APPLICATION OF A MARKEDNESS THEORY TO JAPANESE LEARNERS’ ACQUISITION OF DISCOURSE FACTORS IN THE DATIVE ALTERNATION*  
KAZUKO SHIMABUKURO KATSUFUJI  
University of Hawai‘i at Manoa  

INTRODUCTION

Transfer is an important element in second language acquisition, and researchers have sought to identify the conditions that promote and inhibit transfer. One of the most rigorous claims in research on transfer is that the degree of transferability of different features depends on their degree of markedness. Eckman (1977, 1981, 1996) has advanced the Markedness Differential Hypothesis (MDH) to account for “(1) why some NL-TL differences do not cause difficulty, and (2) why some differences are associated with degrees of difficulty and others are not (Eckman, 1996, p.199).” Eckman claims that the transfer effects surface when the area of L1 is unmarked and the area of L2 marked, but does not exist when the area of L1 is marked and the L2 unmarked. In this paper, data from native language (NL), interlanguage (IL), and target language (TL) are analyzed to examine how discourse factors of English dative alternation are acquired by Japanese adult learners of English, then the results are interpreted within the framework of Eckman’s MDH. The first section of this paper briefly reviews the concept of markedness in general and in MDH. In the second section, what is known about discourse constraints on the dative alternation in English is discussed. In the third section, a brief review of research on Japanese dative structures is provided, since the MDH makes predictions dependent on the universal principles and the native language of the learner. The subsequent sections outline the research hypotheses, describe the experiment, and interpret the results, which are in general consistent with the hypothesis. Finally, suggestions are made for additional research.

*Special thanks go to Robert Bley-Vroman for his help. I would also like to thank James Dean Brown and Kate Wolfe-Quintero for their comments and suggestions.
MARKEDNESS

Although the term marked has several definitions, common to all of the definitions is the concept that some linguistic features are distinctive in relation to others, which are more fundamental. One definition of markedness derives from Chomsky’s (1981) theory of Universal Grammar. This distinguishes the rules of a language that are core and periphery. Core rules are governed by universal principles and considered to be innate, and they can be both unmarked and marked. Peripheral rules are those that are arrived at through unique historical origins and considered to be idiosyncratic (Ellis, 1994), and they are marked. Another definition of markedness is found in language typology. The general argument is that those features that are present in most languages are unmarked, while those that are specific to a particular language or found in only a few languages are marked. In this paper, the term markedness is used in this typological sense.

Regarding the effects of markedness on the transferability of L1 features, there is somewhat mixed evidence. Two general hypotheses have been investigated: (a) learners will transfer unmarked forms when the corresponding target language form is marked, and (b) learners will resist transferring marked forms, especially when corresponding TL form is unmarked. There is one oft-cited study which illustrates the two hypotheses. It is Eckman’s (1977) study of asymmetrical patterns, and it is one of the most convincing pieces of evidence of the effects of markedness on transfer. Eckman investigated transfer of the voice contrast in pairs of phonemes such as /t/ and /d/ in the interlanguage of English learners of L2 German and German learners of L2 English. In English, this voice contrast exists in the beginning, the middle, and the end of a word. In contrast, in German, the contrast is maintained only at the beginning and in the middle of a word; but at the end, only voiceless sounds occur. He reports evidence to show that English-speaking learners succeeded in producing only voiceless consonants at the end of a German word without problems, while the German-speaking learners had considerable difficulty in producing the voiced at the end of an English word. Eckman argues that voice contrast is more marked in the word-final position than in the beginning or in the middle, and no transfer effects exist when the L1 position is marked and the L2 position unmarked, but they surface when L1 position is unmarked and the L2 marked. Based on this study, Eckman advances a concept called Markedness Differential Hypothesis:

The areas of difficulty that a second language learner will have can be predicted on the basis of a comparison of the native language (NL) and the target language (TL) such that:
a. Those areas of the TL that differ from the NL and are more marked than the NL will be difficult.
b. The relative degree of difficulty of the areas of the TL that are more marked than the NL will correspond to the relative degree of markedness.
c. Those areas of the TL that are different from the NL but are not more marked than the NL will not be difficult. (Eckman, 1996, p.197-8)

There have been several phonological and syntactic studies designed to test the claim, and the capability of MDH to predict degrees of difficulty has been generally supported in the findings (Doughty, 1991). The present study, focusing on the acquisition of discourse factors of the dative alternation, attempts to situate the interaction between syntactic structure and information structure in L1 and L2 in the framework of MDH. The study also tries to predict any directionality and degrees of difficulty. We now turn our attention to the dative structure in both NL and TL.

**THE ENGLISH DATIVE ALTERNATION AND DISCOURSE**

The English dative alternation is well known for its relationships with discourse, in addition to its sentence-level semantic and morphological constraints (for a useful overview, see Inagaki, 1993). For example, even alternating verbs such as *give* are highly constrained in certain discourse contexts, as shown in the following sentences (Erteschik-Shir, 1979; Halliday, 1970; Smyth, Prideaux, & Hogan, 1979).

(1) a. Who did Paul give the book to?
    b. Paul gave the book to Jane.
    c. ?Paul gave Jane the book.

(2) a. What did Paul give Jane/to Jane?
    b. Paul gave Jane the book.
    c. ?Paul gave the book to Jane.

If sentences (1b), (1c), (2b), and (2c) are read with normal intonation without placing contrastive stress on any particular words, (1c) and (2c) sound less natural than (1b) and (2b) as answers to (1a) and (2a) respectively. The naturalness of the sentences is due to the distinction between the first noun phrase (NP) which carries given information and the second NP which bears new information. In other words, there is a discourse factor
operating in the English dative alternation to discourage an NP carrying new information from filling in the NP position immediately after the verb.

There are two claims to be examined regarding discourse factors in second language acquisition. The first one is based on Givón's (1979a; 1979b) work. According to him, the relationship between discourse and the dative alternation is better explained in terms of the universal word-order principle and that “the left-most constituent is the more topical one, that is, the one more likely not to constitute new information, while the right-most constituent is the focus of the new information” (Givón, 1979a, p.161), and “it is quite likely that the pragmatic mode is actually the MOST universal component of our communicative skills, the bottom-line register shared by all humans” (Givón, 1979a, P.102). From Givón’s standpoint, it could be argued that the existence of these two alternates would develop naturally out of conversational input because given-new information ordering is a universal principle. Givón also claims other universal principles, and several studies have tested Givón’s claims on the principles. Although they are not studies of the dative alternation per se, it is important to notice that the studies show contradictory results: for example, the studies by Pfaff (1987) and Chaudron and Parker (1995) support this view, while results reported by Tomlin (1990) disagree with this claim. It seems that the status of functional universals is still ambiguous, in part because of problematic methodology as Tomlin (1990) points out, and the “given-new principle” also needs to be tested for its universality. The other claim to be examined is the question of what influences the transferability of discourse factors.

Studies such as that of Schachter and Rutherford (1979) support the idea that discourse factors tend to transfer, and they argue that what is observed as syntactic transfer on the surface could be discourse transfer. However, Schachter and Rutherford’s study does not adequately explain what promotes or hinders such transfer. Furthermore, they do not clearly distinguish the relative degree of the transferability of syntactic and discourse factors. Viewing the current issue from this perspective, it could be argued that the relationships between discourse factors and the dative structure in L1, if there are any, will be likely to transfer to L2. Although it appears to be legitimate to assume that discourse and pragmatic transfer from L1 is common, we do know neither the directionality nor degrees of difficulty caused by such discourse transfer. Besides, there seem to be some methodological problems, which still need to be solved.

Ellis (1994) is concerned about the methodology of Schachter and Rutherford (1979), noting “it is not even clear how the relative occurrences of transfer in discourse and syntax should be measured” (Ellis, 1994, p. 317). With these issues in mind, the purpose of the present study is to provide more information about how the relationship between
APPLICATION OF A MARKEDNESS THEORY

discourse factors and the dative alternation is represented in L2 learners' interlanguage. This study also attempts to suggest a methodology to weigh the relative occurrence of transfer in discourse and syntax. Before turning to the study, however, the discourse-syntax relationship in Japanese dative will be outlined.

FACTS OF JAPANESE

The investigations of the validity of the functional universal and of L1 discourse transfer to L2 depend crucially on an analysis of the learners' L1 in the relationship between discourse factors and dative structures. Studies of the Japanese dative structure (Bley-Vroman and Yoshinaga, 1992; Sawyer, 1995) have typically been based on the assumption that Japanese does not have a dative alternation and have not considered any interaction between discourse and the structures. However, recently, Miyagawa (1997) has claimed that there are substantial syntactic differences between the two orderings of NPs in Japanese dative structures. He has found that the marginality of the floating numeral quantifier associated with the dative disappears if a manner adverbial phrase is added to the sentence and the accusative is moved out of the verb phrase (VP) to the left of the adverbial. Based on this finding, Miyagawa concludes that there is a focus position between the subject and the VP. This implies that not only are there syntactic differences between two orders in Japanese dative structures, but there are discourse-related differences between them, as well.

Prior to the present study, I conducted an experiment (Katsufuji, 1998) to find how discourse factors influence Japanese dative alternation. I will not recapitulate the details of that experiment here, but a summary of the design and results is necessary for understanding the markedness relationship, which will be later discussed. That study was designed to examine whether or not discourse factors (Echoity—the potential property of Japanese dative constructions to take the same structure as the question preceding them, Information Order, and Prompt Type) have a significant effect on the choice of the two alternates in Japanese dative structures by Japanese monolingual speakers. In addition, the study also offered a test to the universality of the widely-accepted proposition “old information precedes new information.”

The participants in the study were 56 native speakers of Japanese who could justifiably be called monolinguals since the society they were living in did not require them to use English at all. Questionnaires were used for the experiment. The questionnaire consisted of 16 pairs of wh-questions and responses. For each pair, the participants were asked to rate the acceptability of the response. In all 16 sets, the
response utilized a dative construction, which was "contextually motivated" by the previous interrogative sentence, that is, if they were translated in English, they could not felicitously have alternated with another dative construction. There were eight combination types of wh-questions and dative constructions created from a two (dative prompt, accusative prompt) by two (echoed, non-echoed) by two (new-given, given-new) matrix of tested factors, and two sets were tested for each such combination. Each set contained a counterpart of an English dative verb which allows alternation. All sentences were grammatical in Japanese. Six verbs were used (the Japanese equivalents of give, send, show, throw, pass, and teach), and the sentences containing each verb were randomly placed. A seven-point Likert scale (1-7) followed each set of sentences. The following are the examples of the eight combination types (Katsufuji, 1998, p. 24):

(3)  
a. (Dat-prompt, echo, new-given)
   Paul-wa dare-ni hon-o age-mashita-ka?
   Paul-Nom who-Dat book-Acc gave?
   Paul-wa Jane-ni hon-o age-mashita
   Paul-Nom Jane-Dat book-Acc gave

b. (Dat-prompt, echo, given-new)
   Paul-wa hon-o dare-ni age-mashita-ka?
   Paul-Nom book-Acc who-Dat gave?
   Paul-wa hon-o Jane-ni age-mashita
   Paul-Nom book- Acc Jane-Dat gave

c. (Dat-prompt, non-echo, new-given)
   Paul-wa hon-dare-n age-mashita-ka?
   Paul-Nom book-Acc who-Dat gave?
   Paul-wa Jane-ni hon-o age-mashita
   Paul-Nom Jane-Dat book- Acc gave

d. (Dat-prompt, non-echo, given-new)
   Paul-wa dare-ni hon-o age-mashita-ka?
   Paul-Nom who-Dat book-Acc gave?
   Paul-wa ho-o Jane-ni age-mashita
   Paul-Nom book- Acc Jane-Dat gave

e. (Acc-prompt, echo, new-given)
   Paul-wa nani-o Jane-ni age-mashita-ka?
   Paul-Nom what-Acc Jane-Dat gave?
   Paul-wa hon-o Jane-ni age-mashita
   Paul-Nom book-Acc Jane-Dat gave
The results of the experiment demonstrated first, in terms of naturalness, that the new-given information order was preferred to the given-new order for Japanese monolingual speakers. Second, the experiment showed that there were significant interactions between Prompt Type and Information Order and between Echoity and Information Order. The dative constructions in a new-given information order were judged more natural when they were the answers of a dative prompt than when they are the answers of an accusative prompt. In addition, both the new-given information ordered and given-new information ordered dative constructions were judged more natural when they echoed the structure of the preceding interrogative sentence. In sum, the results of the experiment showed clearly that the performances of Japanese native speakers in Japanese dative constructions in context are different from those of the English native speakers in previous studies (Smyth et al., 1979; Thompson, 1990).

The results were first interpreted in the framework of the universal principle. For decades, the proposition “old information precedes new information” has been widely accepted as a universal principle among linguists. Studies by researchers such as Kuno (1983; 1987) and Givón (1979b; 1995) are heavily based on the proposition. However, the findings from the above-mentioned study do not support the universal principle; new information does not always follow old information in Japanese. In fact, languages always have ways of violating this word-order rule when it is necessary. For instance, in English, the right dislocation has the effect of placing old information at the end; the it-
cleft has the effect of locating new information before old information. In addition, a special *marked* intonation can permit a change in information order. It appears to be important to make a distinction between absolute universals and universal tendencies regarding the proposition in the present study. Obviously, as Comrie (1984) points out, if any language has some property inconsistent with a universal principle, then the universal principle can only be a "tendency." The results of the first experiment clearly show that the information structure of Japanese dative sentences is inconsistent with the proposition. Therefore, I have come to the conclusion that the proposition is not an absolute universal but rather a tendency. Also, since given-new information ordering is generally (though not absolutely) observed from language to language, it is justifiable to assume that the given-new ordering is a less marked information structure. The conclusions, based on preliminary study can be summarized as follows:

1. There is a strong interaction between prompt type and information ordering: the distinction between the two information orderings is not significant when the *wh*-questioned word is accusative; on the other hand, when the *wh*-questioned word is dative, then new-given information ordering is judged significantly more acceptable than given-new ordering.

2. The information structure of Japanese dative sentences is inconsistent with the proposition “old information precedes new information.” Thus, the proposition is no longer an absolute universal but a tendency.

3. The given-new information ordering is less marked than the new-given information ordering.

**MARKEDNESS AND THE DISCOURSE FACTORS**

In this section, I make a prediction about how Japanese L2 learners will acquire the English DA based on the markedness relationship of discourse factors in L1. Before going to the actual hypothesis about direction and degrees of difficulty, I will review the previous studies on markedness regarding dative structures.

There are various theories of markedness in previous research on the acquisition of the dative alternation (L1 and L2). In early studies, such as in White (1987) and Mazurkewich and White (1984), it is believed that the PD is unmarked and thus should be acquired before the DOD. Later, Wolfe-Quintero (1992) challenges this view by reporting contradictory results found in a crosslinguistic study of French and Chinese according to which the DOD is unmarked. She suggests that it may be necessary to make important modifications to the concept of markedness—markedness may need to be
determined within each language. Recently, Snyder and Stromsworld (1997) show that the DOD is acquired significantly before the PD based on their analysis using CHILDES. The positions of these previous studies are based either on the contrast of markedness relationship or of the acquisition order between two alternates of dative constructions within a language. In contrast, the current study does not intend to discuss the relative markedness or the relative acquisition order of the two orderings within a language. The study is focused on the markedness hierarchy between new-given and given-new information order based on typological observation. The positions of these previous studies are orthogonal to and not inconsistent with the present study.

When the term markedness is applied to the two alternates of the dative structure, the definition seem to still require some ironing out. In the previous section, regarding the markedness hierarchy between the two information orders based on typological observation, it was claimed that new-given information ordering is marked because it might be found only in a few languages or in special constructions in a language, as shown in Japanese dative structures. In contrast, given-new ordering is unmarked since it appears to be the usual order, both cross-linguistically and within languages. English thus adheres to the universal tendency of information ordering, both generally and with respect to the dative alternation. In terms of the effects of markedness on the transferability of L1 features, the general claims that have been advanced in this area are summarized in a statement made by Hyltenstam (1984):

Unmarked categories from the native language are substituted for corresponding marked categories in the target language ... Marked structures are seldom transferred, and if they are transferred, they are much more easily eradicated from the target language (p. 43).

In this paper, this claim is first examined in terms of markedness of information ordering of two NPs in a dative structure. Based on the claim, it is hypothesized that when the wh-questioned constituent is dative, Japanese learners will resist transferring marked forms, i.e., new-given information ordering, because the corresponding English form is unmarked. This means that such learners will not find it difficult to learn the unmarked given-new information structure in a response to a dative prompt. Second, based on Eckman's (1977) study of the acquisition of the word-final voice contrast by German learners of English, it is hypothesized that Japanese learners will have difficulty distinguishing degree of markedness when the wh-questioned constituent is accusative since Japanese native speakers distinguish the two information orderings in a response to a dative prompt but not in a response to an accusative prompt in their L1. In Eckman's (1977) study, the voicing distinction is less marked in word-initial and word-medial
position than it is in word-final position, and German learners of English are faced with greater difficulty in acquiring the distinction in word-final position. In the present study, following Eckman’s (1977) reasoning, one may say that JLs will be faced with learning to make a known distinction (information-order distinctions in responses to dative questions in L1) in a new position (in responses to accusative questions in L2). Analogously, one may say that information-order distinctions are more marked in responses to accusative questions than in responses to dative questions. The markedness relationships I have proposed in this section are illustrated in (4) and (5).

(4) Given-new
information order

<table>
<thead>
<tr>
<th>Less marked</th>
<th>More marked</th>
</tr>
</thead>
</table>

New-given
information order

(5) Distinction
in response
to *wh*-questioning
of the dative

<table>
<thead>
<tr>
<th>Less marked</th>
<th>More marked</th>
</tr>
</thead>
</table>

Distinction
in response
to *wh*-questioning
of the accusative

The hierarchy shown in (4) is to be interpreted in such a way that sensitivity to new-given information order implies sensitivity to given-new information order, but the maintenance of given-new order does not necessarily imply new-given order. The hierarchy shown in (5) is to be interpreted in such a way that maintenance of an information ordering distinction in responses to *wh*-questioning of the accusatives implies the maintenance of that distinction in responses to *wh*-questioning of the datives, but the maintenance of an information ordering distinction in responses to *wh*-questioning of the dative does not necessarily imply the maintenance of a information ordering distinction in responses to *wh*-questioning of the accusative.

What is inferable from the hierarchy in (4) is that sensitivity to new-given information ordering is more marked than sensitivity to given-new ordering. Whereas in (5), it is inferred that the maintenance of an information ordering distinction in responses to *wh*-questioning of the accusative is more marked than the maintenance of information ordering distinction in responses to *wh*-questioning of the dative. If the MDH is now applied to these facts about discourse factors on English and Japanese dative alternation, the following four statements are true: (a) The first difference between these two
APPLICATION OF A MARKEDNESS THEORY

languages lies in the sensitivity versus insensitivity of given-new information order in responses to wh-questioning of the dative; (b) the information ordering which Japanese speakers feel more natural and English speakers feel less natural (new-given information order) is more marked than the information ordering which English speakers feel more natural (given-new information order); (c) The second difference lies in the maintenance versus non-maintenance of an information ordering distinction in responses to wh-questioning of the accusative; and (d) the environment in which English speakers are sensitive to the distinction and Japanese speakers are not (in responses to wh-questioning of the accusatives) is relatively more marked than the environment in which Japanese speakers are sensitive to an information ordering distinction (in responses to wh-questioning of the dative). Based on the MDH, in which the transfer effects appear when the area of L1 is unmarked and the area of L2 marked but do not surface when the area of L1 is marked and the L2 unmarked, and the data on the performance of Japanese monolingual speakers in the choice of one dative alternate over the other in their native language, two predictions are made:

1. In responses to dative prompts, Japanese learners will resist transferring marked forms, that is, new-given ordering, because the corresponding English form is unmarked, and
2. In responses to accusative prompts, transfer effects will surface and cause difficulty for Japanese in learning the distinction. That is, Japanese learners will have difficulty in distinguishing the given-new information ordering from the new-given ordering because the environment where Japanese makes an information ordering distinction in L1 is less marked than the environment where such distinctions occur in L2.

RESEARCH QUESTIONS AND HYPOTHESIS

As mentioned earlier, there were two views when examining the acquisition of discourse factors of the English dative alternation by Japanese speakers. The first view, which was based on Givón’s claim, can be abandoned now because Japanese dative constructions do not abide by the regulation of old-new information order, and old-new information order is found not to be universal. Thus, the focus of the study is now directed to the effects of markedness on the transferability of the discourse factors found in the experiment in Japanese and the directionality and degrees of difficulty as predicted in the previous section. The present study addresses the following research questions:
• RQ1. What are the differences between native speakers’ and Japanese learners’ performance on production and acceptability ratings of two types of dative alternations which are contextually motivated?
• RQ2. How do learners utilize the universal hierarchy of markedness of information order in the acquisition of English dative alternation?

The corresponding hypotheses to RQ1 and RQ2 above are as follows.

For RQ1:
• H1. In responses to dative prompts, but not in responses to accusative prompts, Japanese learners will be sensitive to the difference between the new-given ordering and the given-new ordering.

For RQ2:
• H2-1. In responses to dative prompts, Japanese learners will resist transferring marked forms, that is, new-given ordering, because the corresponding English form is unmarked. In other words, JLs will use the less marked form, i.e., given-new information ordering.
• H2-2. In responses to accusative prompts, Japanese learners will not be sensitive to the difference between new-given information ordering and given-new ordering because Japanese monolingual speakers distinguish the two information orderings in responses to dative prompts but not in responses to accusative prompts, and because information-order distinctions are more marked in responses to accusative prompts than in responses to dative prompts.

THE STUDY

To investigate these issues of markedness and transfer, two tasks were designed based on the results of the preliminary experiment to assess the difference between the sensitivity and productivity of native speakers (NSs) and Japanese adult learners of English (JLs) to the dative alternation under discourse constraints. Task 1 is the most direct way of detecting the difference in sensitivity to the dative alternation under discourse constraints between NSs and JLs. In this task, the participants are asked to judge dative constructions that alternate in relation to their preceding wh-questions. For Task 2, contextualized production tasks used in a study by Wolfe-Quintero (1992) were adopted and modified for the present study.

Both Tasks 1 and 2 adopted two of the same discourse factors used in the preliminary experiment described above: Prompt Type and Information Order. Echoity, which was one of the independent variables in the previous investigation, is not a variable in this
main experiment; echoity is neutralized in a design where echoity is controlled. The reason for this control is to avoid an unbalanced experimental design. To explain the necessity of the control, let us have a look at examples of English dative constructions in (6). In English, since the recipient is not (normally) fronted by wh-movement from a DOD structure, only a PD structured prompt (6a) is available when a recipient is wh-questioned, while both DOD and PD structured prompts (6c, 6d) are possible when a theme is wh-questioned. Thus, neither “non-echoed given-new information ordered” dative constructions (6b-1) nor “echoed new-given information ordered” dative constructions (6b-2) are possible as an answer to the wh-questioning of recipient. To circumvent the unbalanced design, it is possible to neutralize one of the within-subjects effects: Prompt Type, Information Order, or Echoity. Since Prompt Type and Information Order were the variables of interest, Echoity was chosen for neutralization by making half of the dative structured answers echoed, and the rest non-echoed.

(6) a. Who did Paul give the book to? (dative-PD prompt type)
   a-1. Paul gave the book to Jane. (echoed, given-new ordered)
   a-2. Paul gave Jane a book. (non-echoed, new-given ordered)

b. ?Who did Paul give the book? (dative-DOD prompt type)
   b-1. Paul gave the book to Jane. (non-echoed, given-new ordered)
   b-2. Paul gave Jane a book. (echoed, new-given ordered)

c. What did Paul give to Jane? (accusative-PD prompt type)
   c-1. Paul gave Jane the book. (non-echoed, given-new ordered)
   c-2. Paul gave the book to Jane. (echoed, new-given ordered)

d. What did Paul give Jane? (accusative-DOD prompt type)
   d-1. Paul gave the book to Jane. (non-echoed, new-given ordered)
   d-2. Paul gave Jane the book. (echoed, given-new ordered)

Participants and the Site of Experiments

Both tasks contrasted groups of native English-speaking participants (NSs) with Japanese learners of English (JLs). The same participants volunteered for both tasks. There were 35 NSs and 35 JLs for a total of 70 participants in both tasks. The participants, NSs and JLs, were undergraduates, graduates, or faculty at the University of Hawai‘i at Manoa.
All of the JLs were students. Nine (25.7%) were undergraduates, and 26 (74.3%) were graduates. The range of their ages was 20 years (high-low: 41-22), and the mean age was 27 years old. The average duration of their stay in English speaking countries was 3.8 years. No JLs were beginners, and their proficiency level was advanced enough to carry out university-level study.

The majority of the NSs were students, but some faculty members were also included. 14 (40.0%) were undergraduate, 18 (51.4%) were graduate, and three (8.6%) were faculty. The range of their ages was 39 years (high-low: 56-18), and the mean age was 28 years old. 19 (54.3%) of the NSs were from the U.S. mainland, 14 (40.0%) were from Hawai‘i, one (2.9%) was from Australia, and one (2.9%) was from Malaysia.

The experiments took place in April and May in 1998 at a language lab of the University of Hawai‘i. The participants chose to volunteer at one of several pre-scheduled meeting times set by the experimenter. For both Tasks 1 and 2, the pre-recorded materials were listened to through a headset. In Task 1, the participants were asked to listen to 36 sets of questions and answers and to indicate their judgment for each answer by circling a number on a sheet. In Task 2, which was an elicited production task, they were asked to utter the answers according to a cue in a set of materials. Each participant’s performance was recorded individually through a microphone attached to the head set. It took 40 minutes in total to administer both tasks.

**Task 1 (Acceptability Judgment Task)**

*Materials.* A set of pre-recorded audio materials and a questionnaire consisting of one page of instructions and a one-page answer sheet was used. The pre-recorded material consisted of 36 pairs of questions and answers between two native English speakers (a female and a male). To control the intonation of the sentences, the questions were recorded separately from the answers and edited later. The narrators were told to read with the normal sentence-ending stress pattern. In all 36 sets, one-third of the questions start with a who-dative which takes a PD dative structure (Dative-PD), one-third start with a what-accusative which takes a PD dative structure (Accusative-PD), and the rest start with a what-accusative which takes a DOD dative structure (Accusative-DOD).

Each group of three different prompt types is followed by an answer in the form of the dative alternation. Half of the responses have two object nouns in given-new information order which was “contextually motivated” by the previous interrogative sentence; the rest had two object nouns in new-given information order, which would be inappropriate unless new information was stressed when being read. Thus half of the all sentences—those with two object nouns in new-given information order—should sound less natural.
There were six dative constructions created from a three (Dative-PD, Accusative-PD, and Accusative-DOD) by two (new-given, given-new) matrix of tested factors, and six sentences were tested for each such combination. Three verbs were used: give, offer, and tell. The selection of the verbs was based on the fact that the verbs that are grammatical in the DOD structure vary in how strongly they are associated with the DOD argument structure in native speaker production. The selected three verbs all have relatively strong association with the DOD (Wolfe-Quintero, 1992; 1998). The sentences containing each verb were randomly placed in the script and recorded. A seven-point Likert scale was provided for rating acceptability.

**Procedures.** The participants were asked to indicate the naturalness of the answer by circling a number from 1 (totally unnatural) through 7 (totally natural) on the Likert scale as they heard each pair. The use of this scale was illustrated by providing sample sentences. The questions and answers were read only once. Instructions emphasized that the participants should rate the sentences based on their feeling and intuition and not think too deeply.

**Analysis.** Acceptability judgment rating on each dative construction serves as the primary dependent variable of this study. The first independent variable of interest was the difference between NSs and JLs. This variable is labeled Group in the analyses reported below, and it has two levels: NSs and JLs. The second variable of interest is the type of a preceding wh-question (Prompt Type), and it has three levels: Dative-PD (e.g., Who did Paul give the book to?), Accusative-PD (e.g., What did Paul give to Jane?), and Accusative-DOD (e.g., What did Paul give Jane?). The last variable is the order of information distribution (Information Order), and it has two levels: given-new (G-N) and new-given (N-G). Echoity was neutralized by making half of the second target dative constructions echoed, and the rest non-echoed.

The interval scale ratings for each dative construction were coded along with the nominal data for Group, Prompt Type, and Information Order. Descriptive statistics were computed. Internal consistency reliability was calculated using Cronbach alpha. Three-way repeated measures ANOVAs (hereafter referred to as “ANOVR”) were calculated with Groups as the single between-groups factor and Prompt Type and Information Order as two within-groups factors. Null hypotheses of no difference between groups were adopted. The overall α was set at <.05.

In this study, a total of four ANOVRs were conducted, namely, (a) within both groups, (b) within NSs, (c) within JLs; and (d) within both groups for Task 2. (a), (b) and (c) were for Task 1, and (d) was for Task 2. Consequently, the α decision level was divided by four (using the Bonferroni procedure) and set at <.0125 for each ANOVR. Within
each ANOVR, \( \eta^2 \) was also used to determine the proportion of variance accounted for by each of the variables and their interactions.

**Task 1 results.** The internal consistency reliability for the Task 1 measure was calculated using Cronbach alpha and turned out to be .96. The means (\( M \)) and standard deviations (SD) for the acceptability judgment for the six dative construction types as rated by native speakers (NSs) and Japanese learners of English (JLs) are shown in Table 1. The distribution of the acceptability ratings for each category was approximately normal, fulfilling that assumption for applying ANOVR to mean comparisons.

**Table 1. Descriptive statistics for NSs’ and JLs’ acceptability judgment ratings for the six dative construction types**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Acceptability judgment ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dative-PD</td>
</tr>
<tr>
<td></td>
<td>New-given</td>
</tr>
<tr>
<td>NSs</td>
<td></td>
</tr>
<tr>
<td>( M )</td>
<td>4.98</td>
</tr>
<tr>
<td>( SD )</td>
<td>1.71</td>
</tr>
<tr>
<td>JLs</td>
<td></td>
</tr>
<tr>
<td>( M )</td>
<td>5.46</td>
</tr>
<tr>
<td>( SD )</td>
<td>1.27</td>
</tr>
</tbody>
</table>

The ANOVR results are presented in Table 2. There were significant effects for Groups, \( F(1, 68) = 12.87^* \), Prompt Type, \( F(2, 136) = 5.14^* \), and Information Order, \( F(1, 68) = 36.73^* \). This indicates that there are consistent mean differences between the ratings by NSs and by JLs; between answers for the dative prompt types and ones for accusative prompt types; and between the given-new information ordered and new-given information ordered.
Table 2. ANOVR summary for acceptability judgment ratings on Groups, Prompt Type, and Information Order

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between subjects effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>45.626</td>
<td>1</td>
<td>45.626</td>
<td>12.873</td>
<td>.0006*</td>
</tr>
<tr>
<td>Within groups</td>
<td>241.013</td>
<td>68</td>
<td>3.544</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within subjects effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt Type</td>
<td>3.866</td>
<td>2</td>
<td>1.933</td>
<td>5.139</td>
<td>.0071*</td>
</tr>
<tr>
<td>Group x Prompt Type</td>
<td>4.365</td>
<td>2</td>
<td>2.182</td>
<td>5.801</td>
<td>.0038*</td>
</tr>
<tr>
<td>Within groups</td>
<td>51.164</td>
<td>136</td>
<td>.376</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Order</td>
<td>68.915</td>
<td>1</td>
<td>68.915</td>
<td>36.729</td>
<td>.0001*</td>
</tr>
<tr>
<td>Group x Information Order</td>
<td>37.137</td>
<td>1</td>
<td>37.137</td>
<td>19.793</td>
<td>.0001*</td>
</tr>
<tr>
<td>Within groups</td>
<td>127.587</td>
<td>68</td>
<td>1.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt Type x Information Order</td>
<td>6.557</td>
<td>2</td>
<td>3.279</td>
<td>5.898</td>
<td>.0035*</td>
</tr>
<tr>
<td>Group x Prompt Type x Information Order</td>
<td>15.140</td>
<td>2</td>
<td>7.570</td>
<td>13.618</td>
<td>.0001*</td>
</tr>
<tr>
<td>Within groups</td>
<td>75.601</td>
<td>136</td>
<td>.556</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>676.971</td>
<td>419</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.0125

The results of the study also showed significant interactions between Group x Prompt Type, $F(2, 136) = 5.80^*$, Group x Information Order, $F(1, 68) = 19.79^*$ (see Figure 1), Prompt Type x Information Order, $F(1, 68) = 5.90^*$, and Group x Prompt Type x Information Order, $F(2, 136) = 13.62^*$ (see Figure 2).
Figure 1. Interaction between Group and Information Order 
in NSs’ and JLs’ acceptability judgment ratings

Figure 2. Interaction among Group, Prompt Type, and Information Order 
in NSs’ and JLs’ acceptability judgment ratings
In Figure 1, it is clear that while NSs are sensitive to the difference between the new-given information ordered sentences and the given-new information ordered sentences, JLs are less sensitive to such differences. Figure 2 shows the difference between NSs' and JLs' perception pattern of dative constructions under discourse clearly: NSs performances reflect the fact that they rate the given-new information ordered sentences higher than the new-given information sentences. On the other hand, JLs do not show such an obvious distinction between the given-new and new-given information ordered sentences except when the prompt type is dative-PD.

Since the between-groups factor (Group) was significant and each group proved to be independent from the other, two separate ANOVRA were calculated and presented in Tables 3 and 4. The null hypothesis of no difference between groups was adopted, and (as discussed above) α was set at <.0125 because a total of four ANOVRA procedures were conducted. There was a significant effect for Information Order, \( F(1, 34) = 36.03^* \) in the results of the NSs group. In the results of the JL group, there was a significant effect for Prompt Type, \( F(2, 68) = 7.09^* \).

Table 3. ANOVRA summary for NSs' acceptability judgment ratings on Prompt Type, Information Order and Prompt Type x Information Order

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt Type</td>
<td>2.159</td>
<td>2</td>
<td>1.079</td>
<td>3.330</td>
<td>.0417</td>
</tr>
<tr>
<td>Within groups</td>
<td>22.041</td>
<td>68</td>
<td>.324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Order</td>
<td>103.615</td>
<td>1</td>
<td>103.615</td>
<td>36.030</td>
<td>.0001*</td>
</tr>
<tr>
<td>Within groups</td>
<td>97.778</td>
<td>34</td>
<td>2.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt Type x Information Order</td>
<td>1.649</td>
<td>2</td>
<td>.824</td>
<td>1.258</td>
<td>.2908</td>
</tr>
<tr>
<td>Within groups</td>
<td>44.577</td>
<td>68</td>
<td>.656</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>271.819</td>
<td>175</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\( p<.0125 \)

There was no significant interaction effect between Prompt Type and Information Order in NSs' acceptability judgments (see Figure 3).
Table 4. ANOVR summary for JLs' acceptability judgment ratings for Prompt Type, Information Order and Prompt Type x Information Order

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt Type</td>
<td>6.072</td>
<td>2</td>
<td>3.036</td>
<td>7.089</td>
<td>.0016*</td>
</tr>
<tr>
<td>Within groups</td>
<td>29.123</td>
<td>68</td>
<td>.428</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Order</td>
<td>2.436</td>
<td>1</td>
<td>2.436</td>
<td>2.779</td>
<td>.1047</td>
</tr>
<tr>
<td>Within groups</td>
<td>29.809</td>
<td>34</td>
<td>.877</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt Type x Information Order</td>
<td>20.049</td>
<td>2</td>
<td>10.024</td>
<td>21.972</td>
<td>.0001*</td>
</tr>
<tr>
<td>Within groups</td>
<td>31.024</td>
<td>68</td>
<td>.456</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>118.513</td>
<td>175</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.0125
APPLICATION OF A MARKEDNESS THEORY

There was a significant interaction effect between Prompt Type and Information Order, $F(2, 68) = 21.97^*$ in JLs’ acceptability judgment (as shown in Figure 4). This significant interaction effect indicates that JLs seem to be more sensitive to the difference between the new-given and given-new information ordered dative sentences when they follow a dative prompt type than when they follow an accusative prompt type.

![Figure 4. Interaction between Prompt Type and Information Order in JLs’ acceptability judgment ratings](image)

Table 5. $\eta^2$ analysis for significant effects and interactions in NSs’ acceptability judgments ratings

<table>
<thead>
<tr>
<th>Source</th>
<th>$\eta^2$</th>
<th>% of variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt Type</td>
<td>.0079</td>
<td>.79</td>
</tr>
<tr>
<td>Information Order</td>
<td>.3812</td>
<td>38.12</td>
</tr>
<tr>
<td>Prompt Type x Information Order</td>
<td>.0061</td>
<td>.61</td>
</tr>
<tr>
<td>Error</td>
<td>.6048</td>
<td>60.48</td>
</tr>
<tr>
<td>Total</td>
<td>1.0000</td>
<td>100.00</td>
</tr>
</tbody>
</table>
The results of the eta^2 analysis within the NS Group are presented in Table 5. From the results of this eta^2 analysis, we can say that 38.12% of the variability in the rating by NSs has been accounted for by Information Order with very little variance accounted for by prompt type or the interaction. The remaining 60.48% has not been accounted for, that is, there may be numerous other variables unaccounted for in this study, which might explain this phenomenon.

Table 6. *Eta^2 analysis for significant effects and interactions in JLs' acceptability judgment ratings*

<table>
<thead>
<tr>
<th>Source</th>
<th>Eta^2</th>
<th>% of variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt Type</td>
<td>.0512</td>
<td>5.12</td>
</tr>
<tr>
<td>Information Order</td>
<td>.0206</td>
<td>2.06</td>
</tr>
<tr>
<td>Prompt Type x Information Order</td>
<td>.1692</td>
<td>16.92</td>
</tr>
<tr>
<td>Error</td>
<td>.7690</td>
<td>75.90</td>
</tr>
<tr>
<td>Total</td>
<td>1.0000</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The results of the eta^2 analysis within the JL Group are presented in Table 6. From the results of this eta^2 analysis, we can say that 5.12% of the variability in the rating by JLs has been accounted for by the Prompt Type, 2.06% by the Information Order, and 16.92% by the interaction between the Prompt Type and the Information Order. The remaining 75.9% has not been accounted for, that is, there may be numerous other variables unaccounted for in this study, which might explain this phenomenon.

**Task 2 (Elicited Production Task)**

*Materials.* As with Task 1, the experiment for Task 2 took place at a language lab at the University of Hawai‘i. Each participant sat in an individual booth and listened to prerecorded audio material to elicit production through an individual headset. They were provided with a booklet containing one page of instructions and six additional pages containing 36 prompts and cue pictures and a blank audiocassette tape to record their performances. Their answers were recorded onto the cassette tape through a microphone attached to the headset.

In this task, it was necessary to elicit either the DOD or the PD structure motivated in a natural context. The prompts included either of the following natural discourse contexts: (a) one in which the recipient (animate being) who receives the theme object is new information and thus likely to occur as the object of the preposition, or (b) the other
in which the theme object (inanimate object) being received by the recipient (animate being) is new information and thus the recipient is likely to occur as the first object of the verb. Participants listened to a short passage, which presented descriptions of the agent and either the recipient or the theme for the three verbs: give, offer, and tell. Then, they were asked a question about either (a) an unknown recipient who was transferred a theme object by the agent, or (b) an unknown theme object that was being transferred to the recipient. These descriptions and questions were pre-recorded by one male and one female native English speaker. It is important to note that the situation described the interaction between the agent and the recipient or the agent and the theme object, but did not use any forms of dative construction except the question to elicit an answer, in order to avoid providing DOD or PD structures in the input. Examples of one of the pre-recorded situations and questions to elicit DOD structures and the other to elicit PD structures are given below:

(7) Ann found Jim wearing a cast on his leg. Ann offered something so that Jim could sit on it. What did Ann offer to Jim?
(A pre-recorded situation and a question to elicit a DOD structure)

Carl went to a department store and found a pretty doll for someone’s birthday. Who did Carl give the doll to?
(A pre-recorded situation and a question to elicit a PD structure)

The first example assumed the characters as given information and focused attention on the theme object, while the second example assumed the agent and the theme object as given information and thus focused attention on the recipient. The situation and question were heard only once in order to avoid encouraging participants to analyze the sentence.

In the booklet given to each participant, the final question of the situation was repeated (e.g., What did Ann offer to Jim?), and the verb they were to use was provided in parenthesis (e.g., offered). In this example, the response section included a picture of a chair, and participants were expected to answer Ann offered Jim a chair or Ann offered a chair to Jim. The participants had to identify the unknown recipient or object from the picture, and then utter a response to the question asked about the recipient or object. This format was adapted and developed from the task used by Wolfe-Quintero (1992). Repeating the question ensured that participants referred to both the agent and the recipient in their answer, and providing the verb ensured that subjects used that particular verb in their response.
Procedures. The participants were given two practice items with the verb throw before going to the actual tasks. As the task administrator, I insisted that the participants answer in complete sentences instead of saying just a noun as their answer (e.g., *A chair*). I also encouraged them to use proper nouns. I did this to avoid any influence from pronouns, which seldom occur in sentence-final position in the dative construction (Erteschik-Shir, 1979).

The pre-recorded situations and questions moved quickly from item to item in order to prevent participants from thinking too much. The participants had approximately four seconds to answer the questions. Each participant’s performance was recorded individually on a cassette tape through a microphone attached to the headset. This task was administered before Task 1 (Acceptability Judgment Task) because it was important to obtain the spontaneous production data prior to the biasing effect of Task 1.

Data coding. The data were coded for whether or not participants produced a dative structure with appropriate given-new information order in their oral response. This means that the response had to have either (a) a given theme object encoded as the object of the verb, with the person in the picture encoded as the object of the preposition in PD structures, or (b) a given recipient encoded as the first object, with the item in the picture encoded as the second object in DOD structures. All other structures following dative structures were ignored. The dative responses included examples like these:

(8) Sue offered Mark a cookie.
Victor told the secret to Kate.
Anita told Fred the outline (of the lecture).
Neil told Joan the address (of the company).
Dan offered Kathy a chair (to sit on).
Rod gave Shirley a ring (for her birthday).
John gave Emily a dress (as his Christmas gift).
Ann offered Jim a chair (so he could sit).
Bill told Susan a bedtime story (to make her happy to go to bed).
Charlie offered the coffee to Robin (in order to keep her awake).

The non-dative responses included examples like these:

(9) Anita told Fred about the outline.
Ann offered a chair for Jim.
Tom offered to June a Coke.
Fred told Rose to look for Hamlet
Jane gave Glenn to ball.

The scoring for each response was based on whether or not the participant could utter a dative construction in given-new information order. Dative responses in which information was given-new ordered were assigned one point. Since there were 36 responses in total, scores could range from 0 to 36.

**Analysis.** The total given-new ordered information score of each participant served as the dependent variable of this study. There are two independent variables: the first was the difference between the total score of NSs and JLs, that is, whether or not the NSs produced more given-new information ordered dative sentences than the JLs did. This variable was labeled Group with two levels: NSs and JLs. The other variable was the difference among the total scores in three different prompt types. That is, whether the type of preceding wh-question prompt influenced the scores. Echoity was neutralized as it was in Task 2 for the same reason.

The interval scale scores for each participant ware coded along with the nominal data for Group and Prompt Type. Descriptive statistics were computed. Two-way ANOVAs were calculated with Group as between-groups factor and Prompt Type as within-groups factor. Null hypotheses of no differences between and within groups were adopted and \( \alpha \) was set at .0125.

**Task 2 results.** The internal consistency reliability of the instrument, calculated using Cronbach alpha, was .94. The means (\( M \)) and standard deviations (\( SD \)) for the given-new information production scores for the three prompt types performed by NSs and JLs are shown in Table 7. The distribution of the production scores for NSs by all Prompt Types and for JLs by Dative-PD type appears to be negatively skewed, while the distribution of the scores for JLs by Accusative-PD and Accusative-DOD seems to be positively skewed. Usually, a skewed distribution can mean that this experimental tool is not functioning well. However, this is a criterion-referenced test (Brown, 1996); thus a skewed distribution is the very pattern that we would most like to find in the scores of both NSs and JLs. That is, a positively skewed distribution of the performance of JLs would indicate that most of them have not learned that given-new information ordered noun phrases are appropriate. On the other hand, the negatively skewed distribution of NSs indicates that most of them can alternate the dative structure according to the given-new information order. The skewed distribution does not fulfill the assumption for applying ANOVA to mean comparisons, however, ANOVA is fairly robust to such violations.
(Hatch & Lazaraton, 1991). Thus I decided to apply ANOVA to these means comparisons. However, caution should be used in interpreting the results.

Table 7. Descriptive statistics for NSs' and JLs' elicited production scores for the three prompt types

<table>
<thead>
<tr>
<th>Group</th>
<th>Elicited production scores</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dative-PD</td>
<td>Accusative-PD</td>
<td>Accusative-DOD</td>
</tr>
<tr>
<td>NSs</td>
<td>M 11.11</td>
<td>10.14</td>
<td>10.20</td>
</tr>
<tr>
<td></td>
<td>SD 1.86</td>
<td>2.78</td>
<td>1.32</td>
</tr>
<tr>
<td>JLs</td>
<td>M 10.14</td>
<td>2.46</td>
<td>4.69</td>
</tr>
<tr>
<td></td>
<td>SD 3.11</td>
<td>3.61</td>
<td>3.77</td>
</tr>
</tbody>
</table>

The ANOVR results are presented in Table 8. There were significant main effects for Group, \( F(1, 68) = 106.41^* \), and Prompt Type, \( F(2, 136) = 50.89^* \). These results indicate that there were non-chance mean differences between the production scores of NSs and of JLs; and among the dative-PD, the accusative-PD, and the accusative-DOD prompt types.

Table 8. ANOVR summary for NSs' and JLs' elicited production scores on Group, Prompt Type, and Group x Prompt Type

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between subjects effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>1171.505</td>
<td>1</td>
<td>1171.505</td>
<td>106.414</td>
<td>.0001*</td>
</tr>
<tr>
<td>Within groups</td>
<td>748.610</td>
<td>68</td>
<td>11.009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within subjects effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt Type</td>
<td>704.467</td>
<td>2</td>
<td>352.233</td>
<td>50.889</td>
<td>.0001*</td>
</tr>
<tr>
<td>Group x Prompt Type</td>
<td>410.867</td>
<td>2</td>
<td>205.433</td>
<td>29.680</td>
<td>.0001*</td>
</tr>
<tr>
<td>Within groups</td>
<td>941.333</td>
<td>136</td>
<td>6.922</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3976.782</td>
<td>209</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.0125

The results of the study also showed a significant interaction between Group x Prompt Type, \( F(2, 136) = 29.68^* \) (as shown in Figure 5).
DISCUSSION

Research question 1 (RQ1) for the main experiment was concerned with the differences between NSs' and JLs' performance on acceptability rating of two types of dative alternations, which were motivated contextually. As shown in Tables 2 and 8, there were significant mean differences between the acceptability ratings of NSs and those of JLs, and between the elicited production scores of NSs and those of JLs. The NSs' ratings of the acceptability judgment tasks were consistently different from those of JLs, and the NSs' scores of elicited production were constantly higher than those of the JLs. Besides this significant difference for the groups effect, all main effects and interactions within groups were also significant. This indicates that the difference between NSs' and JLs' performances is not consistent across all other effects; thus the picture is not 100% clear in this analysis. As shown in the interaction plot in Figure 1, there was a significant interaction between the effect for Group and Information Order in Task 1. Apparently, the NSs, but not the JLs, distinguish the new-given ordered dative sentences from the new-given ordered.
Separate ANOVAs were also calculated both within the NS group and within the JL group to pinpoint where the differences lie. As seen in Tables 3 and 4, there was a significant mean difference between the NSs’ ratings for new-given information ordered dative sentences and the given-new ordered: they rated the acceptability of the given-new information order higher than the new-given order. In contrast, there was no significant difference in the JLs’ ratings for the same effect. This means that NSs, but not JLs, accurately judged dative constructions in which naturalness depends on the contexts. In other words, NSs were more sensitive to the given-new information ordering than JLs were. There was a significant interaction between the effect of Prompt Type and Information Order in both Tasks 1 and 2 as shown in Figure 4 and Table 4. In Task 1, JLs rated given-new information ordering higher than new-given ordering when Prompt Type was dative, but they did not show such a difference between the ratings for new-given ordering and for given-new ordering, when Prompt Type was accusative. Consequently, JLs produced given-new ordered dative structures more than new-given ordered structures when Prompt Type was dative, but they did not show such a difference when Prompt Type was accusative (Figure 5).

To sum up, the JLs’ performance was similar to NSs’ in both Task 1 and Task 2 when Prompt Type was dative, but it was different from NSs’ when Prompt Type was accusative. These results, in which JLs are sensitive to an information ordering distinction in responses to wh-questioning of the dative but not in response to wh-questioning of the accusative, mirror the interaction between Group and Prompt Type in the experiment for Japanese monolingual speakers.

Research question 2 (RQ2) was concerned with the influences from L1 on the performance of JLs, i.e., whether they utilized a universal hierarchy of markedness in word order for managing dative alternation in discourse production. In the preliminary experiment with Japanese dative alternations mentioned earlier in this paper, there was a significant interaction between Japanese monolingual speakers’ (JMs) acceptability ratings for Prompt Type and Information Order. JMs are sensitive to the Information Order of a Japanese dative sentence when it follows wh-questioning of the dative, but insensitive to Information Order when it follows wh-questioning of the accusative. In addition, JMs rate the new-given information-ordered Japanese dative sentences as more natural than the given-new ordered ones—a sensitivity in information ordering opposite from that of English.

To predict the results of the experiment, I have proposed two universal hierarchies and made predictions earlier in this paper. JLs performed exactly as was predicted; and a general principle of the effects of markedness on the transferability of the first language
features was supported by the results of the experiments. The relationships are illustrated in Figure 6.

The results from this study can be summarized as follows: (a) the proposition “old information precedes new information” is not a universal principle, but rather a tendency, (b) the new-given information is more marked than the given-new information ordering, (c) information-order distinctions may be more marked in responses to accusative questions than in responses to dative questions, and (d) the Markedness Differential Hypothesis is a valid in explaining the acquisition of information-order distinctions on English dative structures by Japanese native speakers.

Figure 6. Discourse factors and markedness relationships between English and Japanese
CONCLUSION

In this study, data from native language, interlanguage, and target language were analyzed to examine how the information structure of dative constructions in Japanese influences the acquisition of the English dative alternation and of information ordering by Japanese adult learners of English. The study manipulated discourse contexts to obtain data on the interaction between information order and syntactic order and showed the importance of taking discourse into account when studying the acquisition of syntactic alternations. The study supports the explanation of acquisition on the basis of markedness relationships. It shows that markedness is not only established in typology, but also can provide a rigorous description of underlying relationships, and thus can predict learners’ acquisition.

The cause of Japanese learners’ different performances in distinguishing the given-new information ordering from the new-given ordering in responses to accusative prompts and to dative prompts will need to be studied further. Among the most prominent questions requiring further research are:

1. Will the same results be obtained by replicating this study in other languages, especially in SOV languages which have particle systems?

2. What is the relationship between the Prompt Type and the Information Order variables, if the test sentences are controlled to have one form of accusative prompt types, and consequently there is one possible form (the DOD form) in the responses?

3. What is the relationship between the Prompt Type and the Information Order variables if the theme arguments take animate nouns instead of inanimate nouns (e.g., *Who did John introduce to Mary?* and *Who did John introduce Mary to?)? Is animacy another factor which influences information structure?
REFERENCES


Kazuko Shimabukuro Katsufuji
Department of ESL
1890 East-West Road
Honolulu, HI 96822

katsufuj@hawaii.edu