Communication Management Strategies Requested by Experienced Cochlear Implant Users

Charissa R. Lansing
Department of Speech and Hearing Science
University of Illinois at Urbana-Champaign

Twelve adults, with a wide range of speech perception abilities and 30 months of cochlear implant experience, attended to detailed route-finding directions presented by an unfamiliar normally-hearing talker. Subjects took notes and requested aid, as necessary, in order to accurately retell the directions. The number of requests for aid ranged from 16 to 82 and percent accuracy scores ranged from 52 to 100. Overall, confirmation was the most frequently requested communication strategy. Some subjects with high percentages of specific requests achieved high accuracy; however, there were exceptions. The results underscored the variability in individual interactive styles independent of the number of communication management attempts or outcome accuracy.

Adult cochlear implant (CI) users with acquired hearing loss report markedly similar experiences that frustrate their attempts to communicate effectively in everyday situations. These include attempts to communicate in environments that interfere with the use of vision, audition, or both. Effective performance in conversational exchanges may also be influenced by the attitudes and interactive behaviors of the CI user and the conversational partner. Many adult aural rehabilitation (AR) programs and self-help groups for the hearing impaired offer training in communication management techniques. Activities include the use of discussion, role playing, and analysis of videotaped interactions to encourage management of environmental variables, for example, noise, lighting, distance, and positioning among communicators (Alpiner & McCarthy, 1987; Davis & Hardick, 1981). Additionally, many programs include practice in directing a conversational partner to repair, if not avoid, communication misunderstandings. Additional activities to train hearing-impaired individuals to use communication management strategies have been reported by Kaplan, Bally, and Garretson (1987); Erber (1988); Tye-Murray (1991); and Abrahamson (1991).

Address correspondence to: Charissa R. Lansing, PhD, Department of Speech and Hearing Science, University of Illinois, 901 South Sixth Street, Champaign, Illinois, 61820.

One AR activity which introduces the hearing-impaired listener to a variety of repair strategies is the tracking procedure described by De Filippo and Scott (1978) and De Filippo (1988). When the receiver (listener) fails to provide an exact verbatim repetition of the segment, the sender (talker) may provide: (a) an exact repetition of the segment; (b) a repetition including some form of modification, for example, intonation, rhythm, articulation; (c) modifications in the length of the segment; (d) non-contextual instructions to the receiver such as pointing out the error; and (e) a paraphrase. Further modifications of this procedure have been proposed by Owens and Raggio (1987) to provide hearing-impaired listeners with practice in eliciting specific repair mechanisms from the talker. Additionally, specific repair mechanisms, such as repetition, have been incorporated into audiovisual training paradigms (Lesner, Sandridge, & Kricos, 1987; Montgomery, Walden, Schwartz, & Prosek, 1984; Walden, Erdman, Montgomery, Schwartz, & Prosek, 1981).

Study of Management Strategies

The use of communication management strategies is not unique to hearing-impaired listeners. Poyatos (1980) described their use to regulate and time speaker behaviors in natural conversational exchanges among normally-hearing communication partners. The ability to initiate conversational repair mechanisms has also received much attention in the child language literature on developmental pragmatics. Gallagher (1981) describes several types of clarification requests that a listener uses to signal the presence of a communication misunderstanding. These include: (a) requests for confirmation (RC), for example, the listener repeats the original utterance with rising intonation, and the resulting repetition may elaborate or reduce the original utterance; (b) neutral request for repetition (N), for example, the listener uses a general query, with rising intonation, such as: What? Pardon?; and (c) requests for specific, constituent repetition (SCR), for example, the listener repeats part of the original utterance and uses a wh-word to signal misunderstanding of a particular constituent, as in, "Her name was what?" A major focus of this developmental pragmatics research, however, has been the ability of the *sender,* rather than the *receiver,* to adjust ongoing discourse in response to communication difficulty. Nevertheless, results from this child-language work provide useful research-based definitions of clarification requests.

Frequency Issues

Limited data have been reported regarding the frequency of specific types of communication management strategies used by hearing-impaired subjects. Erber and Greer (1973) reported four major repair mechanisms initiated by classroom teachers in an oral school for the deaf. These included:

> *repetition* of all or part of an utterance; application of acoustic or oral/facial *emphasis* to all or part of the utterance; manipulation of vocabulary or syntax to effect a *structural change,* and provision of *supplementary information* in the form of additional cues or prompts. (p. 480)

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Of these four, emphasis and repetitions were the mechanisms most often employed by the teachers.

In research conducted by Owens and Telleen (1981), the most popular repair mechanism requested by hearing-impaired subjects was that involving the repetition of all or part of an utterance. In a subsequent study involving a 19-year-old hearing-impaired male, the strategy of repeating a portion of what was said proved to be significantly more effective than a repetition of the complete utterance (Owens & Telleen, 1981). A preference for repetition was also reported by Tye-Murray (1991) who evaluated hearing-impaired lipreaders' requests for five different repair mechanisms (whole-sentence repetition, sentence simplification, paraphrase, key-word, and the substitution of two sentences for the original utterance). Test stimuli consisted of 20 primary sentences spoken by two talkers and presented without auditory cues. Listeners with mild to severe sensorineural hearing losses chose the whole-sentence repetition repair strategy more often than the other four strategies. Eight subjects received training on the use of these strategies for computer-controlled activities and role-playing with a student clinician. On average, however, subjects chose the repeat strategy less often and other strategies more often, following the training. In a recent study, Tye-Murray, Purdy, and Woodworth (1992) investigated the *reported* use of communication strategies (repair, corrective, and anticipatory) by 212 members of Self Help for Hard of Hearing People, Inc. (SHHH). Overall, subjects agreed more strongly with statements requesting the repetition of a misperceived utterance than with statements requesting a key word, rephrase, or elaboration of the original utterance.

Efficacy Issues

Evidence suggesting the efficacy of various types of communication management strategies appears contradictory. These studies, however, vary with regard to sender and receiver characteristics, test stimuli, and situational context. Results reported by Tye-Murray, Purdy, Woodworth, and Tyler (1990) suggested that five specific repair strategies (repeat, simplify, paraphrase, key-word clue, and substitute two sentences for one) were equally effective for enhancing the vision-only identification of simple sentence materials by normally-hearing adults. In contrast, Kelsay, Fryauf-Bertschy, and Tye-Murray (1990) investigated attempts by normal-hearing mothers to convey oral/aural directions to their children fitted with cochlear implants. Mothers who chose to reconstruct misperceived directions were more successful in conveying the directions than those who chose repetition. Similarly, in their 1989 study, Gagné and Wyllie found that subjects implementing synonyms and paraphrases as repair strategies for single-word stimuli outperformed those implementing repetitions. Their findings indicated that the strategies using "substitute stimuli" (i.e., synonyms and paraphrases) may be a more effective means of repair than simple repetition.

Rationale

The study of communication interactions plays an important role in understanding behaviors that make for effective communication functioning in everyday life and in assessing the ecological and social validity of treatment (Goldstein, 1990; Kazdin, 1977; Wolf, 1978). Effective communication functioning is one of the primary motivating factors for individuals with acquired hearing loss to explore the use of a hearing aid or cochlear implant. While routine measures of auditory and visual speech recognition at syllable, word, and sentence levels provide valuable information regarding audiologic functioning, knowledge about effective communication functioning is crucial in evaluating rehabilitative needs as well as treatment.

Initial attempts to study communication interactions (between prospective implant candidates or CI users and a significant other or unfamiliar talker) included analysis of videotaped segments of unstructured conversations (Lansing & Davis, 1988). Additionally, 25 videotaped, 10-minute conversational exchanges were analyzed between CI users and an unfamiliar normally-hearing communication partner. The normally-hearing partner manipulated environmental variables and talker-specific, linguistic behaviors to provide opportunities for the CI user to present repair strategies. Surprisingly, the videotaped samples contained limited communication exchanges that focused on the resolution of communication misunderstandings. More frequently, the CI user or candidate was observed to: (a) shift conversation topic, (b) withdraw from the exchange, (c) dominate talking-time and ignore the partner's requests for turn-taking, and/or (d) attempt to ask the partner open-ended questions and reinforce the partner's talking-time. It seemed plausible that the lack of a shared communication goal, as well as the varying characteristics and idiosyncracies of the normally-hearing partners, for example, age, sex, interactive style, or strategies unique to the dyad, introduced numerous variables that potentially influenced the videotaped interaction. Therefore, it was critical to study communication interaction with an experimental task that eliminated as many of these variables as possible yet provided the context for a communication interaction with high social validity. An audiovisual task in which the CI user was required to obtain detailed information to reach a given destination was simulated to investigate this experimental question. Unlike the tracking procedure, the receiver was not required to provide a verbatim repetition of each segment immediately following its presentation.

Purpose

The purpose of this preliminary research was to describe the frequency and type of communication management strategies requested by experienced multichannel cochlear-implant users who have had communication management training as part of an aural rehabilitation program (Lansing & Davis, 1988). It was hypothesized that communication effectiveness (percentage accuracy and frequency of management attempts) would be related to the percentage of specific requests for communication repair, for example, constituent repetition, rephrasing, spelling a key word. More specifically, would subjects who primarily employed specific requests achieve higher accuracy with fewer communication management attempts than those who primarily employed nonspecific requests?

METHOD

Subjects

Twelve subjects, 7 females and 5 males, participated in this study. Prior to implantation, all had profound (pure tone average ≥ 95 dB HL), bilateral hearing loss, acquired after age 10. Ages ranged from 30 to 74 years (M = 55.8; SD = 16.1). All subjects were participants in the University of Iowa Cochlear Implant Project and had used a multichannel cochlear implant for approximately 30 months. Performance scores for the IOWA sentences without context, a sentence recognition measure (Tyler, Preece, & Tye-Murray, 1986), ranged from 55-99% (M = 79.8, SD = 14.1) for sound plus vision presentations and 7-91% (M = 45.6, SD = 27.9) for sound-only presentations. These data suggest that subjects demonstrated a wide range of sentence recognition abilities.

Materials

Materials for the experimental task consisted of two sets of orally presented directions. The directions were based on travel routes within two fictitious cities. Each set of directions consisted of 13 compound, complex sentences and included a total of 25 route-finding cues. Two route-finding techniques were considered in the design of the verbalized routes. "Piloting" is a technique that allows one to find his or her way by making direct references to landmarks (Muehrcke, 1986). The oral directions used in the present study implemented a total of 10 street names and prominent environmental or terrestrial landmarks (i.e., buildings, rivers, railroad tracks) to aid the subject in creating a mental image of the route and area as he/she attended to the directions.

The second route-finding technique considered was that of "dead reckoning," a method that uses distance and direction logs (Muehrcke, 1986). In the present study, a total of 15 orientation cues, compass directions, and distances travelled were implemented to aid the subject in distance and direction orientation.

Procedure

The subject and talker were seated across from each other at a small table in a sound treated room and had consented to videotaping. A video camera, Panasonic WV-3060, was remotely controlled from an adjacent observation room by the experimenter. Two females who were native English speakers and used a midwestern dialect served as talkers. Due to scheduling constraints, one talker interacted with the first 5 subjects and the other talker with the next 7 subjects. Subjects had no prior interaction with either of the two talkers.

Each subject participated in a practice trial utilizing a familiar city route prior to administration of the actual experimental trial. Written instructions encouraged the subject to take notes and request assistance from the unfamiliar talker in order to obtain an accurate set of directions. Notepaper and pencils were available for the subject's use. A written description of a scenario that provided contextual content information was used to introduce the set of instructions. The talker orally presented the set of directions, according to a script, unless prompted by the CI user to do otherwise, for example, stop, repeat, spell, confirm. Nonspecific requests for clarification, for example, "huh?" "pardon?" elicited exact repetition of the most recent utterance without modification. After the talker delivered the entire set of route-finding directions, the CI user repeated them back to the talker as accurately as possible using written notes to aid recall. The repetition of directions by the subject was used to verify how well the information had been received. During this verification segment, no aid was given. At the conclusion of the experiment the subject was provided with a sample map, consistent with the verbal instructions. Some subjects chose to trace the route, using their notes to aid recall.

Prior to the experiment, these materials and procedures were piloted with 5 normally-hearing adults. All instructions were written and map directions were presented orally. The normally-hearing subjects made notes during the delivery of the directions to aid their recall of specific information. One of the subjects requested that the talker pause (stop briefly) and 2 other subjects requested confirmation of a landmark and a street name, respectively. When queried the subjects reported no difficulty with the task. All achieved 100% accuracy on the retelling (repetition) of the route-finding directions.

Scoring

Each subject's videotaped interaction was independently scored by two observers. Objective definitions, included in the Appendix, were developed for the identification of types of confirmations, repair strategies, and sender/receiver-specific behaviors. The observers used video-taped segments of communication interactions between implant candidates and normally-hearing conversational partners for practice. Practice was terminated when the inter- and intra-observer results were consistent (± one occurrence of a scored behavior) across trials.

Frequencies for the experimental observations were tallied and correlated for the two observers. Category means for each strategy-type were analyzed. Additionally, one of the scorers reviewed the verification segment of the videotaped interaction to obtain an overall percent correct score (percentage accuracy) in relation to the total number of route-finding cues, that is, five sets of: street names, landmarks, orientation cues, compass directions, and distance units. The subject's videotaped verification was also compared with the subject's written notes. A route-finding cue was scored correct if the notes were accurate but an error had been made during the retelling of the directions.

RESULTS

Task Validity

Accuracy and sentence recognition. Results for outcome accuracy and sentence recognition performance are plotted in Figure 1. In general performance on sound plus vision presentations of the IOWA sentences without context measure (Tyler et al., 1986) appeared to be related (r = .613, p = .03) to outcome accuracy on this task.

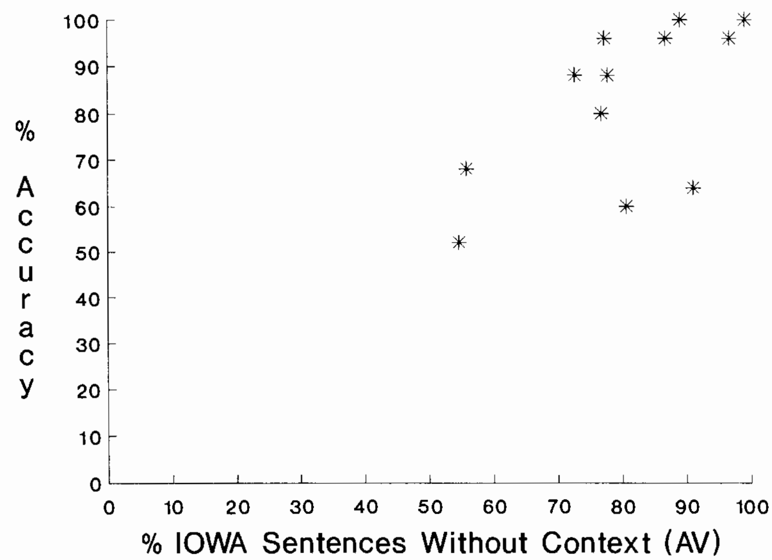

Figure 1. Scatter-plot for outcome accuracy (% accuracy) as a function of performance (% correct) on the IOWA sentences without context task, an audiovisual unrelated-sentence recognition measure.

Design Considerations

Reliability of observers. Frequency counts for attempts at confirmation, timing, nonspecific, and specific requests were highly correlated for the two observers (r = .986, .880, .835, and .987), respectively. Additionally, one of the observers rated 4 of the 12 samples a second time. Frequency counts within each strategy category were generally consistent (± one occurrence of a scored behavior).

Effects of talkers and materials. Since the first five CI users interacted with one talker and the next seven with the other talker, it seemed plausible that differences between the talkers or a possible order effect in the experiment may influence the performance. Further, the use of two sets of directions, that differed in phonetic content and context, may differentially influence performance. In order to assess these effects and their possible interaction, a least squares two-way analysis of variance was performed. Communication performance was quantified by the dependent variables of percent accuracy and frequency of communication management attempts. Statistically significant differences were not observed for the talkers, set of map directions, or the interaction of these main effects.

Task Outcome

Strategy frequencies. Frequency data for each strategy category, shown in Table 1, illustrate patterns for the number of CI users requesting a particular strategy and the total frequency count for that strategy. For example, 4 of the 12 subjects asked the talker to briefly stop (e.g., "wait") during the presentation. This strategy was requested a total of 30 times. Additionally, 10 subjects used acknowledgement (e.g., "OK," "go ahead") a total of 45 times to signal the talker to proceed with the delivery of new information. Requests to "wait" or "go ahead" were initiated when the CI user interrupted eye contact to take written notes or re-established eye contact subsequent to note-taking, respectively.

All 12 of the subjects attempted to confirm the speaker's utterance to verify perception. In this case the total frequency counts were influenced by one CI user who chose confirmation 66 times. Nevertheless, confirmation was the most

Table 1

Frequency of Attempts at Communication Management for All Subjects

Strategy Type	Number of Subjects	Total
Timing Requests:		
Stop	4	30
Acknowledgement	10	45
Confirmation:		
Appropriate	12	213[a]
Inappropriate	12	99[a]
Specific Requests:		
Repetition	11	46
Paraphrase	0	0
Oral Spelling	4	8
Writing	1	1
Nonspecific Requests:		
Nonverbal	5	14
General	7	16
Paraverbal	6	22

[a]One subject, S7, attempted 47 appropriate and 19 inappropriate confirmations.

frequently requested strategy.

Results for overall frequencies for specific requests (55) and nonspecific requests for clarification (52) were similar. Specific requests for constituent repetition, in particular, were utilized by 11 subjects and exceeded that of any other request for repair category.

Attempts and accuracy. The relationship between the number of overall attempts at communication management and the outcome accuracy on the task is illustrated in Figure 2. Accuracy, shown on the *y*-axis, ranged from 52-100% (M = 82.3 and SD = 17.1). Attempts at communication management, shown on the *x*-axis, ranged from 16-82 (M = 35.9 and SD = 18.9). Subjects attempting a similar number of management strategies varied markedly in outcome accuracy. These data revealed a weak relationship (r = .433, p >.05) between overall attempts at communication management and outcome accuracy.

In order to investigate whether particular strategies were related to the overall number of attempts or to accuracy scores for the task, several Pearson product moment correlations, shown in Table 2, were calculated. Bonferroni-adjusted probabilities revealed no significant correlations for these multiple tests.

Individual patterns. Individual data were examined in order to gain insight into the relationships among communication management attempts and performance accuracy. Patterns for strategy categories, reported as percentages of a

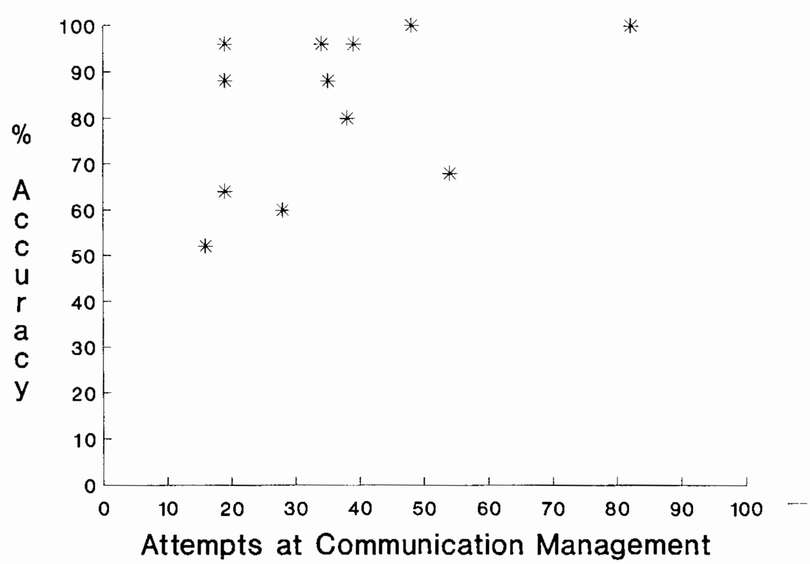

Figure 2. Scatter-plot for outcome accuracy (% accuracy) during the retelling of the directions as a function of the number of attempts at communication management.

Table 2
Pearson Correlation Coefficients for Percent Frequency of Communication Management Category and the Subjects' Overall Number of Attempts and Accuracy

	Communication Management Category			
Measure	**Timing**	**Confirm**	**Specific**	**Nonspecific**
Overall Attempts	.046	.235	−.628	.169
% Accuracy	.430	−.271	−.093	−.450

Note. Bonferroni-adjusted probabilities > .05 for all data.

subject's overall attempts, are shown in Figure 3. For this figure, subject data are presented in order of increasing accuracy on the task.

Eleven of the 12 subjects used confirmation, represented by the black bars, more frequently than any other management strategy. Confirmation constituted 29-81% of the requested strategies independent of outcome accuracy. Requests for timing control, represented by the dotted bars, were favored by 1 subject who achieved 100% accuracy and not utilized by the subject achieving the lowest accuracy score (52%). Overall, next to confirmation, requests for timing were equal to or greater than that of other strategies for 4 of the 12 subjects.

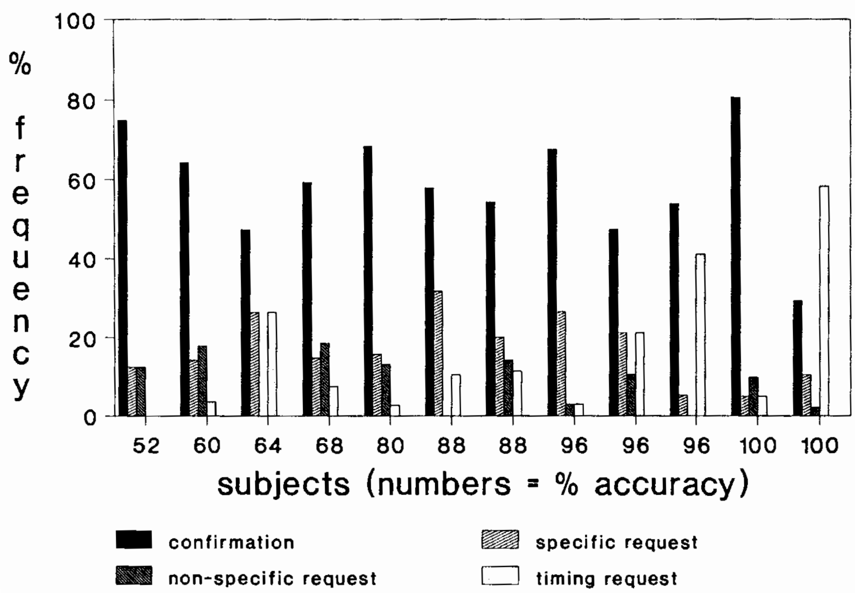

Figure 3. Bar graph showing percentages for the types of communication management strategies chosen by individual subjects, who are listed in increasing order of percent accuracy.

Another comparison was that of specific versus nonspecific requests. In 7 of the 12 cases, specific repair strategies were requested more often than nonspecific management strategies. These subjects demonstrated outcome accuracies of 80, 88, 88, 96, 96, 96, and 100%. Three of the 4 subjects achieving the lowest outcome accuracy scores (52, 60, and 68%) used nonspecific requests as often or more frequently than specific requests. This trend suggests that requests for specific repair may be related to higher outcome accuracy. However, one of the subjects who earned a low accuracy score (64%) utilized only specific strategies. In contrast, 1 subject who favored nonspecific requests achieved an outcome accuracy of 100%.

DISCUSSION

Task Validity

Results from this preliminary study suggest that presentation of detailed directions to create a mental image of a map elicited numerous attempts at communication repair from CI users. Further, the observed correlation between the subjects' performance accuracy on this experimental task and scores on the Iowa sentence recognition without context (r = .613) support the measure's validity. A strong linear relationship between the two measures suggests that speechreading performance scores for unrelated sentences may be an important factor in understanding accuracy in communication interactions.

Design Considerations

Reliability of observers. The observed inter- and intra-reliability counts of communication strategies obtained in this experiment were particularly high. Previous experience in coding video-taped interactions suggested that the use of operational definitions and practice in coding video-taped communication interactions would increase reliability.

Effects of talkers and materials. Although the results from the ANOVA did not suggest differences for the talkers, set of map directions, or their interaction, such factors may potentially influence performance. For example, speechreading performance is influenced by the intelligibility of the talker (Kricos & Lesner, 1982; Lesner & Kricos, 1981). It is also plausible that the phonetic content and context of route-finding cues may influence communication interaction. Therefore, these factors should be considered if meaningful comparisons across conditions or talkers are to be made.

Task Outcome

Strategy frequencies. The most frequently observed communication strategy was confirmation. Confirmation allowed the CI user to check understanding by immediately replicating information presented by the talker and requesting verification. The use of confirmation is generally classified as a request for clarification (Gallagher, 1981). In this task, however, the greater number of appropriate (213) versus inappropriate confirmations (99) suggest that confirmation may have served additional functions. For example, some subjects may have used confirmation as an anticipatory strategy, to prevent misunderstandings. This is plausible since the CI users were responsible for the accurate retelling of the directions. Also, this communication situation demanded that the listener prevent misunderstandings. Additionally, requests for confirmation may be inherent in the recall of specific information, as directed in this experiment. Confirmation may also have been used to boost the listener's confidence, as social reinforcement, and as a vehicle to establish the listener as an active participant in the interaction. Another function of confirmation is that of controlling the talker's delivery of new information, since the talker was required to pause and verify the listener's perception.

It was not surprising that specific requests for paraphrase, rewording, reduction, or elaboration of the message were not observed. This may be closely tied to the nature of the task in that requests to reword names, numbers, and compass directions were not functionally pragmatic. It is plausible, however, that because nonspecific requests for clarification consistently elicited an exact repetition, rather than a revision of the original utterance, the CI users may have become aware of the nonspecific request function for this particular communication interaction. In that event, next to confirmation, the most frequent communication strategy requested was repetition. This finding supports the popularity of repetition reported by Tye-Murray et al. (1992).

Attempts and accuracy. The weak relationship (r = .433) suggests that a simple frequency count of the number of attempts may not be related to the accuracy with which subjects reported route-finding cues. One possible explanation is that 7 of the 12 subjects achieved accuracy scores greater than 85%. These high scores for this task may reflect a ceiling effect and limit the interpretation of a correlation analysis. Another consideration is that particular strategies may be more effective than others and differentially contribute to accuracy. For example, data reported by Gagné and Wyllie (1989) and Tye-Murray et al. (1990) support this possibility.

The Pearson correlations did not, however, suggest that a particular strategy type was closely related to the overall number of attempts or accuracy. The Bonferroni-adjusted probabilities were used to estimate the true family probabilities associated with each correlation. Although the correlations cannot be considered significant, the observed trends may be useful in developing additional experimental questions. For example, the number of overall attempts were negatively correlated with the percentage of specific requests ($r = -.628$). Thus, subjects who use a smaller percentage of specific repair requests would be observed to make more attempts at communication management than those who use a greater percentage of specific repair requests. While no particular communication management strategy appeared to be linearly related to accuracy, fewer requests for nonspecific repairs or increased requests for timing were weakly related to increased accuracy.

Individual patterns. The resulting patterns of requests for communication management strategies and their relationship to the number of overall attempts and accuracy varied across subjects. Although trends indicated that subjects who employed more specific repair strategies than nonspecific requests for clarification achieved high percent accuracy scores, there were several exceptions. Thus one cannot easily generalize that specific strategy use was more effective than nonspecific requests for clarification.

One subject relied on specific timing requests to regulate or correct the timing of the talker's delivery. In response to these requests, the talker reduced her rate of delivery. In addition to regulating talker behaviors, timing requests may have served an anticipatory role to prevent misunderstanding, similar to that of confirmation. Potentially, such requests may also function to establish the CI user as an active communication partner or allow the listener to exert some control over the communication interaction.

CONCLUSIONS

While the results from this investigation are specific to a small group of experienced CI users interacting with one of two talkers, they underscore the variability in individual interactive styles. Both scientific scholarly work, as well as popular contemporary literature (Tannen, 1986), address the complexities of individual dynamics in interpersonal communication. Neither arena, however, offers an operational definition of an effective communicator.

Current research in rehabilitative audiology has focused on the frequency of communication management strategies and the impact of these strategies on auditory and visual speech recognition. However, in order to gain insights into dynamic communication processes, roles and responsibilities of the communication partners, and both the antecedent and consequence of communication behaviors must be considered. Further, one must consider not only the classification descriptor of a strategy, but also how a given strategy *functions* in the communication interaction (Tannen, 1989).

Recommendations regarding the most effective communication management strategies are complicated when one considers how to best quantify performance and validate "communication effectiveness." Additional research in conversational exchanges is needed to develop operational definitions of effective communication behaviors and of desired characteristics for an effective communicator. Such data are crucial in developing research-based protocols for diagnosis, remediation, and evaluation of treatment plans for individuals presenting with difficulty in communication interactions.

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APPENDIX

CODING DEFINITIONS FOR VERBALIZED DIRECTIONS

The following operational definitions were used to code the CI user's behaviors during the communication interaction.

Timing Requests to Pause or Continue the Presentation of Directions:

STOP – Requests for the speaker to STOP giving information. This also includes any nonverbal signals. Examples: "Stop." "Stop there." "Wait a minute." "Just a minute."

ACKNOWLEDGEMENT – Verbal response that does not require an answer or comment directly bearing on the subject and serves to encourage the speaker to continue. This also includes any nonverbal signals such as head nods and paraverbal responses. Examples: "mmm" "oh" "yeah" "go ahead" "uh huh" "okay" "really."

Attempts at Confirmation:

APPROPRIATE CONFIRMATION – A correct replication or duplication of information with rising intonation. Used to verify a portion of or the entire message received.

INAPPROPRIATE CONFIRMATION – An incorrect replication or duplication of information with rising intonation. Used to verify a portion of or the entire message received.

Nonspecific Requests for Clarification:

NONVERBAL REQUEST FOR CLARIFICATION – The use of gestures to prompt the speaker to clarify the utterance. This request indicates a lack of understanding of the message. Examples: shakes head no, turns ear toward speaker, wrinkles brow, leans forward.

GENERAL REQUEST FOR CLARIFICATION – (generic, neutral). A verbal request to prompt the speaker to clarify the utterance that does not provide specific feedback regarding what was misunderstood. A nonspecific verbal prompt for clarification produced with rising intonation. Examples: "What?" "Pardon?" "I didn't get that one."

PARAVERBAL REQUEST FOR CLARIFICATION – A verbal request to prompt the speaker to clarify the utterance in which the listener modifies rate, pitch, stress, and/or intonation to signal lack of understanding or missing information. Example: Speaker – "Cross over Riverside Drive." Listener – "Cross over RIVER. . . .??

Specific Requests for a Repair Strategy to be Used:

REPETITION – A specific request for a repeat (repetition) of a constituent of the previous utterance. Examples: "Would you repeat that last word?" "Would you back up to . . ." "What was the name of that street?"

PARAPHRASE – A specific request for a rewording of the original utterance. Example: "Would you say that in a different way?" This category includes requests for elaboration and reduction.

ORAL SPELLING – A specific request for the letter names corresponding to the spelling of a word, presented orally.

WRITING – A specific request for the written presentation of a word or utterance.