PREFERENCE AND ORDER IN FIRST AND SECOND LANGUAGE REFERENTIAL STRATEGIES

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Kellerman, Ammerlaan, Bongaerts, and Poulisse (1986) examined referential strategies used by Dutch speakers of English as a second language in a shape-description task. Kellerman, et al. classified these strategies as holistic, partitive, or linear, and proposed a hierarchy of preference of holistic over partitive over linear. The hierarchy was, they claimed, operational both for pairs of L1 and L2 descriptions (cross-language) and for single descriptions in either L1 or L2 (within-language). The present study replicated Kellerman, et al., but used Japanese speakers of English as a second language as subjects. In the present study, there were more within-language violations of the hierarchy than cross-language violations. Some of the within-language violations may reflect the nature of Japanese discourse, and, therefore, reveal an L1 influence on L2 strategy use. The present study proposes that the possibility of such an influence be investigated.

Introduction

Since the mid-1970s, communicative competence has been a topic of major concern in the field of second language acquisition. Canale and Swain (1980) attempted to define communicative competence by proposing three subcategories: grammatical competence, sociolinguistic competence, and strategic competence. Of primary interest to the present study is strategic competence, the ability of a speaker to resume and/or continue communication when a breakdown occurs. The strategic competence of second language learners has been considered in terms of a learner's use, or non-use, of communication strategies. In fact, Swain (1984) specifically described strategic competence in these terms.

There are two major opinions concerning whether or not communication strategies should be taught. One the one hand, Tarone (1984) argues not only that learners should be put into situations in which they have to use

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communication strategies, but also that they should be taught her particular strategy terminology. On the other hand, Kellerman (1991) argues that because the strategic behavior used in a second language is essentially the same as that used in a first language, a language teacher should be concerned with teaching language itself and not worry about strategies. The basis of Kellerman's contention is data gathered in the Nijmegen project, a body of work produced by Kellerman and his colleagues at Nijmegen University (Bongaerts & Poulisse, 1989; Poulisse, 1987; Poulisse, Bongaerts, & Kellerman, 1984; Poulisse & Schils, 1989).

The Nijmegen project used as subjects Dutch speakers of English as a second language. The linguistic similarities between English and Dutch, as well as the cultural similarities between English and Dutch people, may have influenced the results of the project. While Bialystok and Kellerman (1987) claim that a specific first language should not affect strategies at the level of processing, one wonders whether the same results would be obtained if similar studies were carried out with subjects from a linguistic background very different from English and a non-Western cultural background. The present study replicates one study conducted at Nijmegen University (i.e., Kellerman, Ammerlaan, Bongaerts, & Poulisse, 1986) which established a hierarchy of strategy preference governing strategy use in both L1 and L2. The present study employed Japanese speakers of English as a second language as subjects, to see if the hierarchy affected these subjects as it did the original Dutch subjects.

Kellerman, et al. were specifically concerned with referential strategies. To justify the choice of a referential strategy study for replication, this paper will delineate a connection between communication strategies and referential strategies, then discuss Kellerman, et al. in the context of similar research at Nijmegen University, and then examine two cross-cultural referencing studies which are relevant to the cultural concerns of the present study.

Defining and Classifying Communication, Compensatory, and Referential Strategies

Of the many problems that beset the field of communication strategies, the most basic is definition. Various definitions have been proposed (e.g.,

Bialystok, 1983; Faerch & Kasper, 1983; Poulisse, Bongaerts, & Kellerman, 1984; Richards, Platt, & Weber, 1985; Tarone, 1977, 1983). Faerch and Kasper argue that an adequate definition must account for two characteristics: "problem-orientedness" and "consciousness" (p. 31). Communication strategies are problem-oriented in that a speaker recognizes that there is a communication problem when using such strategies, and conscious in that a speaker makes a conscious decision to use them. Despite Bialystok's (1984) warning that a definition of communication strategies should link the behavior of L2 speakers to that of children learning a first language (who are still developing consciousness) and of L1 speakers (whose language choices usually do not concern communication problems), the characteristics of problem-orientedness and consciousness have been of central importance in formulating a definition. For example, Poulisse, Bongaerts, and Kellerman (1984) define compensatory strategies, a subset of communication strategies which will be explained shortly, as "strategies which a language user employs in order to achieve his intended meaning on becoming aware of problems rising during the planning phase of an utterance due to his own linguistic shortcomings" (p. 72). The phrase "aware of problems" shows that the definition meets the criteria of problem-orientedness and consciousness.

Kellerman, et al.'s definition of referential strategies also meets the criteria; a referential strategy is "the process of the selection of the properties of the referent that the speaker then encodes in order to solve his lexical problem and maintain his communicative intent" (pp. 164-165). The presence of a problem is specifically mentioned, and the mention of intent and problem-solving implies consciousness. The similarity of Poulisse, Bongaerts, and Kellerman's (1984) and Kellerman, et al.'s definitions shows a close connection between compensatory and referential strategies. Recognizing this close connection, the present study, whose general concern is strategic competence, replicates a referencing study.

Another problem concerning research into strategic competence is the classification of communication strategies. In a pioneering study, Tarone (1977) admitted that her proposed classifications were tentative, and several subsequent studies have suggested alternatives (Bialystok & Fröhlich, 1980;

Faerch & Kasper, 1983; Paribakht, 1985). Poulisse, Bongaerts, and Kellerman (1984) point out that the proliferation of classifications hinders attempts to compare different studies.

It has been said that this proliferation comes from a confusion of product and process; that is, of the language used to express strategies with the actual strategies (see, e.g., Kellerman, et al.). Faerch and Kasper (1983) observe this problem when they warn not to confuse planning with the plan, but the Nijmegen group specifically calls for a process orientation in its reclassification of strategies. Poulisse, Bongaerts, and Kellerman (1984), introducing the Nijmegen project, argue for retaining the major categories proposed by Faerch and Kasper as the framework of a parsimonious categorization. The categorization retains the distinction of achievement, in which a speaker attempts to overcome a communication problem, and avoidance, in which a speaker avoids a problem. Also retained is the distinction, within achievement, between interactive strategies, in which a speaker appeals to a listener to help solve a problem, and compensatory strategies, in which a speaker makes his or her own attempt to solve the problem.

Kellerman, Bongaerts, and Poulisse (1987) subdivide compensatory strategies into three groups: code strategies, approximate strategies, and analytic strategies. Code strategies make use of the properties of language. Approximate strategies and analytic strategies, considered together to be conceptual strategies (Kellerman, 1991), concern how a speaker conceptualizes what is to be expressed. Approximate strategies are attempts to describe something as a whole (for example, describing a robin as a "bird"), while analytic strategies break something into components (for example, describing a robin by saying "it has a red breast") (Kellerman, Bongaerts, & Poulisse).

The aforementioned link between compensatory strategies and referential strategies is evident in Kellerman, et al.'s subcategories of referential strategies: holistic (i.e., approximate) strategies, and partitive and linear (i.e., analytic) strategies. These subcategories, which will be described in detail later, are the ones used for strategy classification in the present study.

Strategy Research at Nijmegen University

Poulisse, Bongaerts, and Kellerman (1984) introduced the Nijmegen

project with a review of previous data-based studies concerning communication strategies, and made a connection between L2 communication strategy studies and L1 studies on referential communication. They argued that the L2 studies were deficient, particularly in their failure to examine the relationship of specific instances of strategic behavior to specific task items. To examine the problem of specificity, the Nijmegen project would use different types of tasks. Poulisse, Bongaerts, and Kellerman distinguished "closed" tasks, such as describing shapes or objects, and "open" tasks, such as giving instructions or having an interview with a native speaker.

Bongaerts and Poulisse (1989) reported one of the four tasks of the Nijmegen project, and Poulisse and Schils (1989) reported the other three. The first task was to describe 12 abstract shapes three times, twice in Dutch and once in English, in a manner understandable to native speakers. The second task was to describe 40 photographs of objects, the third to retell a story, and the fourth to have a twenty-minute interview with a non-Dutch speaking English native speaker.

The most important finding for the shape-description task was an average of 69.57% holistic approaches to description (i.e., describing a shape as a whole) in Dutch and an average of 69.27% holistic approaches in English. Bongaerts, and Poulisse (1989) concluded that, in a shape-description task, native and non-native speakers were faced with the same problem, and so a speaker approached the task in the same manner, whether using L1 or L2.

Poulisse and Schils (1989) took note of compensatory strategies at the levels of superordinate (main strategies) and subordinate (strategies within strategies). There were more task effects at the superordinate level, and so the results reported here are for that level. The most advanced of three groups of subjects used significantly fewer strategies in the story-telling task and the interview. All groups used more analytic strategies, and in greater proportion, in the object-description task, while the proportion was least in the interview. For all groups, holistic strategies were more common in the story-telling task and the interview than in the object-description task.

Poulisse and Schils (1989) concluded that four factors affected task performance: task demands (for example, no avoidance in the object-

description task, and the most avoidance in the interview); context (none in the object-description task, and some in the story-telling task and the interview); time constraints (none in the object-description task, but possibly some in the story-telling task and, especially, in the interview, due to turn-taking); and interlocutor (present only in the interview). Poulisse and Schils claimed that these factors influenced communication in general, and could not be said to be specific to L2 use. They concluded, as did Bongaerts and Poulisse (1989), that strategy use in L1 and L2 was the same.

In a preliminary paper comparing the four tasks, Poulisse (1987) observed how subjects modified strategy use to the different tasks. Mostly conceptual strategies were used in the description tasks (i.e., the closed tasks), and these strategies tended to contain more information than those used in the storytelling and interviewing tasks (i.e., the open tasks). Holistic strategies, which used less language than analytic strategies, were found only at the subordinate level in the closed tasks, but occurred throughout the open tasks. Poulisse concluded that these results showed that type of task helped determine strategy use.

Bongaerts, Kellerman, and Bentlage (1987), in another study conducted at Nijmegen University but outside the Nijmegen project, also examined L2 referencing behavior. Bongaerts, Kellerman, and Bentlage were interested in the collaborative processes shown by L1 speakers in Clark and Wilkes-Gibbs (1986), who had pairs of subjects put into order Chinese tangram figures in six trials. There were significant declines between the first and second trials in the number of words used to describe the figures and in the number of turns taken. From the second through the sixth trial there was a modification of noun phrases. Bongaerts, Kellerman, and Bentlage replicated Clark and Wilkes-Gibbs with L2 speakers, although they used abstract figures simpler than the tangram figures. In Bongaerts, Kellerman, and Bentlage's study, only the most proficient group showed the English native speaker pattern of using almost all definite references by the sixth trial. However, as with the L1 speakers, the number of words used in reference to each shape decreased for every group. Making an observation much like that of Bongaerts and Poulisse (1989), Bongaerts, Kellerman, and Bentlage claimed that their results showed that native and non-native speakers were faced with the same problem:

creating and continuing reference.

Kellerman, et al., in the study of central concern to the present study, noted the need for native speaker data in L2 referencing research, and chose to compare the L1 and L2 performances of second language speakers, rather than compare such speakers with a native speaker group. In the latter case, they argued, a second language speaker's performance was compared with a standard of which he or she might be unaware; a second language speaker's L1 standards were more likely to govern an L2 performance.

Kellerman, et al. had 17 Dutch first-year university students of English, who had had six previous years of English study, describe eleven shapes, in Dutch and English, so that a native speaker could draw the shapes. It was found that the subjects used three general strategies. The first strategy was holistic, in which a speaker made an attempt to describe an entire figure (one shape, for example, might be described as "a diamond"). The second was partitive, in which the speaker described the figure part by part (the diamond shape might be described as "two triangles put together"). The third was linear, in which a figure was described line by line (pp. 168-169). The study yielded 183 L1-L2 pairs of description; in 164 of the pairs, the referential strategies used were essentially the same, and in 18 of the remaining pairs, all of the L1 descriptions were holistic, while all of the L2 descriptions were partitive or linear.

Kellerman, et al. claimed to have found a preference governing strategy selection, a preference of holistic over partitive, and, in turn, of partitive over linear. Speakers first attempt to use a holistic strategy when making a referencing decision (in this particular case, when describing a picture), because such a strategy requires the least amount of effort. Only when speakers are unable to use a holistic strategy - that is, when they lack the language to make a holistic description possible - will they attempt a partitive strategy. Similarly, when they are unable to use a partitive strategy, they will attempt a linear strategy.

Within a single picture description, there is a preference in combinations. A description may start at a holistic level, proceed to a partitive level, and then proceed to a linear level, or proceed from a holistic level directly to a linear

level. However, a description will not violate the hierarchy; that is, it will not start at the linear level and proceed to the partitive level, or proceed from the partitive to the holistic level. Thus, only the following level changes in strategy combinations are possible:

1. H
2. H, P
3. H, L
4. H, P, L
5. P
6. P, L
7. L

(Kellerman, et al., p. 171)

In cross-language terms, the hierarchy mandates that an L2 description will not contain a strategy that is at a level higher than the one contained in the corresponding L1 description. For example, if an L1 description were holistic, a corresponding L2 description could be holistic, partitive, or linear, but if an L1 description were partitive or linear, the corresponding L2 description could not be holistic. The contention seems reasonable, as it is unlikely that speakers would have a word or term in their second language to refer to a shape or concept but not have an equivalent word or term in their first language. Kellerman, et al. set out cross-language possibilities of strategy use as follows:

	L1		*L2*
If strategy	H	then	H > P > L
	P		P > L
	L		L

(p. 172)

By postulating a hierarchy that controlled both L1 and L2 referential strategies, Kellerman, et al. supported the claims of Bongaerts and Poulisse (1989) and Bongaerts, Poulisse, and Bentlage (1987) that strategic behavior in L1 and L2 was the same. Whether this hierarchy controls the referential

strategies of Japanese speakers of English as a second language is the research question of the present study.

Cross-Cultural Referencing Studies

Yule and Tarone (1986) are relevant to the present study in their use, in an L2 referencing study, of subjects of different linguistic and cultural backgrounds: native English speakers, South American native Spanish speakers, and native speakers of Japanese, Chinese, and Korean. Pairs, speaking English, performed three types of tasks: describing objects, giving instructions, and narrating. The study found that the L1 and L2 speakers used similar referents in the description and narrative tasks, but not in the instruction tasks.

Yule and Tarone (1986) sought to establish that there were three considerations for a speaker when making a referencing choice: the speaker's language ability, the speaker's general knowledge, and the speaker's assessment of a listener's general knowledge. In one instruction task, however, there were some puzzling results which suggest that Yule and Tarone may have given their native English speaker subjects specific information about what a potential listener's knowledge might be. In a task requiring subjects to explain how to use a coffee-maker, almost all of the second language speakers used the word "coffee," while only one of the native speakers did; the others used words like "powdery substance" (p. 188). One wonders if the native speakers were told that a potential listener might not know the word "coffee." If the native speakers had been given information about a potential listener different from that given to the second language speakers, there would be a problem in comparing native speaker and second language speaker performances.

Also important to the present study are Dickson, Miyake, and Muto (1977), who were specifically concerned with referencing by Japanese subjects. Their study is comparable with Kellerman, et al. in several aspects; in particular, Dickson, et al. argued for the use of abstract line drawings in cross-cultural referential communication studies, because such drawings were not directly concerned with the usual range of human experience in any culture, and so could be seen as free of culturally-specific definition.

Dickson, et al. (1977) noted two types of encoding used in referencing: "metaphoric" and "analytic." They considered metaphoric descriptions as likely to be holistic, and so their categories are comparable to those of Kellerman, et al. Dickson, et al. hypothesized that metaphoric descriptions were more easily influenced by a given culture than analytic descriptions were, because metaphoric descriptions were more likely to concern specific culturally-defined experience. In the data collected for their study, Dickson, et al. found fifteen descriptions that they considered culturally biased, such as the metaphoric descriptions "abacus" and "wine [i.e., sake] cup."

The study required Japanese college students to write descriptions of abstract shapes. They were told either to describe what the shape looked like (metaphoric) or to describe the shape in terms of its geometrical components (analytic). Certain descriptions were selected, in a process using other Japanese college students, as task items. An English translation of these items was presented to American college students, in two groups, while the original Japanese descriptions were presented to a third set of Japanese college students, also in two groups. Subjects had to identify each figure for each description. The Japanese performed significantly better in identifying all pictures, and the correlations between the two Japanese groups ($r = .93$) and the two American groups ($r = .91$) were stronger than that between all Japanese and all Americans ($r = .75$). These results suggest a cultural bias in the descriptions. However, the Japanese performance was not significantly better when analytic or metaphoric descriptions were considered alone. Thus, the results do not support the hypothesis that metaphoric descriptions are more culturally biased than analytic descriptions.

Kellerman, et al. instructed subjects to make their descriptions understandable to a native speaker of whichever language they used. In contrast, Dickson, et al. (1977) gave their subjects no such instructions; if the writers of the descriptions had known that the descriptions were to be read by Americans as well as by Japanese, they might have made different language choices. Further, unlike Kellerman, et al., Dickson, et al. manipulated their subjects' production of analytic and metaphoric descriptions. If their subjects had been allowed to select metaphoric or analytic descriptions according to

their own preferences, there may have been a different distribution of the two types of descriptions. Indeed, there may have been a relationship between the type of description selected and the perceived potential readers (Japanese, American, or both) of the descriptions. Recognizing these limitations of Dickson, et al., the present study examines referencing decisions made by Japanese native-speaker subjects who are allowed to select their own referential strategies, but who are instructed to describe for a specific type of listener.

Purpose of the Present Study

The studies of the Nijmegen project, as well as Bongaerts, Kellerman, and Bentlage (1987), claimed that referencing in L1 and L2 was identical. Kellerman, et al. supported the claim by postulating a hierarchy of strategy preference operable both within and across languages. All of these studies used Dutch native speakers, and the present study asks whether the hierarchy of Kellerman, et al. determines the strategy preferences of Japanese native speakers as well. Two studies examining referencing in a cross-cultural context, Yule and Tarone (1986) and Dickson, et al. (1977), offered nothing to suggest that cultural variables would affect the operation of the hierarchy. Therefore, the present study makes the following hypotheses:

1. As with the Dutch native speakers, the Japanese native speakers will not, for a given picture, use a strategy in L2 at a higher level than the strategy used in L1 for the same picture.
2. As with the Dutch native speakers, the Japanese native speakers will proceed, within a single picture description in either L1 or L2, according to the hierarchy of referential strategies.

Method

Subjects

The subjects who participated in this study were 21 native speakers of Japanese. Fifteen were female and six were male. Subjects ranged in age from 19 to 31, with a mean age of about 24. See Appendix A for a complete subject profile.

All subjects were students at Hawai'i English Language Program (HELP), an ESL program in the extension division of the University of Hawai'i. Subjects' enrollment in HELP ranged from one month to a year and three months, with a median length of enrollment of six months. The length of time spent in the U.S. varied from one month to four years, with a median length of almost one year.

To examine any possible effects of proficiency, the present study took note of HELP rankings of subjects' English abilities. All HELP students are pretested before entering the program, and are ranked from term to term in several skill areas. Areas deemed relevant to this study were Communication Skills (CS), which involves listening and speaking skills, and Structure, which is concerned with facility with English grammar. In CS, seven subjects were ranked as intermediate and 14 as advanced. Intermediate CS students are considered to have enough English speaking ability to meet the demands of everyday needs, and, in addition, to carry on conversations on familiar topics. Advanced students are considered to have the English speaking ability required to express complex time relations in narrations, participate in conversations on unfamiliar topics, and manage potentially difficult social situations. As for Structure, nine subjects were ranked as intermediate and 12 as advanced. An intermediate Structure student is expected to have a working knowledge of English verb tenses. Intermediate students study conditionals, modals, and perfect tenses, and advanced students study subordinate clauses.

In addition to HELP, all subjects had had at least three years of English education at the high school level. Eleven also reported at least one year of college-level English education, with one attending college in the U.S., and four reported having English education in Japan outside of the established educational system. Four subjects reported speaking ability in a third language. Two had some ability in Chinese, one in Spanish, and one in Portuguese.

Procedure

Subjects were asked to describe, in both Japanese and English, the same

11 shapes used in Kellerman, et al., shown in Figure 1. In the original study, all subjects described the pictures in their native Dutch first and in English second, to reduce, it was claimed, the cognitive load of the L2 task. However, to account for a possible effect of description order, the present study employed counterbalancing. Eleven subjects first described the pictures in Japanese, and ten first described them in English. The two picture description sessions were scheduled one week apart. The pictures themselves were counterbalanced, except for Picture 1, which was always presented first as a practice picture. In the first session, a subject described the pictures from number two to number eleven, and, in the second, from eleven to two.

Sessions for all subjects were conducted by a native speaker of Japanese, usually assisted by the experimenter. In both sessions, the subjects received instructions in Japanese. Subjects were told to describe the pictures in Japanese so that a "nihonjin" (a Japanese) could draw them after listening to a recording of the descriptions, and to describe them in English so that an "amerikajin" (an American) could draw them after listening to a recording. As in the original study, no feedback was given during the descriptions.

Retrospective data were collected, according to principles stated in Faerch and Kasper (1987) and Poulisse, Bongaerts, and Kellerman (1984, 1987). Retrospection sessions were conducted in Japanese. Subjects listened to a recording of their descriptions immediately after the task, and were asked to comment freely about their language use; they could request that the tape player be stopped when they wanted to say something. Some subjects were eager to comment in detail about both L1 and L2 performances, while others would wait to be questioned. When the experimenter wanted to question subjects, he asked the native speaker assistant to speak to them in Japanese. Leading questions were avoided. Subjects were not told that they would be asked to comment upon their performances until they had completed the 11 descriptions; however, since the task was performed on two occasions, it can be surmised that subjects expected that they would comment on the second occasion as well. Retrospections were recorded and used to determine instances of strategy use.

After the sessions, the experimenter transcribed both English and Japanese descriptions, and both sets of transcriptions were checked by

Japanese native speakers. All determinations of strategy use were made using these transcriptions. Strategies were classified as holistic, partitive, or linear, following Kellerman, et al. The experimenter's strategy designations were checked against those of a Japanese native-speaker colleague. During this time, several problems had to be considered.

First, only original strategy levels and changes in levels had been noted, but it was decided that data analysis could be carried out more precisely if every instance of strategy use were recognized. If a subject used two holistic descriptions - for example, "uh:: (.) kore wa batsu desu ne. ((laugh)) [H] ekkusu no katachi desu. [H]" ("Uh, this is a cross. It's the shape of an x.") (38-J1) (see Appendix B for transcription conventions) - two tokens of holistic strategy use were to be noted. The transcripts were then reanalyzed for strategy tokens.

Another major problem was designating strategies as linear. It was decided that any mention of "line" (or Japanese "sen") should be considered to be on the linear level. Further, any reference to a single side of a geometric figure - that is, to a line which makes up the figure - was to be designated linear. For example, a reference to the "base" (Japanese "teihen") of a triangle was classified as a linear strategy.

There were two types of approaches to picture descriptions which made it difficult to distinguish between partitive and holistic strategies. The first approach was to describe a part of a figure and then add other parts to it, as in "(um) (5) quarter of circle and [P] (3) (sq) squa::re.[P]" (37-E9). The second was to start with a description of a figure greater than the one in the picture and then to instruct that parts be taken out of it, as in "(2) this is a sha::pe of (1) one fourth of circle but [H] (1) um:: (1) right side (3) on (the) bottom (1) i-is missing (1) and:: [P] (7) (um::) (2) so (1) missing like a shape of um:: (1) small (1) square. [P]" (27-E9). It was decided that the first approach would be considered partitive. In 37-E9, the speaker began by describing one part of the figure and then described another part; the complete figure is made up of the two parts. Because of the three seconds of planning time between the two bits of information, it was considered that they constituted two tokens of partitive strategy use. The second approach would be considered to start at the holistic level and then to move to the partitive level. In 27-E9, the speaker first

described a complete shape; nothing was to be added to this shape, and therefore this first bit of information was designated an example of holistic strategy use. When the speaker described the part of the shape to be removed, she moved to the partitive level. She made two statements concerning this part, and therefore 27-E9 was considered to consist of one holistic strategy token followed by two partitive strategy tokens.

Kellerman, et al. do not discuss the approach of offering a larger shape to be cut down into the actual shape. However, in the one instance of cross-language strategy violation that they report, the subject used this approach in the English description (p. 172). Kellerman (personal communication, November 15, 1991) has confirmed that this description was considered to have started at the holistic level.

After coming to terms with the problems stated above, the experimenter and the Japanese native speaker independently reevaluated the transcriptions. Interrater reliability was 97.19%.

Results

Tokens of strategies used by subjects for all descriptions are shown in Appendix C. Since 21 subjects each had to describe 11 pictures, there were potentially 231 pairs of Japanese/English descriptions. However, there were 17 instances in English and one instance in Japanese in which a description was abandoned. Of the remaining 213 pairs, 200, or 98.6%, show strategy use in which all tokens are at the same level in English and Japanese, or in which the token at the highest level in English corresponds to that at the highest level in Japanese. Ten of the 13 other pairs conform to the holistic-partitive-linear hierarchy proposed by Kellerman, et al., and only three violate the hierarchy. The violation sample is too small for statistical analysis.

Holistic strategies were used overwhelmingly. In 179 pairs, 84% of all complete pairs, both the English and Japanese descriptions contain at least one token of holistic strategy use, which suggests a preference in both languages, in this particular task, for holistic descriptions.

Violations of the proposed holistic-partitive-linear order within a single description were more frequent than those across languages. Fifty two of 442 completed descriptions, 11.8%, violate the proposed order. Thirty one of these

violations are in Japanese and 21 are in English, a difference which is not statistically significant according to chi-square analysis. Neither is there a significant chi-square value when one compares the number of violations in the first description session with the number in the second.

Examination of tokens shows that there may be a process involved in the violation of the proposed order. In Table 1, descriptions are ranked by number of strategy tokens within each description, from one token to seven or more. The table shows, for each rank, the total number of descriptions, the number of descriptions that follow the proposed order, and the number of descriptions that violate it. As descriptions display a greater number of tokens, the percentage of violations increases. It is impossible, of course, to violate the order if there is only one token. When there are two tokens violations are rare, comprising only 3.4% of all two-token descriptions. It seems, however, that as subjects elaborated upon descriptions - that is, as they supplied more information - the more likely they were to violate the order.

As for other factors that may influence violations, chi square analysis showed no relationship between English proficiency, as determined by either CS or Structure level, and violations of the order in English descriptions. However, there seemed to be a relationship between violations in Japanese and violations in English. Twenty violations, 38.5% of the total, were found in ten English-Japanese description pairs, and it appeared that those subjects who had a number of violations in their Japanese descriptions also tended to have violations in their English ones. To test for a possible relationship, Japanese subjects were divided into two groups: those subjects who violated the order two or more times in Japanese and those who violated the order once or not at all in Japanese. Chi square analysis revealed that the former group had significantly more instances of violations in English (see Table 2). There may be a question as to whether the significant difference was due to the number of violations or the number of abandonments. However, when abandonments were compared with all completed descriptions, no significant difference was found between the two groups of subjects (see Table 3). Therefore, it seems that those subjects who violated the order in L1 were more likely to do so in L2, and that strategy choice is somewhat subject to individual variation.

Discussion

With only three cases of cross-language strategy order violations in the present study, Kellerman, et al.'s idea of a cross-language strategy hierarchy seems to be supported. Nevertheless, it may be worthwhile to look at the three cases of hierarchy breakdown and attempt to account for subjects' behavior. In one case, linguistic categories may have contributed to a strategy classification problem. Describing Picture 1, Subject 36 said, in Japanese, "((breath)) nihon no boo ga, kurosu shite imasu [L]" ("Two lines are crossing.") (36-J1), and, in English, "a character of:: x. [H]" (36-E1). The use of "kurosu" as a verb in Japanese lead to a linear classification; if the word had been used as a noun, the strategy classification would have been one linear token and one holistic token. It may be argued that this classification decision is product-oriented. However, since Subject 36 did not report any problems with either description, the classification choices must stand in order to conform to the categories of Kellerman, et al. A description such as 36-J1 thus suggests that linguistic structure has some relationship to strategy classification.

In another case, Subject 38, for Picture 10, used a partitive approach in Japanese by mentioning two circles and started on the holistic level in English by mentioning one: "(5) kore wa, ee:: (1) um:: (1) en wo, futatsu egaite, [P] ee nishurui no chiisai en to ookii en (.) o egaite, [P] (.) ee shita sanbun no ichi shihoo o katto shite ((laugh)) imasu. [P] node shita ga taira ni nattemasu. [P] ((sniff))" ("This, uh, um, draw two circles, uh, draw two types, a large circle and a small circle, and all around the bottom third [they are] cut. And so the bottom has become flat.") (38-J10); "This is, uh, like a circle::, [H] but um (.) uh:: (.) third one cut off in a uh:: very end. [P]" (38-E10). It is difficult to draw any conclusions from this pair of descriptions. Subject 38, one of the more proficient in English, stated in retrospect that the problem she had with Picture 10 was that she did not know how to describe the thickness of the circle in English. However, there was no mention of thickness in her Japanese description; rather, she described the picture as composed of two circles. Hence, her L1 strategies were classified as partitive, and, therefore, at a lower level than the holistic strategy she used in L2.

Perhaps the most interesting of the three cross-language violations is that committed by Subject 33. In Japanese, she offered a pure linear approach, one of only seven in the data: "(4) mazu heikoo ni, nagai sen to mijikai sen o, hikimasu- [L] shita:: a (1) nihon (1) hiite [L] a- hidari a- migigawa no hoo ga mijikaku. (1) shite [L] sono mijikai hoo no sen ni, (1) onaji gura-i (1) nagasa onaji gura-i hida:: (.) chigau migi:: ni sen wo hiite kudasai. [L] soshite s::ono, owari no ten to, nagai hoo ga ue no hoo no ten wo, (1) en no yoo ni musun::de kuda(sai). [L]" ("First, in parallel, draw a long line and a short line. The bottom ... uh, draw two lines, uh, the left, uh the right side is short, and at that short line, about the same, with a length about the same, lef-, no at the right, please draw a line. And please connect with a circle that end point and the long top part's point.") (33-J9). In English, she opted for a holistic/partitive strategy combination: "(4) you write circle [H] and then (1) cut(t::) fou::r ah quarter? [P] (2) a::nd (.) cut (3) uh:: (1) something. [P] ((laugh))" (33-E9). When asked during retrospection what she meant by "something," she pointed to the picture, and did not seem to be satisfied with her English description. Kellerman, et al. acknowledged that linear descriptions were difficult to do, which might have been one reason that the preference for linear strategies was low. However, the fact that linear descriptions are difficult may allow for the possibility that a speaker may use linear strategies in L1 but not attempt them in L2, rather opting for a strategic approach at the holistic or partitive level, however unsatisfying the results may be.

As has been noted, the lack of cross-language hierarchy violations may have been due to the preponderance of holistic strategies in both English and Japanese descriptions. This preponderance may be in opposition to Dickson, et al.'s (1977) contention that metaphoric (i.e., holistic) descriptions tended to be more culturally-influenced than analytical (i.e., partitive and linear) descriptions; the contention suggests that in the present data there should have been a greater number of partitive and/or linear descriptions in English corresponding to holistic descriptions in Japanese. It may be useful, therefore, to examine whether any of the Japanese descriptions were specifically geared to cultural knowledge particularly possessed by the "nihonjin" for whose benefit the subjects were instructed to describe the pictures, and, if so, what the subjects did in English to make their descriptions more understandable to the

"amerikajin" for whom they had been instructed to describe.

It should be noted that the Japanese descriptions suggest a considerable Western influence upon the subjects. Seventy nine of the Japanese descriptions, 34.3% of all completed ones, contain at least one reference to a letter of the Roman alphabet. Other images used in Japanese descriptions which could be considered "Western" are the diamond (the loan words "daiya" or "daiyamondo," six descriptions, with four referring specifically to playing cards), the dollar sign, the Greek letter omega, and a Coca Cola can (one description each). Nonetheless, at least 12 Japanese descriptions might be considered culturally specific to a Japanese experience. These descriptions are set out in Table 4. Four of them concern the Chinese character "totsu" and/or the character combination "oototsu," two concern the mark used by the Japanese post office, two the Japanese floor-level toilet, one boiled fishpaste, one a brand of seaweed, and one a shape that resembles an igloo.

Table 4 shows that in all but one case there was a holistic image used in the corresponding English description. Subjects used "T" in the English descriptions corresponding to those containing the Chinese character and the postmark (Subject 24 also used "T" in his Japanese description). Subject 27 used the image of the letter D in her English description of Picture 5, as she used it along with the fishpaste image in Japanese. Subject 25 tried to use the image of a toilet in English, but abandoned it, and used that of a slipper. When doing his Japanese descriptions, he used both images to describe Picture 9. Subject 34 used the image of a helmet in English rather than the toilet image. In his retrospective interview, he admitted that he did not think that the image of a Japanese toilet was appropriate for the "amerikajin." Only for "kamakura" was there no corresponding holistic image. However, in her descriptions for both pictures, Subject 29 used the approach of starting with a larger image and removing parts of it to arrive at the actual shape. In her Japanese description, "kamakura" was offered at the end as a summary image. Since she did her Japanese descriptions second, it is unknown whether or not she had considered "kamakura" at the time of her English descriptions.

This use of alternative, assumedly less culturally-specific holistic images in L2 seems to show that the subjects, as was argued by Yule and Tarone

(1986), assessed the general knowledge of their potential listener and adjusted their language choices accordingly. However, in contrast to the implications of Dickson, et al. (1977), they did not seem to move to the partitive and/or linear level as potentially more culture-free. At least in the task used in the present study, they sought to stay at the holistic level, finding more culturally-appropriate language choices at that level.

Any imagery in the English descriptions possibly culturally inappropriate for the "amerikajin" may support, or qualify, the contention that subjects assessed a listener's cultural knowledge. Nearly all English descriptions that might be considered culturally inappropriate involved a misuse of English loan words. Subjects 21, 22, and 29 used the word "cup" (Japanese "koppu," a glass) to describe Picture 11. For Picture 7, Subjects 26, 28, and 35 used "daiya" (Japanese for "diamond," particularly the rhomboid shape associated with it), and 26 and 32 used "trump" (Japanese "torampu," playing cards). Only Subject 26, in her use of "daiya," was uncertain about her word choice; the others had felt they had used an English word properly. The only remaining culturally problematic description is Subject 28's of Picture 9: "this:: is a:: like a chinese (2) chopping knife." (28-E9). In retrospection, she admitted that the image might not be useful to the "amerikajin."

Of possible relevance to the considerable use of holistic strategies is the use of certain linguistic structures that seem to be appropriate to introduce or frame holistic strategies. It was observed during the description sessions that subjects tended to repeat certain structures as they performed succeeding descriptions. Table 5 sets out examples of such linguistic frames used by subjects. A number of subjects seemed to use similar structures in English and Japanese. Subject 40 tended, in both English and Japanese, to construct each description as a noun phrase, and all but one of these noun phrases contained a holistic description. Subjects 32, 33, 34, and 38 tended to use "kore wa" ("this (is)") in Japanese and "this is" in English. It seems that a holistic image is most likely to follow "kore wa" and "this is." Other constructions that seemed to be built around holistic strategy use include "____ ga arimasu"/"there is a _____" (Subject 21) and "____ o kaite kudasai"/"draw (a) _____" (Subject 39; see also Subject 29).

It is conceivable that the frames themselves may influence holistic

strategy use. Consider Subject 33's attempt to describe, in English, Picture 2, the last description done in her second session. She had described nine of ten previous pictures using "this is." For Picture 2, she said, "this is e- you write zed, [P] (.) z:: an::d (.) middle:: of z::, (.) you add (.) i. (.) letter i. [P]" (33-E2). It appears that it was necessary for her to abandon the "this is" frame in order to offer a partitive approach to Picture 2. Subject 38, the only subject who knew the English words "trapezoid" and "cylinder," abandoned her description of Picture 7: "this is i don't know ((laugh))" (38-E7). In retrospection, she stated that she did not know the English word, but her inability to fit a description readily into her "this is" formula may have had led to her not considering a partitive and/or linear approach. It is beyond the scope of the present study to determine how much the framing language reported herein reflects subjects' perceptions that holistic strategies should be used and how much the framing language itself influences holistic choices, but this topic could be worth pursuing in future research.

The high percentage of descriptions containing at least one holistic strategy has been offered as a possible reason for the lack of hierarchy violations in Japanese/English pairs of descriptions. However, there was a greater number of order violations within single descriptions in either language, and it is worthwhile to look at the situations in which the order breaks down.

One type of situation occurs when subjects move between descriptions of the one-dimensional lines and of the two-dimensional sections that make up geometric figures. The proposed order dictates that descriptions on the two-dimensional (i.e., partitive) level precede those on the one-dimensional (i.e., linear) level. However, in ten descriptions, the one-dimensional level precedes the two-dimensional level. An example is Subject 21's description of Picture 6: "um:: shironuki no sankakukei ga arimasu. [H] (.) ee:: (.) chokkaku sankakukei desu. ((breath)) [H] (1) (e) (3) (m) MIJIKAI men ga, hidari::gawa ni kite ite, [L] nagai men ga, migigawa ni shita o shite arimasu. [L] (2) (u::) chokkaku no kakudo wa, suihei:: (e) suichoku hookoo o ((laugh)) muite imasu. ((breath)) [P]" ("Um, there's an outlined triangle. Well, it's a right triangle. The short side has come to the left and the long sides are put on the right and bottom. The

right angle is set in a horizontal/vertical direction.") (21-J6). She first offered two holistic strategies by describing the figure as a triangle ("sankakukei"). She moved to the linear level by describing two sides ("men"). When she described the right angle ("chokkaku no kakudo"), she moved back to the partitive level, and thus violated the hierarchy. It has been noted that as the number of strategy tokens for a given description increases, the more likely the order is to be violated. A possible reason for the increasing likelihood of an order violation is that as a speaker adds more information when describing a geometric shape, the more likely he or she is to move from a one-dimensional level back to a two-dimensional one. Thus there are more possibilities of a breakdown occurring as descriptions become more elaborate.

Similar problems occur in seven descriptions, five of them produced by Subject 29, that start with a figure larger than the target shape and then call for parts of this figure to be removed. In these descriptions, a line is described as dividing the shape, and then the parts to be removed and/or the parts to be retained are mentioned. This procedure was used in both of Subject 29's descriptions of Picture 5. Here is the English description: "(6) um:: at first you write circle [H] and then (.) um:: you (2) draw? (1) ((cough)) li::ne (1) um:: (1) li::ne (1) from? middle? [L] (1) and then, middle, from (2) left to right [L] (1) and then you:: (4) erase:: (.) half circle. [P] (2) ((laugh))" (29-E5). She described a shape holistically ("circle"), then divided it linearly ("line") and then stated what was to be removed partitively ("erase half circle"). It is possible that the partitive and linear classifications made in this study are product-oriented, which suggests that the partitive/linear distinction is not valid. Perhaps partitive and linear strategies should be collapsed into "analytic" strategies, a category proposed by Kellerman, Bongaerts, and Poulisse (1987).

However, a more parsimonious categorization of referential strategies into holistic and analytic will not explain away the most common type of order breakdown. Twenty seven descriptions, more than half of those that violate the proposed order, conclude with a holistic image that seems to summarize the description. In some cases, descriptions begin and end with the same image, as in "it looks like a:: wood. [H] (1) uh:: (2) when somebody cut the wood in the middle (1) um:: you can see the circle on the wood o-on top of the wood. [P] (3) it looks like a piece of wood. [H]" (26-E11). In other cases, the

summary image is different from an initial holistic image, as in "ah:: (.) it:: looks like a profile of bird ((breath)) [H] (ano::) (2) put the quarter of circle (1) on the square. [P] (2) uh:: some people may think ((breath)) it's uh like a human's profile. [H]" (26-E9). In still other cases, a final holistic image concludes a description previously on the partitive and/or linear level, as in both of Subject 38's descriptions of Picture 4. In English, "(4) this is u::m (1) mix of:: two:: rectangle, [P] and uh:: (3) mix (wa) (um) (can i say) ((inaudible)) connecting with:: uh:: shape like uh:: alphabet (.) t::. [H]" (38-E4).

Kellerman, et al. did not comment upon any such use of summary images by their subjects. However, in a list of descriptions of Picture 7, a pattern similar to those reported in the present study appears. Subject 9 started with a holistic image, "it's er a square with er," then moved to the partitive level, "the corners are not of 90 degrees you have er . . . this . . . well this is like two triangles . . . put together," then to the linear level, "but the line where they are put together has vanished so you have," then back to the holistic level, "it's like a 'wybertje'. (laughs)" (p. 171). The fact that the subject used an L1 word ("wybertje" is a Dutch licorice candy) in the final holistic description may have led Kellerman, et al. not to consider the image as part of the complete English description. In any case, without further information about the use of summary images by Kellerman, et al.'s Dutch subjects, one wonders whether the use of such images constitutes a major difference between the language use of those subjects and that of the subjects of the present study.

Although the present study has no more evidence to offer than the anecdotal observations of Japanese native-speaker assistants, the use of summary images may reflect the nature of Japanese discourse, and therefore may reflect a cultural/linguistic influence on strategy use. It has been noted that subjects did not use certain culturally-specific images in their English descriptions that they used in their Japanese descriptions. Bialystok and Kellerman (1987) note that such differences in imagery are superficial, and should not be considered when categorizing strategies. However, a discourse structure may be indicative of a more fundamental difference, and perhaps should be considered when strategies are studied.

It is difficult to surmise what implications such a difference in discourse

may have for language teaching. None of the descriptions produced in this study were tested for effectiveness; it cannot be said that the use of a summary image is ineffective. In fact, the summarizing behavior noted here may be more relevant to Western learners of Japanese as a second language than to Japanese learners of English as a second language. In any case, a study of a scope greater than the present one is needed to address these issues.

In considering the factors which may have affected subjects' strategy choices, the possible influence of the pictures themselves must be considered. Of the 58 completed descriptions that included no holistic strategies, 40, or 69%, were of Picture 2. In fact, only Subject 26 offered a holistic strategy, a summary image, when describing Picture 2; in English, "((breath)) uh:: it it looks like a:: (1) mark of (1) uh:: american (.) doll. dollar. ((breath))" (26-E2). On the other hand, all descriptions for Pictures 4, 5, and 11 contained at least one holistic strategy. This suggests that the task itself was geared to the production of holistic strategies. A different choice of pictures may have produced a different distribution of strategies. Further, different types of tasks may have produced different types of strategic behavior, as was concluded in Poulisse (1987).

Finally, it must be conceded that the English ability of the subjects in the present study cannot be compared to that of the subjects in Kellerman, et al., and it is possible that differences in ability may have led to different performances. Further, the measures used to control proficiency within the present study, the HELP placement levels, admittedly are not the firmest ones possible. If other measures had been used to test proficiency, some effect for proficiency might have been suggested.

Conclusion

The present study, seeking to expand the knowledge base of communicative competence, considers whether L1 and L2 referencing behavior is identical by replicating Kellerman, et al., but with Japanese speakers of English as a second language as subjects. Of particular interest is the proposal that there is a hierarchy of preference of holistic strategies over partitive strategies and of partitive strategies over linear strategies, both across and within languages.

According to this proposal, first, a speaker will not use a strategy in L2 at a higher level than he or she would in L1, and, second, in a single description, in either L1 or L2, a speaker will proceed from a higher to a lower level.

The present study found so few cases of cross-language hierarchy violations that it cannot dispute the first part of the proposal. However, a possible explanation is the preponderance of holistic strategies, which was perhaps built into the task itself. Further, an examination of the few violations that occurred suggests that as more data is gathered more violations may be found.

As for within-language violations, many more cases occurred, and the most relevant relationship found was in similarities between L1 and L2 language use. Such a relationship was noted in the Nijmegen studies, but differences between the results of the present study and those of Kellerman, et al. suggest that different L1 backgrounds may lead to different L2 behaviors. Of particular interest was the use by subjects in the present study of a summary holistic image that violated the proposed order. The use of this summary image may indicate linguistic and cultural involvement in strategy order; however, an assessment of such an involvement is needed. While the results of the present study do not contradict the contention that referencing in L1 and L2 is identical, they open the question of considering differences among L1s.

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Table 1

Violations of the Proposed Strategy Order within Single Picture Descriptions

Tokens	Total	As Proposed	Violations	% of Violations
1	166	166	0	0
2	144	139	5	3.4
3	81	60	21	25.9
4	31	17	14	45.1
6	13	6	7	53.8
7+	4	1	3	75

Table 2

Violations of the Proposed Strategy Order in English Compared with Violations in Japanese

English behavior	Subjects with two or more violations in Japanese $N = 9$	Subjects with one or no violations in Japanese $N = 12$
predicted order	77	116
violations of order	15	6
abandoned descriptions	7	10

$\chi^2 (2, N = 21) = 7.71, p < .05$

Table 3

Abandonments in English Compared with Violations of the Proposed Strategy Order in Japanese

English behavior	Subjects with two or more violations in Japanese $N = 9$	Subjects with one or no violations in Japanese $N = 12$
completed descriptions	92	122
abandoned descriptions	7	10

χ^2 (1, $N = 21$) = 0.16, ns

Table 4

Holistic Images in Japanese Descriptions That May Be Culturally Specific:

English Descriptions for Corresponding Pictures

Subject, Picture	Order	Culturally-Specific Holistic Image in Japanese	Holistic Image in English
24-4	J, E	totsu to yuu ji o kaite (write the character for "convex")	looks like (.) t.
28-4	J, E	oototsu no oo. (the "oo" (concave) of "oototsu" (unevenness))	looks like t:: intersection. on the road.
30-4	E, J	oototsu no totsu. (the "totsu" (convex) of "oototsu" (unevenness))	a letter d [sic]
34-4	J, E	oototsu no totsu	the word t::.
40-4	J, E	oototsu?	alphabet (uh) t::.
26-4	J, E	yubinkyoku no maaku (the (Japanese) postmark)	english letter t.
29-4	E, J	nihon no posutomaaku (the Japanese postmark)	a you write (.) t::
25-9	E, J	benjo (a (Japanese) toilet)	TOILET? not toilet ((breath)) slipper.
34-9	J, E	toire no benki (a (Japanese) toilet)	like helmet uh in a::
27-5	E, J	ka-kamaboko (boiled fishpaste)	this is a letter d::
25-11	E, J	yamamoto yama no nori no kan (a can of Yamamoto-yama seaweed)	a:: chalk.
29-10	E, J	kamakura (an igloo shape)	[none]

Table 5
Linguistic Structures Repeated by Subjects That May Be Conducive to the Use of Holistic Strategies

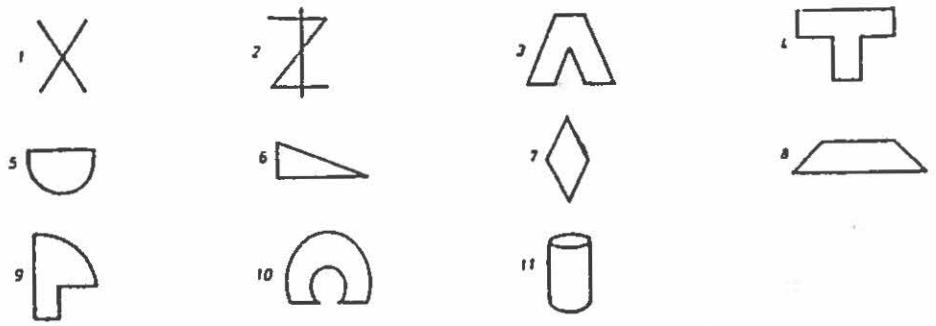
Sub. Them	Order	Japanese Structures, Descriptions Containing Them	English Structures, Descriptions Containing
21	J, E	kami no mannaka ni _____ arimasu [in the middle of the paper, there (is a) _____] 1 3 5 _____ kaite arimasu [____ is written] 2* 4 _____ ga arimasu [there (is a) _____] 7 8 10 11	there is a _____ 1 11 10 8 7 6 5 4 3 2*
22	E, J	_____ katachi desu [a shape of a _____] 1 10 7 5 _____ o kaite kudasai [please draw (a) _____] 1 11	this is _____ 4 5 6 7 this (shape) is (like) _____ 1 3* 11 there is _____ 2* 8
23	E, J	kore wa _____ [this (is) _____] 8 7 6 5 4 3	this is _____ 1 5 7 8 please draw _____ 3* 4 9 10
24	J, E	____ o ka(ku) [draw (a) _____] 2* 3 4 5 7 9 10 11	looks like _____ 11 10 NP (+ elaboration) 1 10 9 7 6 5 4
25	E, J	kore wa _____ 11 10 7 5 4 3	(a) letter _____ 2* 3 4 5 the shape is like _____ 5 6 7 8 9 10*
26	J, E	kore wa ____ 4 5	this is _____ 1* 6 this/it looks like _____ 11 10 9 8 7 5 4 this/it seems to _____ 3 2*
27	E, J	____ katachi o kaite kudasai [please draw the shape of (a) _____] 1 11 10 9 8 7 6 5	it is _____ 3 4 this is _____ 5 6 7 8 9 10 11
28	J, E	NP 1 4 5 6 7 10 11	looks like _____ 11 10 5 4 3 this is _____ 9 6
29	E, J	kami no mannaka/chuuo ni, ____ o kaite kudasai [in the middle/center of the paper, please draw a _____] 1 11 10 9 _____ o kaite kudasai 8a 7 6 4 3 2*	in the middle, _____ 1, 2* you (should) write _____ 2* 3 4 5 7 8 you draw _____ 9 10* 11
30	E, J	NP 1 11 10 9 8 7 6 5 4	this is _____ 6 7 8

Table 5
Linguistic Structures Repeated by Subjects That May Be Conducive to the Use of Holistic Strategies (continued)

Sub.	Order	Japanese Structures, Descriptions Containing Them	English Structures, Descriptions Containing Them
31	J, E	kami no mannaka/chuuo ni, ____ kakarete/egakarete imasu [in the middle/center of the paper, _____ has been hung/drawn] 2* 3 4 5 7 8 10 11	there is (a) _____ in the center of the paper 1 11 10 7 there is (a) _____ 8 6 5 4 3 2*
32	E, J	kore wa _____ 1 11 10 9 8 7 6 5 4 3 2*	this is _____ 1 4 5 6 7 8 9 11
33	J, E	kore wa _____ 2* 5 6 7 8 10 11	this is ____ 1 11 10 8 7 6 5 4 3
34	J, E	kore wa _____ 1 2* 3 4 5 6 7 8 9 10 11	this _____ 1 11 10a 9 8a 7 6a 5 4 3 2 this is (a) _____ 1 11 10a 9 8a 6a 5 4
35	E, J	_____ katachi (desu) [(it's) the shape of _____] 11 10 9 4 3	NP 3 4 5 6 9 10*
36	J, E	_____ jootai (desu) [(it's) a condition of _____] 3 6 9 _____ katachi (desu) 5 10 _____ desu [(it) is (a) _____] 4 7 8 11	NP 1 6 5 4
37	J, E	_____ kaite (aru) [____ is written] 4 5 NP 1 6 7 8 11	NP 1 5 looks like _____ 11 10 like a _____ 4 3 2*
38	J, E	kore wa _____ 1 3 4 7 8 10 11	this is _____ 1 11 10 9 8 7a 6 5 4 2*
39	E, J	_____ o kaite kudasai 1 11 8 7 6 5 4	draw (a) ____ 1 2* 3 4 6a 8 9*a
40	J, E	NP 3 4 5 6 7 8 11	NP 1 11 10 8 7* 6 5 4
41	E, J	_____ desu 1, 11 8 6 5	it's/it is _____ 1 3 4 5 6 10 it's like _____ 3 4 10

Key:
21-41 subject numbers
1-11 description numbers
J Japanese
E English
* descriptions without holistic strategy tokens
a abandoned descriptions

Figure 1. The 11 pictures from Kellerman, Ammerlaan, Bongaerts & Poulisse (1986).



Appendix A - Subject Profile

No.	Sex	Age	CS Level	Str. Level	English Education (highest level)	In HELP	In U.S.	Third Language
21	F	29	adv	adv	College (2 years)	9 months	1 year	none
22	F	31	adv	adv	College (4 years)	2 months	2 months	none
23	F	26	adv	int	High School (3 years)	6 months	7 months	Chinese
24	M	20	int	int	High School (3 years)	9 months	1 year	none
25	M	27	adv	adv	College in U.S. (1 year)	10 weeks	4 years	none
26	F	28	adv	adv	College (3 years)	6 months	6 months	none
27	F	27	adv	adv	College (3 years)	10 weeks	9 months	none
28	F	27	adv	int	College (1 year)	1 month	6 months	Chinese
29	F	27	int	int	College (4 years)	1 month	1 year	Portuguese
30	F	22	adv	int	High School (3 years)	1 month	1 month	Spanish
31	M	19	adv	adv	High School (3 years)	10 months	10 months	none
32	M	26	adv	adv	High School (3 years) English Class (2 years)	1 year	18 months	none
33	F	19	int	int	High School (3 years)	1 year	1 year	none
34	M	22	int	int	College (2 years) English Class (1 year)	1 month	1 month	none
35	F	23	adv	adv	Secretarial School (1 year)	1 month	7 months	none
36	F	23	int	adv	College (4 years)	6 weeks	6 weeks	none

Appendix A - Subject Profile (continued)

No.	Sex	Age	CS Level	Str. Level	English Education (highest level)	In HELP	In U.S.	Third Language
37	M	20	int	adv	High School (3 years)	15 months	18 months	none
38	F	28	adv	adv	College (4 years)	2 months	18 months	none
39	F	21	adv	int	Business College (1 year)	8 months	1 year	none
40	F	19	int	int	High School (3 years) English Class (1 year)	1 year	1 year	none
41	F	19	adv	adv	High School (3 years)	8 months	13 months	none

Key:

21-41 - Subject identification numbers
(Numbers 1-20 are reserved for the subjects of Kellerman, Ammerlaan, Bongaerts, & Poulisse, 1986)
CS - Communication Skills
Str. - Structure
adv - advanced
int - intermediate

Appendix B

Transcription Conventions

hai	normal utterances.
HAI	utterances spoken with a noticeable increase in stress.
(eeto)	utterances guessed at.
::	extended speech sounds.
?	rising intonation, such as that suggesting a question.
,	slightly rising intonation, such as that suggesting the continuation of an utterance.
.	falling intonation, such as that suggesting the conclusion of an utterance.
(1)	pauses of one second or more.
(.)	pauses of less than one second.
-	breaks in utterances without a pause.
((inaudible))	utterances which are too unclear to be transcribed.
((laugh))	laughter by a speaker.
((breath))	the audible breath of a speaker.
(21-J1)	identification number of a description. 21 - Subject 21 (subjects are numbered from 21 to 41; numbers 1 to 20 are reserved for the subjects of the original study). J - Japanese description. 1 - Picture 1.
[H]	holistic strategy token.
[P]	partitive strategy token.
[L]	linear strategy token.

Appendix C- Subject Performances

No.	Order		Strategy Choices 1	2	3	4	5	6	7	8	9	10	11
21	J, E	J	133	222	11	1	133	11332	(1a)1 1	1133	11221	12	11
		E	13	222	1111	112	133	13	11	133	112	112	1
22	E, J	J	11	23	112	12	1	12	11	11	111	122	1
		E	1	23	11	1	13	12	13	333	122	123	121
23	E, J	J	1	233	121	(12a) 132	1122	1222	1	13333	122 2221	1123 2232	11
		E	1	222	22	132	1	33	11	13333	(12a) (122a) 122222	12223	1
24	J, E	J	1	23	1211	1111	1	133	1	133	(12a) (1a)11	1321	1
		E	11	23	112	121	12	(12a) 12	1	12	1	11	(12a)1
25	E, J	J	11	233	11 (3a)22	13	1	122	1	(11a) (12a)1 1	1112	(222a) (1a)1 22	11
		E	22	22	11	1222	11	(1a)1	1	(1a)1 2	(1a)1	333	1
26	J, E	J	11	231	1132 211	111	1131	1331 2	111	11	1212	1221	11232
		E	111	231	1111	1	111	1133	1111 1112	1221	121	1	121
27	E, J	J	1	233	132	12	111	123	11	133	112	11	1
		E	1	23	111	1112	113	123	11	13	122	11	1111
28	J, E	J	1	23	111	1	1	1	1	1	11	11	1
		E	1	23	11	1	11	12	1	111	1	11	111

Appendix C - Subject Performances (continued)

No.	Order		Strategy Choices 1	2	3	4	5	6	7	8	9	10	11
29	E, J	J	1	222	1321 1	121	1132	132	1	(133a)	1322 21	22321	1
		E	1	22	221	1	1332	(11a)	111	(133a) 132	13322 2	2232	12
30	E, J	J	1	22	1	1	1	1	1	1	1	1	1
		E	1	(2a)22	(11a) 1	132	1	133	131	(1a)1 2	(1a)1 22	1	1
31	J, E	J	1	23	1	1	1	1	1	1	(22a) (12a)12	1	1
		E	1	233	11	(11a) 1	12	1	1	13	(22a) (11a)	1	1
32	E, J	J	11	23	131	13	11	12(2a) 322	11	1	112	12	1
		E	133	23	131	11	1(1a) 2	12	1111	1133	1122 2	11	11
33	J, E	J	1	22	1331	13	(11a) 1322	1122 2	11	1233	(333a) 33333	113	(1a)1 (1a)12
		E	1	22	1	1	1	1	1	11	122	1	1
34	J, E	J	1	23	11	11	11	1	111	111	1122	1	11
		E	13	23	11	11	122	(a)	11	(a)	121	(111 a)	1111
35	E, J	J	3	23	12	12	11	12	11	12	12	122	1
		E	3	22	1	1	1	1	1	12	12	22	1
36	J, E	J	3	23	122	1	11	1	1	1	12	12	1
		E	1	32	122	1	1	1	2	12	122	12	11

Appendix C - Subject Performances (continued)

No.	Order		Strategy Choices 1	2	3	4	5	6	7	8	9	10	11
37	J, E	J	1	2	1	1	1	1	1	1	(1a)22	1	1
		E	1	2	1	1	1	(a)	(a)	(a)	22	1	1
38	J, E	J	11	23	11	21	(1a)12	121	1	1	21	2222	1
		E	1	23	(12a)	21	12	1311	(a)	1	2	12	1
39	E, J	J	1	23	11	1	11	1	1	1	12	1	1
		E	1	22	1	1	1	(12a)	31	12	(12a)	11	1
40	J, E	J	1	23	1	1	1	1	1	1	22	122	1
		E	1	23	1	1	1	1	2	1	(a)	1	1
41	E, J	J	1	323	112	11	1	1	12	1	2211	11	(1a)11
		E	(1a)1	23	1132	11	133	(13a)	(a)	(3a)	(11a)	12	11

Key:

1-11 (bold) - pictures
21-41 - subjects
E - English
J - Japanese
1 - holistic strategy tokens
2 - partitive strategy tokens
3 - linear strategy tokens
(a) - abandonment