Learner Use of Strategies in Interaction: Typology and Teachability*

Michael Rost
Temple University

Steven Ross
University of Hawai‘i at Manoa

This paper reports on a two-phase study of L2 learner use of listener feedback, particularly their use of clarification questions, in NS-NNS discourse. The initial research questions of interest concerned the degree to which patterns in listener clarification questions could differentiate learners of varying proficiency, the degree to which use of clarification strategies (move types) could be explicitly taught (rather than developed alongside long-term gains in proficiency), and the extent to which strategy use influenced actual understanding of listening passages.

The first phase of the study was designed to formulate a typology of clarification questions associated with learners along a continuum of L2 proficiency. In this phase of the study, four types of clarification questions were identified through discriminant analysis as being related to language proficiency. These move types are defined as global reprise, local reprise, forward inferencing, and continuation signals.

The second phase of the study was an elicitation experiment in which learners listened to a narrative and asked clarification questions. The study examined learner use of clarification questions in two distinct presentation settings.

*Requests for reprints may be sent to Michael Rost, TESOL Program, Temple University, Japan Campus, 1–7–4 Nishitenma, Kita-ku, Osaka 530, Japan.
(distant, video presentation and live, one-on-one presentation) and with three types of prior training in questioning strategies (global, local, and inferential). The experiment was designed to assess the effects of these presentation settings and of the prior training on learners' ability to ask clarification questions of the native speakers and to summarize the story that they had heard. The results of this second phase of the study indicate that prior training of learners in specific questioning strategies can exert an effect on their subsequent behavior in interactions and can influence their immediate comprehension of a text as well.

LISTENER STRATEGIES TO ACHIEVE COMPREHENSION

Because input to language learners provides the data upon which they must act to develop language understanding ability, the selection, pacing, and sequencing of language input are likely to be crucial variables in L2 development. Equally important in L2 development is the interaction that the learners are able to engage in with fluent speakers of the target language, because interaction provides "break through points" for individual learners to contextualize new vocabulary, gain exposure to new collocational sequences, and try out new grammatical structures and discourse patterns (Ellis, 1984). In short, learners need not only be in an optimal input-rich environment, but they may also need the right people—and probably also the right topics—to test out their developing understanding and production abilities in the target language.

Governing the successful use of both of these conditions for language development (i.e., input and interaction) is, of course, the learner. After all, it is the learner who must come to understand the target language through conscious decisions to understand target-language speakers and to engage in interactions in the target language (TL) in which meaning of some import is at stake.

The appropriate domain for investigating how learners go
about making these decisions is the interactions they engage in. By examining extracts of native speaker-nonnative speaker (NS-NNS) interactions and by applying the standard tools of interaction analysis (identifying turn-taking systems, topic continuity links, and repair devices), we can begin to discern important patterns of conscious interaction strategies. These patterns will be not only patterns of behavioral phenomena, but patterns of underlying cognitive decisions that learners make when they encounter the inevitable understanding and production difficulties that go with second-language interaction.

For example, in the following extract, the NNS learner in Turn 3 apparently encounters an understanding difficulty.

NNS: There has been a lot of talk lately about additives and preservatives in food. In what ways has this changed your eating habits?

NS: Uh... Well, I guess it hasn't changed too much, uh, my eating habits. I try and avoid a lot of, uh, if it has preservatives or additives in it.

NNS: Pardon me?
NS: Pardon?
NNS: Pardon me, uh, what did you say?
NS: Oh, I said I, don't care too much whether it has additives or preservatives in, in the food itself, uh, as long as I'm eating somewhat, uh, balanced diet from a number of the good groups I'm, I don't care if, if my bread has a little bit of preservatives or doesn't have all the whole wheat, I don't really care that much. [laughs] (Gass & Varonis, 1985, p. 47–48)

It is worth noting that the learner herself initiates a repair of the understanding problem; it is, therefore, the learner here who modifies the interaction by seeking clarification of what the speaker has just said.

It is apparent that the nonnative speaker's "pardon me?" in Turn 3 serves two immediate functions related to language development, one at the level of information transaction and one at the level of interpersonal interaction. As a result of making this clarification move, the NNS can presumably better
understand the informational content of the immediately preceding utterances and can stay involved as an active participant in the interaction.

In addition to these functions, interaction modification can provide opportunities for the learner to express new meanings. In seeking clarification, the NNS is often forced to articulate his or her current state of understanding, and if misunderstood, to reformulate the utterance. In the following example, we can see how the demands of a task (a one-way information gap task involving placing figures on a board) may force the NNS to formulate concepts (spatial relationships) in the target language.

NS: And right on the roof of the truck, place the duck. The duck.
NNS: I to take it? Dog?
NS: Duck.
NNS: Duck.
NS: I put where it?
NS: You take the duck and put it on top of the truck. Do you see the duck? (Pica et al., 1987, p. 740)

Whereas this learner is not producing target-like forms, she is participating in a kind of discourse that gives her the opportunity to develop her speaking ability, both in expressing local meanings (the individual propositions in the discourse) and in staying involved in the overall purpose of the discourse (the collaborative problem-solving task). In particular, by expressing a partial understanding or an apparent misunderstanding (in this extract, the NNS temporarily misunderstands the name of the figure to be placed) or by being misunderstood in her expression of her understanding, the learner has an opportunity for language development by being pressed to formulate her discourse representation or to reformulate her utterance so that it becomes comprehensible to her interlocutor (Swain, 1985; Pica, Young, & Doughty, 1987). This opportunity would apparently be denied her if she were to avoid expressing her current understanding of the discourse.
For most second language learners, a great number of learner-initiated clarification exchanges are required for language understanding to develop. More important, however, than the sheer quantity of clarification exchanges that contribute to development is the quality of those exchanges. It is unlikely that simply engaging in more interaction will automatically lead to one's engaging in better interactions or improving one's communicative competence (Aston, 1987).

Learners who have continuing opportunities to engage in NS-NNS discourse often display patterns of clarification strategies at different stages of their learning careers (Bremer, Broeder, Roberts, Simonot, & Vasseur, 1988). For example, the NNS (M) in the following extract from a role-play of a job interview, an Italian migrant to Germany who has been learning German for about a year, shows an identifiable pattern of clarification moves.

T: wieviel ham Sie in Italien verdient? [how much did you earn in Italy?]
M: wie viel? [how much?]
T: in Italien wieviel ham Sie verdient? [In Italy how much did you earn?]
M: hams? [did you?]
T: wieviel haben Sie in Italien verdient? [How much did you earn in Italy?]
M: verdient? [earn?]
T: wie hoch war der Lohn? [How much was your pay?]
M: Wie hoch 'e alto' [how much is 'e alto']

(Bremer et al., 1988, p. 171)

Here the learner repeatedly initiates the same kind of clarification move throughout the discourse. This type of clarification question is a “push down” of the (phonologically stressed) lexical items that have just been uttered (Gass & Varonis, 1985). It is easy to identify the learner's general strategy: she tries to clarify every newly introduced term. Whether this pattern of continuous push downs leads to better understanding at a level of the overall discourse goals of the speakers is of course another question. Indeed, it may be that local push
downs of this sort may lead the interlocutors further away from the original information they were seeking to have clarified (Gass & Varonis, 1985).

By using this clarification strategy, the listener shows, minimally, an ability to identify the lexical items he or she does not know. This type of clarification exchange, however, even when successfully carried out, may lead to misunderstandings at a discourse level, that is, concerning the relationship of the most recent utterance to the overall discourse structure.

This phenomenon can be observed in the following example, in which the NNS (J) expresses a "local" understanding problem ("Are you familiar with the term . . . ?"), but the attempt at clarification of the local problem brings about a misunderstanding at the discourse level (The discourse topic of "Will you be comfortable working here?"). [The setting: J is interviewing for a job in a psychiatric hospital.]

I: Also, the hospital is a psychiatric hospital. Erm... so, I don't know if that's going to cause any bother to you... or any problems at all. Are you familiar with the term "psychiatric hospital"?
J: [repeats slowing in Spanish] Psiquiatri... I: . . . People with psychological problems.
J: [very high pitch] In my family?

(Williams, 1985, p. 165)

Examples of this type suggest that, when we analyze learner clarification questions, we are not dealing with a linear (line-by-line) dimension. Clarification questions will have hierarchical causes and effects at two overlapping levels of understanding: a local level (i.e., the individual utterance) and a discourse level (i.e., the relationship between the individual utterance and the preceding propositions).

Longitudinal research into learners and their strategies for understanding suggests some general trends of development. The first is that problems with understanding at both local and discourse levels become more easily defined as acquisition progresses. (Bremer et al., 1988; see also Chesterfield & Chesterfield, 1985.) Encounters with beginning learners allow
one to draw the conclusion that these learners frequently have *global* problems with the interpretation of a target language utterance, as the following examples (composites from the present study) suggest.

NS: So he wrote her a letter and explained that he was going to take a trip with Carol.
NNS: *Eh?*
NS: He wrote a letter to Diane, who was in Europe, and told her that he was planning to take a trip, with Carol, the woman he had just met.
NNS: *I don't understand.*
NS: Carol, you remember Carol?
NNS: *One more time please.*

These three queries are global in that the listener seems to have difficulty relating her understanding problems with specific parts of the discourse, or indeed, with any underlying assumptions about the discourse. Global queries *may* be indications of difficulty with sound-segmentation, difficulties with lexical items, difficulties with clause-level syntax, difficulties with the discourse-level purpose of the speaker, or all of the above. They are treated as global queries precisely because no hypotheses about what has and has not been understood are suggested by the listener.

Persistent *patterns* (rather than isolated occurrences) of global queries across settings and speakers and topics are evidence that the listener is at a beginning level of proficiency, a level that is marked by frequent instances of “nonunderstanding” of the discourse and an inability to formulate propositions to represent what was heard.

A second point from Bremer et al.’s (1988) longitudinal research is that questions directed at individual utterances typically mark off the learner, who is a step further ahead in language development. This point derives from the observation that misunderstandings (confusion of propositional content) only start to occur regularly when a certain level of proficiency in the L2 has been achieved.
As the following extract illustrates, a listener may have difficulty identifying new information and fitting it in with what is already known. The listener’s expression of this comprehension problem often involves local push downs of lexical items (Gass & Varonis, 1985).

NS: So he went on a trip to some tropical countries with Carol.
NNS: Tropical countries?
NS: Yes, Indonesia and Malaysia... some tropical countries. So he and Carol...
NNS: Carol?
NS: Yes, you remember Carol, one of his colleagues at school.
NNS: At college?

A third point that can be made—our own extension of Bremer et al.’s (1988) research—is that clarification questions directed at the relationship between the local level and the discourse level seem to mark off learners who are at a somewhat more advanced level of language development. As the following extract shows, the listener’s ability to ask questions at this inferential level involves both sophisticated comprehension ability and production ability.

NS: So he went on a holiday trip to some tropical countries with Carol.
NNS: Mm. Maybe Hawaii or a place like that?
NS: Actually to Malaysia. And he wrote to his fiancée to tell her about this trip.
NNS: Did she upset that he is going with another woman?

Looking at these three points about learner strategies, we can suggest a general sequence of development of listening strategies:

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>global</td>
<td>local (key-word)</td>
<td>inferential</td>
</tr>
</tbody>
</table>

A learner at each stage is characterized by a tendency to use clarification questions of the type given, or by an observed pattern over numerous opportunities to seek clarification.
One of the issues that motivated the current study was the relationship between observed strategy use and language proficiency. If selection of specifically global, local, or inferential strategies is associated with L2 listening and speaking proficiency, it is worth examining not only the extent to which listening and speaking proficiency can be defined in terms of strategy use, but the extent to which it must be defined in terms of strategy use. To the extent that strategy use is merely an artefact or by-product of language proficiency, learner training will be most effective when aimed at increasing overall language proficiency, rather than when specific opportunities for strategy enactment are provided. (See Bialystok & Fröhlich, 1978, for further discussion.)

Another of the issues that motivated this study was the plausibility of teaching proficiency-oriented strategies to learners at beginning levels. The relationship between the use of “good” and “bad” strategies with language proficiency in general and listening proficiency in particular, leads to a more fundamental question about language learning strategies. Do learners implement inferential learning strategies because they have already developed the proficiency that obviates the need for global or local strategies? Or, conversely, do more proficient listeners acquire their skill because they have at some time in their language learning careers discovered how to use more productive strategies? If the latter position is plausible, it would follow that the strategies that proficient listeners implement should also be “teachable” to listeners who do not yet use them.

THE STUDY: PURPOSE OF THE RESEARCH

The initial research questions concerned the degree to which listeners’ patterns of clarification questions could differentiate learners of varying proficiency, the degree to which strategy use could be taught as related to an explicit set of
discourse moves, and the extent to which strategy use would influence actual understanding of listening passages.

SUBJECTS

An 80-word dictation was presented twice to eight sections (n=340) of English language students at three different colleges in Japan. The average of the two administrations of the dictation was taken as the pretest score, and as a basis for creating matched quartets of subjects, which formed four cohorts. The reliability of the repeated measures of dictation ability was estimated by an analysis of variance approach to be .83 (see Kzranowski & Woods, 1984). The product-moment correlation between the two administrations was .90. Scores on the dictations ranged from 14 to 78.

The matched quartets represented the entire range of the dictation pretest. Proficiency levels represented ranged in the lower stratum from “false beginners” through elementary level. The higher range was from intermediate level through advanced. The two proficiency ranges were nonoverlapping, however, because there was a clear break between the highest scoring “low” proficiency listener and the the lowest scoring “high” proficiency listener. (See Figure 2 below for a visual representation of the levels.)

PROCEDURE

A three-minute narrative, The John Story (see Appendix A), was recorded on video tape by a native speaker of American English. From this video a transcript was made, with notes indicating gestures, pauses, and paralinguistic features. The original video version of the story was presented to the first cohort of 18 subjects. The story was then presented live in one-on-one dyads by one native speaker to 18 other students, matched by proficiency to each of the 18 students who saw The John Story on video. The first and second cohorts received prior
training on general questioning strategies. (Differences in the prior training are described in Phase 2 of the study). After matching two more cohorts of 18 students each, The John Story was again presented in one-on-one dyads. The third cohort received prior training on referential questioning strategies, whereas the fourth cohort received training on inferential questioning strategies before hearing the story.

At prespecified junctures, each corresponding to one key event in the story (see Appendix A), subjects in all cohorts were instructed to ask questions in their L1 (Japanese) about the developing content of the story. For experimental purposes, use of L1 was encouraged to avoid encoding difficulties that might obscure the intent of the subjects' questions (Brown & Day, 1983; Váradi, 1983; Flottum, 1986). All student questions were recorded on audio tape with the use of lapel microphones.

At the end of the narration of the story, all students were instructed to write a short summary of the story in Japanese. Analyses of the clarification questions used by the students during the one-on-one story telling were used as the basis for testing hypotheses about the influence of proficiency on strategy selection (Phase 1 of the study) and for testing hypotheses about the effects of the training videos on subsequent interaction patterns in the one-on-one setting (Phase 2 of the study). Analyses of the summaries were used as measures of the degree of comprehension of the students (Phase 2 of the study).

**PHASE 1: TYPOLOGY OF LISTENER FEEDBACK MOVES IN NARRATIVE DISCOURSE**

The subjects' questions about The John Story were recorded and transcribed by one of the authors (see Appendix B for an example). Each type of strategy used was categorized into one of the following headings.

**Global Questioning Strategies**

*Global Reprise (GBL):* A strategy by which the listener opts to
ask for an outright repetition, rephrasing, or simplification of the preceding narration. In some cases, the listener simply states that nothing of the preceding narration was understood.

NS: and Diane heard about this/and she returned to the United States/because of the/because of John's sickness/and Carol and Diane met at the hospital/and both of them were trying to help John to recover/

NNS: Wakarimasen. [I can't understand.]

Continuation Signal (CS): A "default" questioning strategy in which the listener requests no elaboration or repetition of the narration. Apparently, the listener believes he or she has created a sufficient representation of the story to continue and indicates the current status of this understanding with an overt statement such as "Yes, go on" or a nonverbal gesture such as a nod.

NS: and Diane heard about this/and she returned to the United States/because of the/because of John's sickness/and Carol and Diane met at the hospital/and both of them were trying to help John to recover/

NNS: Umm. I see.

Local Questioning Strategies

Lexical Reprise (LR): A question referring to a specific word in the preceding narration, as indicated in a statement such as "What does — mean?" This category of reprise also includes cases in which the listener repeats, or attempts to repeat, a single word or phrase with a questioning intonation.

NS: and John wrote a letter to Diane/and explained this to her/that they would be traveling together/and Diane was very upset about this/

NNS: "upset"to iu wakatteinai...[I don't know what "upset" is]

NS: it means that she was unhappy... yeah

Fragment Reprise (FRG): A question referring to a specific part of the preceding utterance, in which the listener does not identify a specific lexical item. The reprise may include repeti-
tions of parts of individual lexical items or parts of words across word boundaries.

NS: well it turned out that John developed this disease called encephalitis/which caused some slight brain damage/and he developed amnesia/there were several things he simply couldn't remember/

NNS: tanesia? [amnesia?]

Lexical Gap (LG): A question about a specific word or term that has been used previously. Usually, this is a request to repeat a term that the listener cannot recall.

NS: well it turned out that John developed this disease called encephalitis/which caused some slight brain damage/and he developed amnesia/there were several things he simply couldn't remember/

NNS: What's the name of that disease?

Positional Reprise (POS): A reference to a position in the preceding utterance, rather than to a specific word of phrase. Here the listener cannot identify specific words or even phonetic traces of the words in the narration. The positional reprise strategy allows the listener to point out general positions in the utterance that are not understood.

NS: but when she was gone/John met another woman/ named Carol/and Carol and John became very friendly/ and they started dating/and they even decided during one of their school holidays/to take a trip together/to some tropical countries/

NNS: Saigo no ho chotto wakaranai . . . [I don't understand the last part.]

Inferential Strategies

Hypothesis Testing (HT): By asking specific questions about facts in the preceding narration, the listener indicates a propositional understanding (or misunderstanding) within the story structure. Here the listener may take specific facts from the story and ask questions that test out the story structure thus far constructed.
and so Diane and Carol were both trying to help him recover his memory and he couldn’t remember Diane at all; he could only remember Carol and so his engagement broke off and eventually John married Carol.

So he didn’t marry Diane because he couldn’t remember her, is that right?

By using this strategy the listener has the opportunity to verify her schematic representation of the story. Sometimes, this can involve lengthy productions by the listener:

so when they returned from their trip to these tropical countries John became very sick and he had to go to the hospital.

Ryouko ni itte John ga byouki ni natte shimatte, sore de takai netsu ga dete shimatta desu ka? [When John went travelling he got sick, and so is that why he got a high fever?] Ryokou chu jya nakute . . . [Not while he was traveling]

When he came back, right.

Ryoukou kara kaeta toki ni netsu natta desu ka? [When he came back from the trip he got the fever?]

Uh hum.

The category of hypothesis testing includes basic referential questions as well, provided that the questioner produces a full proposition:

and so Diane and Carol were both trying to help him recover his memory and he couldn’t remember Diane at all; he could only remember Carol and so his engagement broke off and eventually John married Carol.

Kare dochio wasuremashitaka? [Which one couldn’t he remember?]

Diane.

Forward Inference (FI): The listener overtly indicates her current state of understanding of the narration by asking a question using established (given) information in the story. For example, “Where are they going on their holiday?” is a question that elaborates on the previously stated fact that they were going on holiday. These questions may or may not lead to
correct conclusions about the story. Such questions or statements do, however, indicate the status of the listener's attention and discourse-level comprehension of the story; these questions provide a basis for further elaboration and consequently more input.

NS: and John wrote a letter to Diane and explained this to her that they would be traveling together and Diane was very upset about this/

NNS: John wa sono koto Diana ni setsumei shita keredomo Diana doyou shiteiru to iyu koto mo yappari Diana wa hanarete John no koto suki na no ni John konyaku hakki suru no desu ka? [Even though John explained it to Diane, and despite their separation, Diane's loving John, are they going to break off their engagement after all?]

NS: Well, he didn't say that. He was just going on a trip with this other woman.

NNS: Oh . . . ah . .

To characterize the interactive nature of these strategies, we can summarize them in terms of their effects on the speaker (narrator) and the subsequent direction of the discourse (see Figure 1).

RESULTS OF PHASE ONE OF THE STUDY

Eight strategies observed in the analysis of the interaction between the narrator and the Japanese interlocutors were entered into a linear discriminant analysis. The proficiency levels were known a priori (based on the dictation pretest) and could therefore serve as the categorical variable in the analysis. Binary codings were used to differentiate between the "low" and "high" strata. The discriminant analysis allows us to observe the correlation between the choice of strategy and the proficiency of the listeners. Depending upon the extent of discrimination, a ranking of "efficient" listening strategies can be derived (see Tables 1–4).

Four strategies serve to discriminate between the "high"
Listener Strategies | Speaker Responses
--- | ---
Continuation Signal | Continue narration.
Lexical or Global Reprise | Repeat or rephrase entire utterance or segment.
Lexical Gap or Positional Reprise | Repeat or rephrase specific part of utterance.
Hypothesis Testing | Confirm if listener's hypothesis check is "true" or "plausible". Provide other information if listener's hypothesis is "false".
Forward Inference | Answer question posed; confirm if listener's assumptions are consistent with story facts and assumptions; modify telling of story to accommodate listener's predictions; add other facts if listener's assumptions suggest misunderstanding.

**Figure 1.** Listener feedback moves and their probable effect on speaker modification of discourse

**Table 1**

*Number of Clarification Questions (Strategy Tokens) Observed*

<table>
<thead>
<tr>
<th>Strategy Tokens</th>
<th>Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuation Signal</td>
<td>109</td>
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<tr>
<td>Forward Inference</td>
<td>74</td>
</tr>
<tr>
<td>Hypothesis Testing</td>
<td>180</td>
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<tr>
<td>Lexical Gapping</td>
<td>11</td>
</tr>
<tr>
<td>Lexical Reprise</td>
<td>60</td>
</tr>
<tr>
<td>Positional Reprise</td>
<td>7</td>
</tr>
<tr>
<td>Fragment Reprise</td>
<td>3</td>
</tr>
<tr>
<td>Global Reprise</td>
<td>43</td>
</tr>
<tr>
<td>Other (unable to classify)</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total Clarification Questions Observed</strong></td>
<td><strong>504</strong></td>
</tr>
</tbody>
</table>
Table 2

Discriminant Analysis: Elementary Stratum vs. Intermediate Stratum

<table>
<thead>
<tr>
<th>Variable</th>
<th>SS</th>
<th>df</th>
<th>Means</th>
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<th>$p$</th>
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<tbody>
<tr>
<td>FI</td>
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<td>22.251</td>
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<tr>
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<tr>
<td>HT</td>
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<td>4.556</td>
<td>1.202</td>
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<tr>
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<td>265.444</td>
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<tr>
<td>LG</td>
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<td>1.264</td>
<td>0.265</td>
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<tr>
<td>Error</td>
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<td></td>
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<tr>
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<td>11.556</td>
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<td>Error</td>
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<td>1.121</td>
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<tr>
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<tr>
<td>CS</td>
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<td>59.211</td>
<td>19.664</td>
<td>0.001</td>
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<tr>
<td>Error</td>
<td>210.775</td>
<td>70</td>
<td>3.011</td>
<td></td>
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</tr>
</tbody>
</table>

Multivariate Test Statistics: Wilks' $\lambda=0.428$; $F=10.521$; $df=8$; $p=0.001$

(positive canonical loadings) and "low" proficiency listeners (negative loadings): Forward Inferencing, Lexical Reprise, Global Reprise, and Continuation Signal.

The univariate $F$ tests indicate Forward Inference and Continuation Signals are strategies that "high" proficiency listeners use. Lexical Reprise and Global Reprise are more likely to be used by "low" proficiency listeners.

The eight strategies together provide the basis for ample
Table 3  
Canonical Loadings

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuation Signal</td>
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<tr>
<td>Forward Inference</td>
<td>0.323</td>
</tr>
<tr>
<td>Lexical Gapping</td>
<td>0.116</td>
</tr>
<tr>
<td>Hypothesis Testing</td>
<td>-0.113</td>
</tr>
<tr>
<td>Lexical Reprise</td>
<td>-0.332</td>
</tr>
<tr>
<td>Positional Reprise</td>
<td>-0.073</td>
</tr>
<tr>
<td>Fragment Reprise</td>
<td>-0.081</td>
</tr>
<tr>
<td>Global Reprise</td>
<td>-0.562</td>
</tr>
</tbody>
</table>

Table 4  
Observed and Predicted Group Membership

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>28</td>
<td>4</td>
<td>32</td>
</tr>
<tr>
<td>High</td>
<td>4</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>40</td>
<td>72</td>
</tr>
</tbody>
</table>

discrimination. As Table 4 indicates, low proficiency listeners were consistent in their choice of strategies as were high ability listeners. Four misclassifications each were observed in each category.

PHASE 2: THE TEACHABILITY OF LISTENING STRATEGIES

Each member of a stratified block (see grouping criteria in Phase 1) was assigned randomly to one of four cohorts for training and presentation of the narrative story (see Figure 2). The random blocks design allows for a reduced amount of error variance in the analysis of variance model and permits an examination of how proficiency levels are differently sensitive to treatment effects (Guilford & Fruchter, 1978). An initial
DEFINING THE TREATMENTS: PRESENTATION CONDITIONS AND PRIOR TRAINING

Four methods of presenting the narrative story (*The John Story*) were devised, one for each of the four cohorts. These methods consisted of two presentation “modes”—video or live—and three forms of prior training. All cohorts were presented with a training video in the students’ L1 (Japanese); the presentation was in a modern language laboratory or room equipped with a video player. The content of the demonstration video is considered to be the training variable in this study.

The treatment for the four cohorts (treatment groups) is defined as follows:
Cohort 1=Video presentation mode; training video is General Questioning, a presentation of questioning procedures and implicit strategy training.
Cohort 2=Live presentation mode; training video is General Questioning, a presentation of questioning procedures and implicit strategy training.
Cohort 3=Live presentation mode; training video is Referential Questioning, a presentation of questioning procedures and explicit strategy training in lexical reprise and hypothesis testing.
Cohort 4=Live presentation mode; training video is Inferential Questioning, a presentation of questioning procedures and explicit strategy training in forward inferencing.

Members of each cohort saw one of three training videos that were produced for this study. Each video was a seven-minute simulation involving an American male (a native speaker of English), and a Japanese female (a native speaker of Japanese), in an informal conversational setting. In each training video, the NS told the NNS a narrative in English (called The Susan Story, which had a narrative structure similar to The John Story), during which time the NNS asked for clarification, in Japanese, of words or facts in the story that she did not understand. The narrator answered her questions briefly in English and then continued with the narrative.

In the training video General Questioning (viewed by Cohorts 1 and 2), the subjects received an explanation of the questioning procedures only, with the speaker emphasizing that they could ask any question they wished during pauses in the story. The subjects were not overtly instructed how to request clarification about nonunderstandings or misunderstandings, nor how to select from among questions they might wish to ask. In the event they felt they adequately understood the previous section, the subjects were instructed to indicate their comprehension by stating, “Wakarimashita” [I understand]. Because the NNS interlocutor asked questions about
specific words and facts, however, this training video did provide implicit suggestions about strategies the nonnative speaker could use to obtain clarification. The intended effect of training video General Questioning was to create conditions in which learners would simply attempt to ask questions at appropriate times because questions are often viewed negatively in Japanese educational settings as admissions of ignorance or inattention.

Immediately after viewing the training video, subjects in Cohort 1 watched the same native speaker narrating The John Story. In the video version of The John Story, pauses were inserted at prespecified junctures, corresponding to main events in the story (see Appendix A). Subjects in Cohort 1 were told that if they experienced major understanding problems, they could indicate that they did not understand enough to ask a question by saying "Wakarimasen" [I don't understand]. All subject responses were recorded on audio cassettes for later transcription and analysis.

The second cohort also saw the training video General Questioning. Immediately after viewing the training video, individual subjects were called into a room adjoining the video room for a "live" presentation of The John Story in English by a different native speaker. At the same junctures as those provided in the video version, subjects were given a ten-second pause during which they asked questions in their L1 (Japanese) about the content of the preceding narration. The NS narrator answered their questions briefly in English and continued with the narration (see Appendix B for an example). All narrations, questions, and subsequent answers in English to student queries were recorded on audio cassettes and later transcribed and analyzed by the authors.

Cohort 3 saw the training video Referential Questioning. The contents of this video differed from that of General Questioning in that the NNS listener explicitly instructed the learners (viewers) about how to ask for clarification of words they did not know and facts they did not understand. In the simulation on
this video, the Japanese interlocutor pointed out to the viewers that she was trying to get clarification of the immediately preceding utterance or segment of the story. (She periodically turned away from the interlocutor and toward the video viewers and explained, in Japanese, what she was asking and why.) As with the video General Questioning, all responses from her interlocutor were in English.

After viewing the training video, subjects in Cohort 3 were called into an adjacent room, individually, for the live presentation of The John Story. Ten-second pauses were provided, as before, for questions. All of the narrations, questions, and answers were recorded on audio tape for later analysis.

Cohort 4 saw the training video Inferential Questioning, with the same male native speaker and Japanese female interlocutor as were on the other training videos. In this training video, however, the Japanese interlocutor pointed out a single specific strategy that she was going to use in interacting with the native speaker. In the simulated narration, the Japanese interlocutor employed the strategy of formulating paraphrases based upon the content of the narration that she had just heard and then adding an inference about how this content related to the overall story. The Japanese interlocutor in the training video Inferential Questioning also pointed out to the viewers that she consciously avoided asking questions about specific words, even if she did not understand some words in the narration.

After viewing the training video, subjects in this fourth cohort were called individually into an adjacent room for a live presentation of The John Story. Ten-second pauses were again provided for questions about the content of The John Story. As before, all interviews were recorded for analysis.

DEFINING THE COMPREHENSION MEASURES:
WRITTEN SUMMARIES

Immediately after the presentation of The John Story, all
subjects were asked to write a summary of the story in Japanese. Again, for experimental purposes, use of L1 was encouraged to avoid encoding difficulties that might obscure which information points in the story the subjects did understand, but were unable to express (Brown & Day, 1983; Flottum, 1986). Subjects were also instructed not to confer with other students during the writing of the summaries. The summaries were subsequently collected and scored for “information points”.

The information points were based upon native intuitions about the most salient aspects of the narration. In a pilot study (conducted a year before the experimental study), 10 native speakers who listened to The John Story were asked to write a summary of the story after viewing it narrated on video tape. The common information points from these summaries, eight points in all, were selected as the “minimal information” to be included in an adequate summary of the story (see Appendix C).

Subjects in all cohorts were awarded one point for each of the information points they included in their own written summaries, for a maximum of eight points. This score was considered the dependent measure of comprehension of the story and provided the researchers with a second assessment of listening ability with which questioning strategy tokens and prior proficiency scores could be correlated.

RESULTS OF PHASE 2: EFFECTS OF TRAINING ON STORY COMPREHENSION

The analysis of the second phase of the study consisted of two parts. The first analysis, the “product” analysis, was to determine if the differential treatments were associated with differences in comprehension of the story, as indicated in the summaries that the subjects wrote. The second analysis, the “process” analysis, was to determine if the type of prior training presentation conditions were associated with differential use of strategies.

Tables 5 and 6 present the results of the product analysis.
Table 5
Analysis of Variance: Total on Written Summaries

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block</td>
<td>186.111</td>
<td>17</td>
<td>10.948</td>
<td>5.256</td>
<td>0.000</td>
</tr>
<tr>
<td>Treatment</td>
<td>16.778</td>
<td>3</td>
<td>5.593</td>
<td>2.685</td>
<td>0.056</td>
</tr>
<tr>
<td>Error</td>
<td>106.222</td>
<td>51</td>
<td>2.083</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6
Group Comparisons: Totals on Written Summaries

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>σ</th>
<th>Scheffé Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>5.77</td>
<td>2.01</td>
<td>ns</td>
</tr>
<tr>
<td>Live</td>
<td>5.88</td>
<td>2.13</td>
<td>ns</td>
</tr>
<tr>
<td>Local</td>
<td>5.83</td>
<td>2.35</td>
<td>ns</td>
</tr>
<tr>
<td>Inferential</td>
<td>6.94</td>
<td>1.73</td>
<td>ns</td>
</tr>
</tbody>
</table>

The blocking variable is significant, indicating that the treatments are differentially dependent upon the proficiency of the learners. The differences in this measure for the presentation methods approach significance, and no post-hoc contrasts indicate significant differences, although it is worth noting the higher mean score by Cohort 4 (the inferential questioning group).

Tables 7–11 present the key results of the process analysis. Table 7 presents the frequencies of use of strategy types during the story presentation. Tallies of the raw number of two clarification question types—Forward Inference and Lexical Reprise—were analyzed in the randomized block analysis of variance design. These two strategies were chosen because they represent the effect of the two explicit training videos on the subsequent use of strategies by the listeners.

Table 8 indicates a significant effect for treatment groups
in the use of the Forward Inferencing strategy. Table 9 shows that Group 1 (video), which was not given explicit training with this strategy, and Group 4, which was given explicit training with this strategy, use FI significantly more often than do the other two groups.

Cohort 4 (the Inferential Questioning group) adopted the FI strategy after they saw it demonstrated in the video training session. The use of this strategy was common among all of the strata in the proficiency continuum ($p=.171$). As Cohort 1 (the video group) also tended to use more FI strategies, we suggest that FI may be a default strategy for use in noninteractive settings, in which direct appeals for assistance are not possible.

Table 10 indicates the effect for treatment groups in the use of the lexical reprise strategy. Table 11 shows that Cohort

Table 7  
*Descriptive Statistics: Use of Strategies by Cohort*

<table>
<thead>
<tr>
<th></th>
<th>FI</th>
<th>HT</th>
<th>LG</th>
<th>LR</th>
<th>POS</th>
<th>FG</th>
<th>GBL</th>
<th>CS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort 1 Mean</td>
<td>1.78</td>
<td>1.44</td>
<td>.33</td>
<td>0.78</td>
<td>.00</td>
<td>.05</td>
<td>0.61</td>
<td>1.16</td>
</tr>
<tr>
<td>Cohort 1 $\sigma$</td>
<td>1.66</td>
<td>1.33</td>
<td>.59</td>
<td>0.94</td>
<td>.00</td>
<td>.23</td>
<td>1.30</td>
<td>1.54</td>
</tr>
<tr>
<td>Cohort 2 Mean</td>
<td>0.61</td>
<td>2.33</td>
<td>.67</td>
<td>0.72</td>
<td>.22</td>
<td>.05</td>
<td>0.78</td>
<td>2.05</td>
</tr>
<tr>
<td>Cohort 2 $\sigma$</td>
<td>1.95</td>
<td>1.94</td>
<td>.38</td>
<td>1.01</td>
<td>.42</td>
<td>.23</td>
<td>1.60</td>
<td>2.04</td>
</tr>
<tr>
<td>Cohort 3 Mean</td>
<td>0.22</td>
<td>2.27</td>
<td>.11</td>
<td>1.66</td>
<td>.11</td>
<td>.05</td>
<td>0.50</td>
<td>2.56</td>
</tr>
<tr>
<td>Cohort 3 $\sigma$</td>
<td>0.73</td>
<td>1.74</td>
<td>.32</td>
<td>1.41</td>
<td>.32</td>
<td>.23</td>
<td>0.70</td>
<td>2.43</td>
</tr>
<tr>
<td>Cohort 4 Mean</td>
<td>1.50</td>
<td>3.94</td>
<td>.00</td>
<td>0.16</td>
<td>.05</td>
<td>.00</td>
<td>0.50</td>
<td>0.77</td>
</tr>
<tr>
<td>Cohort 4 $\sigma$</td>
<td>2.00</td>
<td>1.95</td>
<td>.00</td>
<td>0.38</td>
<td>.23</td>
<td>.00</td>
<td>0.92</td>
<td>1.43</td>
</tr>
</tbody>
</table>

FI=Forward Inference; HT=Hypothesis Testing; LG=Lexical Gap; LR=Lexical Reprise; POS=Positional Reprise; FG=Fragment Reprise; GBL=Global Reprise; CS=Continuation Signal
### Table 8
**Analysis of Variance: Use of Forward Inferencing Strategy**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block</td>
<td>48.944</td>
<td>17</td>
<td>2.879</td>
<td>1.411</td>
<td>0.171</td>
</tr>
<tr>
<td>Treatment</td>
<td>28.944</td>
<td>3</td>
<td>9.648</td>
<td>4.729</td>
<td>0.005</td>
</tr>
<tr>
<td>Error</td>
<td>104.056</td>
<td>51</td>
<td>2.040</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 9
**Group Comparisons of Use of Forward Inferencing Strategy**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>σ</th>
<th>Scheffé Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort 1</td>
<td>1.77</td>
<td>1.66</td>
<td>vs Local (p&lt;.05)</td>
</tr>
<tr>
<td>Cohort 2</td>
<td>0.61</td>
<td>1.19</td>
<td></td>
</tr>
<tr>
<td>Cohort 3</td>
<td>0.22</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>Cohort 4</td>
<td>1.50</td>
<td>2.06</td>
<td>vs Local (p&lt;.05)</td>
</tr>
</tbody>
</table>

### Table 10
**Analysis of Variance: Use of Lexical Reprise Strategy**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block</td>
<td>25.500</td>
<td>17</td>
<td>1.500</td>
<td>1.750</td>
<td>0.063</td>
</tr>
<tr>
<td>Treatment</td>
<td>20.778</td>
<td>3</td>
<td>6.926</td>
<td>8.079</td>
<td>0.000</td>
</tr>
<tr>
<td>Error</td>
<td>43.722</td>
<td>51</td>
<td>0.857</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 11
**Group Comparisons: Use of the Lexical Reprise Strategy**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>σ</th>
<th>Scheffé Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort 1</td>
<td>0.78</td>
<td>0.94</td>
<td>ns</td>
</tr>
<tr>
<td>Cohort 2</td>
<td>0.72</td>
<td>1.01</td>
<td>ns</td>
</tr>
<tr>
<td>Cohort 3</td>
<td>1.66</td>
<td>1.41</td>
<td>vs Infer (p&lt;.05)</td>
</tr>
<tr>
<td>Cohort 4</td>
<td>0.67</td>
<td>0.38</td>
<td>ns</td>
</tr>
</tbody>
</table>
3 (Referential Questioning), which was given explicit training with this strategy, used lexical reprise significantly more often than did the Inferential Questioning group (Cohort 4).

Cohort 3’s training video pointed out two essential strategies that students could use in seeking clarification: asking about word meaning or asking for a hypothesis check of a specific (local) fact. The post-hoc contrasts strongly suggest that the most salient and perhaps the most viable strategy for low proficiency learners was that of Lexical Reprise, both from a perspective of "cognitive ease" and "social risk".

This result suggests that it is indeed possible to teach learners how to ask for lexical clarification. However, this strategy is not one that more proficient listeners adopt. The near-significance of the blocking variable suggests that higher proficiency learners may still manage to avoid the use of lexical reprise. The Referential Questioning group as a whole nonetheless used this strategy more frequently, which highlights the power of a training session to lead learners to nonproductive as well as to productive strategies.

STRATEGY SELECTION IS GOVERNED
BY COGNITIVE CONSTRAINTS

The results of this study can be interpreted from two perspectives concerning learner use of strategies in interaction. The first position, which we might call the proficiency position, maintains that strategy use is essentially compensatory for a lack of linguistic knowledge. Learners with higher proficiency are assumed to have less need for the linguistic “escape hatch” that compensatory strategies, such as guessing meaning from pragmatic context and appealing to interlocutors for assistance, apparently provide (Labarca & Khanji, 1986). Whereas even a strong version of the proficiency position need not deny the role of features of task and setting on selection of strategies, this position would hold that proficiency is the weightiest predictor of strategy (Bialystok & Fröhlich, 1980).
The underpinnings of this position relate to the cognitive constraints that seem to limit the processing of spoken information (Chafe, 1987; Anderson, 1983). Learners at more advanced stages are seemingly better able to “chunk” information; they can integrate—in “real time” as the discourse unfolds—new, incoming information with propositional and schematic representations they already have in immediate memory. This ability allows them the luxury of devoting attention to metacognitive strategies, such as “selective attention” and “functional planning” (see O'Malley, Chamot, Stremer-Manzanares, Kupper, & Russo, 1985). Advanced learners apparently formulate discourse-level inferential questions with relative ease because they can allot more attention to the overall story structure. Beginning learners, on the other hand, lacking a critical mass of lexical knowledge, are seemingly forced to allot most of their attention to specific word meanings and parsing the input into basic constituent structure.

A dilemma arises for the lower proficiency learner. Attending to problems of understanding may not lead the learner to satisfactory maintenance of a story line, but instead can lead to tangential push downs that may not be ultimately productive for comprehension. In this study, a plausible explanation for the inverse relationship between the frequent use of local level clarification strategies and successful understanding of the story is related in part to the relative complexity and unpredictability of the story text used in the experiment. Resolution of lexical problems (such as tropical countries, upset, encephalitis) does not readily lead to coherence at the discourse level, because the story schema, although fairly universal at the theme level (a triangular romantic relationship), is rather unfamiliar at the event-resolution level (romantic entanglement resolved through a medical tragedy; see Thorndyke & Yekovich, 1980, for a discussion of levels of events and structural predictability in stories.)

A listener of lower L2 proficiency can easily experience an information overload in immediate memory from sorting out
the new information provided by the speaker in response to a (vertical) lexical push down, particularly when clarification of the meaning of the lexical item does not lead to any new insight about the (horizontal) schematic structure of the story. This overload may plunge the listener into an ever-deepening nexus of tangential meanings that he or she cannot link to the original problem of understanding how the new lexical information fits into the story. In short, dependence on local reprise strategies may result in a loss of a broader orientation to the discourse topic.

From the proficiency perspective, it could be argued that L2 instruction should be geared toward overall increases in linguistic proficiency so as to minimize the learners' need for compensatory strategies, such as local queries. In a strong version of the proficiency position, instruction in strategy use and effective strategy selection (such as posing inferential questions) is essentially "marking time" until the learner achieves greater proficiency.

There is, however, a more moderate version of the proficiency position, which is more plausible for L2 instruction. In this position, it may be argued that if lower proficiency learners will need to use compensatory strategies in any event, then instruction should be aimed at showing students those linguistic and interactive strategies that are likely to be effective for achieving immediate understanding, and which are most likely to lead the learner toward understanding more of the target language as a system (Bialystok & Fröhlich, 1978; Fröhlich & Paribakht, 1984). In other words, instruction may be aimed at leading students to adopt strategies that will allow them to make best use of their memory and attention during taxing exercises such as the one-way listening task that was the focus of this study. If, as is commonly argued (Paribakht, 1985), strategic competence is a unitary concept and is available to adults at all levels of L2 proficiency, then listening/speaking instruction may be geared toward showing students how they can use a full range of strategies in appropriate ways during L2 interactions.
STRATEGY SELECTION IS INFLUENCED BY SOCIAL CONSTRAINTS

The second position, one we might term the context position, focuses upon context-dependent social constraints in evoking interactive strategies and maintains that strategy use is a function of task type, text type, and setting. Learners at all levels of proficiency will opt for those socio-affective strategies that are seen as most acceptable and appropriate to the task at hand, or simply that they adopt strategies that they prefer for reasons of personal style.

A strong version of this position is that the task "defines" the strategy that the learner will select (Selinker & Douglas, 1985), leading to the notion that optimal instruction entails obligatory steps in a learning task. In other words, effective instruction requires the learner to enact certain strategies. The basis for the context position is the observation that learning styles and strategies seem to vary so much and that learners can adopt "uncharacteristic" strategies under specific conditions. In the present study, the task did, to a large extent, define the appropriate "risk level" for strategy selection. Because listener feedback of some kind was virtually required by the task setting, the task probably elicited more clarification questions than would occur under natural (i.e., nonexperimental) conditions.

A more moderate view of the context position is that strategy selection is dependent to a large degree upon cuing of acceptability. The use of strategies will then be more a function of learner experience with, and expectation of, the content of the learning task (and toward the instructor's expectations) than of aptitude or linguistic competence, or exact task requirements. In this view, the experimental task in the present study can be seen as cuing acceptability: the learners were told that questions—admitting nonunderstanding or misunderstanding—were both acceptable for the present task and desirable, in general, for language learning.
In the interactive groups in the present study (i.e., all cohorts except the first, which viewed the video presentation and did not interact with the speaker), listeners had the full range of options for compensating for any lack of linguistic knowledge, such as "appealing for help" from the interlocutor. It nevertheless has been shown in this study that, even when the full range of compensatory strategies is available, listeners can be taught more effective strategies for understanding the story. Thus, whereas it may be true that learning style preferences (including preferences for style and pace of interaction) are related to cultural background (Reid, 1987), the learners in this study can be taught to use (or encouraged to use) culturally atypical interactive strategies.

In the present study, both the proficiency position and the context position are partially supported. The context position, however, must be tempered by cognitive considerations: the type and amount of text information to be understood will influence the strategies that a listener can enact. The proficiency position must be tempered as well by the overriding pragmatic principles in comprehension. Comprehension is context-dependent—displayed in specific interaction modifications (e.g., in listener-initiated questions) and demonstrated in specific product-oriented performances (e.g., in subsequent accounts of what was understood). See, for example, Carroll (1981).

A cognitive-social paradigm for integrating the two perspectives, at least in the context of the comprehension task in this study, might be suggested. This model (see Figure 3) suggests that "cognitive" formation of any comprehension problems underlies or precedes a "social" decision by the listener to provide overt feedback. The ability to formulate clarification questions is only partly dependent upon language proficiency; the ability is also contingent upon the adoption of appropriate cognitive and social "risk" strategies.
Cognitive Strategies —> Social Strategies

<table>
<thead>
<tr>
<th>Global —&gt;</th>
<th>Local —&gt;</th>
<th>Inferential —&gt;</th>
<th>Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify</td>
<td>Identify</td>
<td>Use context to</td>
<td>Package the</td>
</tr>
<tr>
<td>tonic</td>
<td>&quot;key&quot;</td>
<td>link key words</td>
<td>propositions</td>
</tr>
<tr>
<td>syllables</td>
<td>words</td>
<td>to propositions</td>
<td>into yes/no question.</td>
</tr>
</tbody>
</table>

Figure 3. Cognitive and social aspects of asking clarification questions

CONCLUSIONS

The results of the study reported here lend support to the notion that the use of certain strategies is correlated with proficiency in the second language. The second phase of the study, however, suggests that strategies used by more proficient listeners can in fact be taught to learners who might otherwise not normally attempt to use them. (See also Kern, 1989, for similar findings in teaching reading strategies).

The study suggests that listeners can be taught to avoid "cognitively risky" strategies (global and local reprises) that might well take the learners away from the goal of understanding. The study proposes a specific method of operationalizing and presenting strategies to students in a form that the learners can immediately try out in interactions. This method entails both cognitive and social considerations of "risks" involved to the learner.

Our conclusion is that specific listening strategies for specific tasks can be taught to learners of all proficiency levels. Despite cultural preferences for noninteractive listening by learners in this study, Forward Inferencing strategies led to better understanding at a discourse level. As a tentative answer to the question "what comes first, development of proficiency or development of strategy?", the results here suggest that strategies for listening comprehension can be demonstrated
and readily adopted. A longitudinal study of the use of forward inferencing strategies by low proficiency listeners, and how this strategy influences their subsequent, continuing growth in comprehension ability, should shed more light on the issue and provide a more concrete answer to this important question.

REFERENCES


APPENDIX A: FULL TEXT OF THE JOHN STORY

My friend John was engaged to get married to a woman named Diane and Diane had to go overseas to study for one year and their plan was to get married when she returned (Pause 1)
but when she was gone/John met another woman/named Carol/and Carol and John became very friendly/and they started dating/and they even decided during one of their school holidays/to take a trip together/to some tropical countries/(/Pause 2)

and John wrote a letter to Diane/and explained this to her/that they would be traveling together/and Diane was very upset about this/(/Pause 3)

so when they returned from their trip to these tropical countries/John became very sick/developed a very high fever/and he had to go to the hospital/(/Pause 4)

and Diane heard about this/and she returned to the United States/because of the/because of John’s sickness/and Carol and Diane met at the hospital/and both of them were trying to help John to recover/(/Pause 5)

well it turned out that John developed this disease called encephalitis/which caused some slight brain damage/and he developed amnesia/there were several things he simply couldn’t remember/(/Pause 6)

and so Diane and Carol were both trying to help him/recover his memory/and he couldn’t remember Diane at all/he could only remember Carol/and so his engagement broke off/and eventually John married Carol/(/Pause 7)

APPENDIX B: SAMPLE TRANSCRIPTION OF A LIVE STORY-TELLING SESSION

Note: Those turns of the student listener that are in Japanese are provided (in transliteration) in italics; an English gloss follows in brackets.

    Narrator begins story: My friend John was engaged to get married to a woman named Diane/and Diane had to go overseas/to study for one year/and their plan was to get married/when she returned/(/Pause 1)
Student: Plan returned? Return?
Narrator responds: When she came back.

Narrator continues story: but when she was gone/John met another woman/named Carol and Carol and John became very friendly/and they started dating/and they even decided during one of their school holidays/to take a trip together/to some tropical countries/(Pause 2)

Student: Carol wa onna no hito desu ka, otoko no hito desu ka? [Is Carol a woman or a man?]
Narrator responds: Carol is a woman.

Narrator continues story: and John wrote a letter to Diane/and explained this to her/that they would be travelling together/and Diane was very upset about this/(Pause 3)

Student: "Upset" to iyu imi wa? [What does "upset" mean?]
Narrator responds: Upset . . . She was unhappy
Student: Ah, unhappy. Sore kara Carol to John ryoko shita, ne? [Then Carol and John went on a trip, right?]
Narrator responds: That's right
Student: Ah, ah, hai, hai. [Ah, ah, yes, yes]

Narrator continues story: so when they returned from their trip to these tropical countries; John became very sick/developed a very high fever/and he had to go to the hospital/(Pause 4)

Student: Nanto naku . . . [Umm, OK]

Narrator continues story: and Diane heard about this/and she returned to the United States/because of the/because of John's sickness/and Carol and Diane met at the hospital/and both of them were trying to help John to recover/(Pause 5)

Student: John wa kaifuku desu, ne? De Diane to Carol ga byouin de nanika shita desu, ne? [So John's recovering, right? And Diane and Carol went together to the hospital, right?]
Narrator responds: They met there, for the first time
Student: "They meh"?
Narrator responds: They met each other or they saw each other
Student: Saw?
Narrator responds: Um hum
Student: Dakara Diane to Carol wa tomodachi janai desu, ne? [So Diane and Carol aren't really friends then, right?]
Narrator responds: Oh, no no

ParseException: well it turned out that John developed this disease called encephalitis/which caused some slight brain damage/and he developed amnesia/there were several things he simply couldn't remember/(Pause 6)

Student: Couldn't remember?
Narrator responds: Uh huh
Student: Omoedase koto dekinai? [Wasn't able to remember anything?]
Narrator responds: Yes, basically that's right. He couldn't remember many things.

ParseException: and so Diane and Carol were both trying to help him/recapture his memory/and he couldn't remember Diane at all/he could only remember Carol/and so his engagement broke off/and eventually John married Carol/ (Pause 7)

Student: Dakara Carol to kekkon suru desu, ne? . . . Hai, hai, wakarimasita. [So he married Carol, right: . . . Yes, yes, I understand.]

APPENDIX C: STORY SUMMARIES, SUMMARY SCORING PROTOCOL, AND SAMPLE STUDENT SUMMARIES

Summary Scoring Protocol: These are the eight propositions that were to be included in the "minimally acceptable" summaries:

1. John and Diane engaged
2. Diane went away
3. John met Carol
4. John and Carol took a trip together
5. John got sick
6. John got amnesia
7. John remembered Carol, John didn't remember Diane
8. John married Carol

[The summaries were written in Japanese; an English gloss follows the romanized version of the Japanese.]

John to Diane wa konyakusha doushide atta. Karerawa beikoku ni sundeita. [John and Diane got engaged. They were living in America] John ni wa Carol to iu tomodachi ga ita. Sono Carol to issho ni Benkyo no tame ni ryoko ni itta. [John became friends with someone named Carol. He went travelling with this Carol to study.] Kaetekita toki John wa konetsu no byokini nari nyuin shita. Soko e omimai ni yattekita Diane to Carol (?). [When they came back, John became sick with a high fever and was hospitalized. Diane and Carol (?) met at the hospital (while there to see John).] Kekyoku John to Carol wa kekkon shita. Diane wa shitubohshita. [Finally John and Carol got married. Diane was "let down"].

(Student 1)

Diane to John to Carol [Diane and John and Carol] Diane wa gaikokude benkyo shiteiru. [Diane went abroad to study.] John to Carol wa nakayoshide gakko no yasumi ni ryoko ni ikuhodo nakaga yoi. [John and Carol became friends and took a trip together during a school holiday.] Soshite ryoko kara kaeru to John wa byoki ni nari konetsu no tame nyuin shita. [After coming back from the trip, John became sick and because of his high fever he had to be hospitalized.] Diane to Carol wa John o mimai. John wa kaifukuni mukatta. John ga dokokarakaochite, kioku o ushinatta. [Diane and Carol went to see John at the hospital. John got better. John got some kind of damage and lost his memory.] Diane no koto was mattaku oboeteinakute, Carol no koto wa oboeteita. [He wasn't able to remember Diane at all, but he did remember Carol.]

(Student 2)

Diane ga ichi nen kan benkyosuru tame gaikoku e itta. [Diane went abroad for a year to study.] Soshite John to Carol ga nakayoku natutte futari de, nettaino kuni e ryoko shita. [John and Carol got to know each other and took a trip together to
a tropical country.] Sokode John ga byoki ni natte, kohnetsu wo dashite shimatta. [John got sick there, and got a very high fever.] Diane to Carol ga byoin e omimai ni itta ga John wa kubi no ushiro ga henni natte shimatteita. [Diane and Carol met when they went to see John at the hospital. John had some trouble with the back of his neck.] Soshite soko wo shiuzusu shita. [So he had to have an operation.]

(Student 3)