisely those with relatively low scores on the initial pretest of such structures. In other words, task-based interaction may work better if a learner's mastery level of the target forms is above a certain threshold level, at least for certain target structures. This concurs with the claim made by Pica (1994a) that learners beyond a beginning level are better at making use of conversational interaction and modification. Mackey and Philp (1998) also found that so-called unready learners (i.e., those who had not reached the relevant stage to learn a certain structure) did not improve their performance after the intensive recast treatment.

With regard to the results of research question 3, the present study contains both methodological limitations and strengths. The design was quasi-experimental, whereas other recast studies that addressed effects of learning were experimental (e.g., Long et al., 1998; Mito, 1993). In this regard, the dyadic interaction in the present study was more like the format in which learners engage during group work, and the results may have more relevance to classroom foreign language learning than do tightly decontextualized experimental studies (see Lyster, 1998b). However, as Saxton (1997) pointed out, the problem with naturalistic conversation is that it is impossible to isolate the effects of positive and negative input. In the present study, all participants received positive evidence (i.e., simple, completion, and translation models) as well as implicit negative feedback (i.e., recasts and negotiation moves), and

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the results show that both the models (i.e., simple and completion models) and the recasts afforded during interaction affected short-term development of the acquisition targets. Thus, it was hard to control for the possible impact of some discourse features (e.g., repetition moves and ignored responses) on the subsequent development of the grammatical structures. At the same time, however, it should be noted that, whereas other recent empirical studies of interaction (e.g., Doughty & Varela, 1998; Loschky, 1994; Mackey, 1999) excluded the possible differential impact of a multiplicity of interactional moves during interaction, the present study made an attempt to tease out the influence of negative feedback and positive evidence within interaction. Furthermore, the frequency of interactional moves could not be controlled due to the nature of the treatment. As a result, the occurrence of each NS move type varied from learner to learner. Because the incidence of simple models outnumbered that of other interactional moves, it is not certain which of several factors discussed earlier, such as the frequency of the move, its nature, its intensity (i.e., repetition), or a combination of each, facilitated subsequent development. For future investigations, further methodological refinement will be required.

CONCLUSION

The present study investigated the role of task-based conversation in the L2 acquisition of the Japanese locative-initial construction and *te*-form verbs. Three issues were examined: the types of interactional moves provided by NS interlocutors (including implicit negative feedback and positive evidence during task-based conversation), the effects of interaction on L2 learning of the grammar targets, and the relationship between specific types of NS interactional moves and the short-term development of the acquisition targets. The results showed that the NS conversation partners provided a variety of interactional moves to the beginning L2 learners of Japanese and that certain move types were associated with short-term development of the target structures. The positive effect was still observed in the delayed posttest administered 1 week after the treatment. The findings contributed further evidence of the availability of implicit negative feedback in task-based interaction.

Although positive-evidence moves were far more frequent than negative-feedback moves, and nontargetlike attempts at the targets were ignored half of the time, most of the implicit negative feedback provided during the 41 task-based interactions was delivered in the form of recasts (more than 70% of all implicit negative feedback), and grammar tended to be topicalized preferentially via recasts. Thus, implicit negative feedback was available to learners during task-based interaction in which the NSs were not trained or instructed to provide feedback to NNSs. Clear evidence for the facilitative role of recasts, however, was found for only one target: the *te*-form verb. The present study not only provided evidence that task-based interaction is facilitative of short-term interlanguage development but did so by establishing a benefi-

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cial role for positive evidence as well as negative feedback. The study simultaneously investigated the effects of the type of interactional move on short-term development and readiness to acquire the target structures further. This double investigation was possible by means of multiple regression analysis, which has not been employed until now in L2 studies of negative feedback.

Finally, the findings of the study furnish empirical arguments for a future research program in which the following variables are the focus of investigation regarding the effectiveness of negative feedback in task-based L2 learning: (a) a threshold hypothesis for a facilitative role of interactional moves—that is, the possibility of differential effects of interactional moves (particularly the positive evidence moves) depending on learner level; (b) the possibility of salience (in addition to frequency) as the main predictor of which interactional move types may be most facilitative of learning (beyond their status as positive or negative evidence); (c) the need to disentangle the effects of type, frequency, and intensity of move; (d) the need to account for individual differences in NS and NNS behaviors and to establish the impact on posttest scores of the degree to which the individual, as opposed to the group, experiences various interactional types; and last (e) a long-term investigation of the effectiveness of positive and negative evidence.

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NOTES

1. Gass (1997) explained that the terms *negative feedback* and *negative evidence* are often used interchangeably, but strictly speaking, negative evidence is more complex in that it is generally understood to include information about what is right. Negative feedback, on the other hand, only indicates that there is a problem but not what it would take to fix the problem.

2. Recasts studied in the present study do not have the explicit component as in Doughty and Varela (1998).

3. I am grateful to Michael Long for suggesting these criteria.

4. Baseline data was collected by administering all treatment tasks and pre-, immediate post-, and delayed posttests to NSs.

5. There are two basic verb forms in Japanese: the *-mas* form, and the dictionary form. The dictionary form is the one that shows the category of the verb by itself. Learners at the beginning level usually learn the *-mas* form first; the dictionary form is usually introduced toward the end of this level. There are three categories in the Japanese verb system: consonant, vowel, and irregular. Vowel (strong) verbs simply add *-te* to the stem (e.g., *mi-masu*, *mi-ru*, *mi-te* "see"); consonant (weak) verbs add *-te* or *-de* depending on the stem type and undergo certain morphophonemic alternations (e.g., *ka-imasu*, *ka-u*, *ka-tte* "buy"; *yom-imasu*, *yo-mu*, *yo-n-de* "read"); and irregular verbs, unlike vowel and consonant verbs, do not have any observable rules to produce the *te*-form (e.g., *shi-imasu*, *suru*, *shiite* "do").

6. Initially, both implicit and explicit negative feedback were considered for investigation, but the latter (in the form of explicit error correction) was rarely observed in the interactions. Therefore, only implicit negative feedback in the form of recasts and negotiation moves was analyzed.

7. Lyster (1998a) treated this type of NS interlocutor feedback as a recast.

8. When independent variables are highly correlated, the variables are redundant (i.e., they contain redundant information) and are therefore excluded in the same analysis (Tabachnick & Fidell, 1996).

9. This convention is similar to other empirical studies (e.g., Oliver, 1995; Richardson, 1995), but it might have been appropriate to use the term "not corrected."

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10. This does not mean that the L2 acquisition process is equivalent to the child L1 acquisition process.

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APPENDIX

AN EXAMPLE OF THE TREATMENT TASK

Communication task "My house was burgled!"

Your house was burgled yesterday. You need to report on the incident to the police (your conversation partner). Your task in the game is to describe the picture in as much detail as possible. For example, you need to explain:

1. where furniture are placed in the room
2. where items were in the room (e.g., pictures, cushion, rings, electric fan, map, vacuum cleaner, wallet, flower vase, hats, and ashtray)
3. color of the items above (e.g., cushion, hat, flower vase, wallet)
4. pattern of the cushion

Your partner will draw a simple picture as he or she listens to your description. You are not supposed to show the picture to your partner.
You will start the conversation.

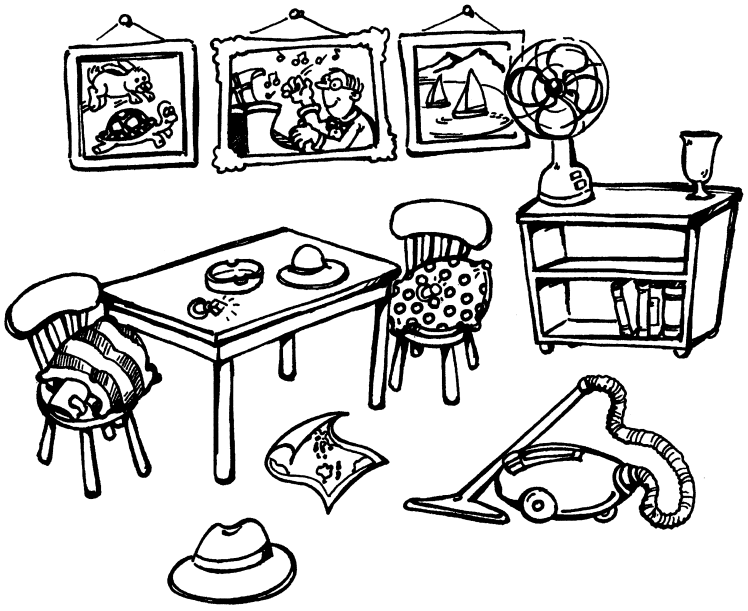


Figure A1. A sample picture used in the one-way task.

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