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Communication Breakdowns and Repair
Strategies in Oral Communication and
Total Communication Children with
Cochlear Implants

Independent Study Project

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This study was conducted to assess communication breakdowns in children with cochlear implants from oral and total communication education backgrounds. Do children from oral communication and total communication backgrounds differ in the number of communication breakdowns and how they use repair strategies? 12 child cochlear-implant users were engaged in spontaneous oral conversations with a communication partner who was a teacher of the hearing-impaired. Interactions were videotaped and coded. More communication breakdowns occurred between the total communication child and the conversational partner than between the oral communication child and the conversational partner. Both oral and total communication children most often used non-specific repair strategies; such as, what/huh/pardon.

Introduction

Communication breakdowns in the profoundly deaf population are a growing area of interest. A communication breakdown is defined by Tye-Murray, Witt and Schum (1987, p. 459) as "when an individual does not understand a spoken message." So, what happens when an individual does not understand the spoken message? After a breakdown occurs, repair strategies are used which are defined as a "*course of action*" taken by one of the conversational partners after a message has been understood or not recognized at all" (Tye-Murray, p.87). For example, a communication breakdown would occur if person A did not understand the spoken message of person B. Furthermore, person B may attempt to fix the breakdown by using a repair strategy.

There has been a considerable amount of research on communication breakdowns in deaf adults (Tye-Murray, Witt, Schum and Sobaski 1994; Tye-Murray and Witt 1996; Tye-Murray, Witt and Schum 1995). Not as much research has focused on communication breakdowns in deaf children.

Of the studies that have investigated repair strategies in profoundly deaf children, the focus has been on how normal hearing adults use repair strategies in response to the hearing-impaired child's deterioration in speech. Effenbein (1989) looked at profoundly deaf children's use of repair strategies in a structured setting. The child's task was to go into a store and ask the store clerk for a specific item. The child was told ahead of time that the clerk may not understand the child. The clerk was instructed not to understand the child's initial attempt at communication and to indicate to the child that she did not understand sign language. Results indicated that most of the children either orally repeated or revised their linguistic message. Children also switched modalities by pointing or gesturing.

What about receptive repair strategies? How does the deaf child respond when he/she does not understand a message? Few studies have investigated *how* deaf children use repair strategies to indicate a communication breakdown. That is how does the deaf child use a repair strategy if he/she fails to understand his/her conversational partner? Previous studies have focused on repair strategies of adults conversing with deaf children. While it is evident that the adult may not understand the deaf child's speech, there is also sufficient reason to believe that the deaf child may not always understand the adult's message. Profoundly deaf children must be taught how to listen via auditory training.

As was previously mentioned above, profoundly deaf children must receive auditory training. The amount of time spent on auditory training differs for total communication and oral communication children as a result of their school setting. Geers and Moog (1992) found profoundly deaf children in oral programs to have more intelligible speech than total communication students. Furthermore, they found that oral children utilized residual hearing to a greater extent than total communication children. Consistency was a major contributing factor as to how well oral children did- consistency in hearing aid use, consistency in using spoken language throughout the day, consistency in listening, etc. While it is evident that there are speech intelligibility differences between oral

children and total communication children, one question remains. Do oral and total communication children differ in how they utilize repair strategies in an oral condition?

The purpose of this present study is to look at repair strategy usage in oral and total communication children in a more natural context than that of Hughes and James (1985). Moreover, studies regarding repair strategies have not focused on the child as the receiver of the conversational message. This is surprising, because deaf children are faced with additional challenges in listening situations in which normal hearing listeners are better able to deal with. Some factors include lack of familiarity with vocabulary, poor lighting in room, environmental noise, speaker's mouth is not visible, etc. We need to explore the deaf child as the receiver of the message and how they indicate a communication breakdown.

Hypotheses

Breakdowns and repair strategies in children with cochlear implants will be explored. The following experimental question was posed: are there differences in the way repair strategies are used between children from an oral education background versus the child with a total communication background when they are conversing with someone who does not know sign language? This condition is of interest because in the real world, children must often interact with and communicate with persons who do not know sign language.

It was hypothesized that orally educated children will utilize their residual hearing to a greater extent and use receptive repair strategies beyond "what/huh/pardon" more so than total communication children. It was also hypothesized that total communication children may ignore breakdowns in conversation.

Tye-Murray, Witt and Schum (1995) identified use of linked-adjacency pairs in adult cochlear-implant users. The pairs are as follows: non-specific repair strategy-message repetition response, request for

information strategy-provide information response, confirmation repair strategy- feedback response. They found that adults most often used the non-specific linked-adjacency pair. We explored which linked-adjacency pair is most often used by the hearing-impaired child.

Methods

Cochlear-implant subjects and Unfamiliar Communication Partners

12 prelingually deaf children with cochlear implants served as subjects for the study. The children were 9 years of age. Children must have had normal intelligence and used English as the primary language spoken in the home. 6 oral children (2 males, 4 females) and 6 total communication children (4 males, 2 females) were selected. On the average, the children have used their cochlear implants for 6 years. Subject characteristics are described in Table 1.

Insert Table 1 about here

Recording Procedures

Each subject was audiovisually taped in a quiet room while conversing with an adult clinician using the oral communication mode. The communication partner was a conversational partner unfamiliar with sign language. Spontaneous *oral* language was analyzed for communication breakdowns and repair strategies through a semi-structured discussion. Topics were pre-determined. Each session began with an interview in which the child asked the adult 10 questions of his/her choice. Afterwards, the communication partner would facilitate conversation with topics; such as, "if I were a teacher I would...", " I hate it when..", "if you had one wish what would it be?" Children were videotaped and their language was transcribed.

Coding system

A breakdown was coded when the subject failed to recognize the speaker's message and indicated the breakdown orally or by ignoring the message of the adult conversational partner.

Repair strategies used by the child when he/she did not understand the communication partner were classified into categories which are featured in table 2. Repair strategies that the child used were coded as:

Insert Table 2 about here

non-specific, confirmation or request for information. Repair strategies in which the communication partner did not understand the child are categorized in table 3. In this case, the child may have

Insert Table 3 about here

responded by repeating, elaborating, reducing or restructuring the original message. Other responses of the child included: provision of additional information, provision of feedback (child may have responded "yes" or "no" verbally or non verbally) or use of sign language.

Data Collection

Videotaped conversations between the teacher and the child were transcribed by a graduate student studying speech and hearing.

Results and Discussion

Table 4 indicates the total number and types of breakdowns when

Insert Table 4 about here

the child did not understand the communication partner's message. On the average, there were 4.33 communication breakdowns for the oral child

and 6.7 breakdowns for the total communication child. Furthermore, non-specific repair strategies were used most often among oral and total communication children (3.33 and 4.4, respectively) when acknowledging that a breakdown has occurred .

The first repair strategies used by children (both oral and total communication) and the responses of the communication partner are indicated in table 5. Overall, in table 5 we see that children most often

Insert Table 5 about here

used the non-specific repair strategy which elicited the repeat response from the communication partner. The second most commonly used repair strategy used by the children was to confirm the message which elicited a feedback response from the communication partner. These findings in children with cochlear implants support the idea of linked adjacency pairs found in adult cochlear implant users (Tye-Murray, Witt, Schum 1995).

In addition, we looked at instances in which the adult did not understand the child's utterance as a result of deterioration of speech in table 6. Overall, the communication partner had more difficulty

Insert Table 6 about here

understanding the total communication child than the oral communication child and thus more breakdowns occurred (total communication $x=3.83$, oral $x=.83$). One contributing factor as to why there were fewer breakdowns in oral children may be due to the emphasis on speech in oral communication education programs. Table 7 compares the Mean Length

Insert Table 7 about here

Utterances (MLU) and total number of utterances between oral communication and total communication children. Overall, the MLU was

4.83 for oral communication children and 4.43 for total communication children. However, a more significant difference between the oral and total communication children was found in the total number of utterances. On the average, the oral children had 210.83 total number of utterances; whereas, the total communication children had an average of 150.6 total number of utterances. One reason for the greater number of total utterances in oral children may be attributed to the fact that because oral education programs utilize speech and listening skills throughout the day he/she may feel very comfortable with spoken speech. Total communication, on the other hand, utilizes both speech and sign language. The child with a total communication background may not feel as confident as the child from an oral communication background when it comes to spontaneous spoken language with conversation partners.

How does the child attempt to repair the communication breakdown when the communication partner has difficulty understanding the child? For the oral child, the most common response to the communication partner's breakdown was to elaborate which is shown in table 8. The total communication child, on the other hand, repeated the

Insert Table 8 about here

original message.

We also looked at how the communication partner acknowledged breakdown occurrence. As can be seen in table 8, the communication partner most often used the confirmation repair strategy to verify whether the message was understood correctly. The child's response to the confirmation strategy was to provide feedback. The second most common repair strategy used by the communication partner was to request more information in which the child repeats the original message.

Reasons for the differences in repair strategy usage between child cochlear implant users and teachers of the hearing-impaired may be attributed to the fact that teachers are trained. Teachers of the hearing-

impaired learn from experience and training how to elicit the desired responses from children with hearing-impairment. Thus, the teacher learns which repair strategies are effective.

... It is clear that adults and hearing-impaired children use repair strategies differently. As one can see, the what/huh/pardon strategy was least commonly used for the communication partner, but most commonly used among children when acknowledging that a breakdown has occurred.

- - The implications of this study suggest that along with auditory training, children need to be taught *how* to use repair strategies effectively. Repair strategy training can be implemented into both aural rehabilitation and educational programs for children with hearing-impairments. Children can practice using different repair strategies when communication breakdowns occur in various settings; such as, a restaurant, a store, a classroom, etc. Effective repair strategies will enhance conversational fluency and reduce frustration experienced by the child when he/she does not understand the communication partner's message. By teaching repair strategies to the child who is hearing-impaired, we are giving him/her the tools to reduce obstacles which hinder conversational fluency. Ultimately, one of our obligations as audiologists and teachers of the hearing-impaired, is to help the child gain more independence and to become an effective communicator.

REFERENCES

- Elfenbein, J. (1992). Coping with communication breakdown: a program of strategy development for children who have hearing losses. *American Journal of Audiology*, 1(3), 25-29.
- Elfenbein, J. (1994). Communication breakdown in conversations: child-initiated repair strategies. In N.Tye-Murray (Ed.) *Let's converse: a "how to" guide to develop and expand conversational skills of children and teenagers who are hearing impaired*, pp 123-146. Washington, D.C: Alexander Graham Bell Association for the Deaf.
- Geers, A. & Moog, J. (1992). Speech perception and production skills of students with impaired hearing from oral and total communication education settings.
- Hughes, M., & James, S. (1985). Deaf children's revision behaviors in conversations. *Journal of Communication Disorders*, 18, 227-243.
- Tye-Murray, N. (1994). Communication breakdown in conversations: adult-initiated repair strategies. In N.Tye-Murray (ed.) *Let's converse: a "how to" guide to develop and expand conversational skills of children and teenagers who are hearing impaired*, pp 85-121. Washington, D.C: Alexander Graham Bell Association for the Deaf.
- Tye-Murray, N., & Witt, S. (1996). Conversational moves and conversational styles of adult cochlear-implant users. *Journal of the Academy of Rehabilitative Audiology*, 29, 11-25.
- Tye-Murray, N., Witt, S., Schum, L., & Sobaski, C. (1994) Communication breakdowns: partner contingencies and partner reactions. *Journal of the Academy of Rehabilitative Audiology*, 27, 107-133.

Table 1
Subject characteristics

Subject	Mode	Age at time of study	Age implanted (months)
SB	OR	9;02	37
CC	OR	9;05	47
TL	OR	9;00	53
PM	OR	9;04	40
PP	OR	9;06	47
KW	OR	9;06	50
KD	TC	9;10	57
HE	TC	8;11	35
DI	TC	9;09	55
BL	TC	9;05	53
BS	TC	9;08	39
EW	TC	9;06	49

Table 2

Description and examples of communication breakdowns in which the child did not understand the communication partner's message

A. Nonspecific repair strategy- what/huh/pardon

partner: " Do you like sports?"

child: " Hmmm?"

partner: " Do you like sports? What is your favorite sport?"

child: " Softball."

B. Confirmation repair strategy

-When the child restates the partner's message to see if child understood correctly

Partner: " Do you have a bird?"

Child: " What?"

Partner: " Bird, a bird"

Child: " A bird?"

Partner: " Bird, uh huh"

C. Request for information

-When the child makes a specific request for information

Child: " I wear the white shirt and the black coat."

Partner: "What about your pants?"

Child: " What about wearin' what?"

Partner: " What kind of pants do you wear?"

Child: "Black."

D. Other

-When the child fails to acknowledge that a communication breakdown has occurred

Partner: " I hate it when....."

Child: " I go swimming."

Partner: " You don't like to go swimming or when you want to go swimming?"

Child: " I want go swimming."

Partner: " Why don't you go swimming?"

Child: "Because lot fun."

Table 3

Examples of the child's response when the communication partner does not understand

- A. Feedback**
child: "Oh mmm, where your father?"
partner: "Where is my father?"
child: (Child nods)
- B. Repeat**
child: "Um do you like XX?"
partner: " Do I what?"
child: "Do you like to go to camp?"
partner: "Yes I do, it's fun?"
- C. Elabaorate**
child: "XX you have a pet?"
partner: "Do I have a pack? What kind of pack?"
child: "Pet...dog...cat."
partner: "Pet? Yes, I have 3 pets."
- D. Reduction (keyword)**
child: "Do you like animal?"
partner: "Do you like....?"
child: "animal."
partner: "edible?"
child: "animal."
- E. Restructure**
child: "Do you like animal?"
partner: "Edible. I don't know what that is. Ask me something else."
child: "Woof woof."
partner: "Oh...animals! Yes, I have three."
- F. Provide information**
-When the child supplies the communication partner with the information that is requested.
child: "Like XX?"
partner: "Do I like..."
child: "Hotel."
- G: Sign Language**
child: "What your favorite? Favorite? XXX. XXX."
partner: "I don't know what that is."
child: "What your favorite? Favorite baseball? (signs "baseball" simultaneously)
partner: "Oh! My favorite. That was good."
child: "Baseball." (signs "baseball" simultaneously)

Table 4
Breakdowns and repair strategies used when the child did not understand the communication partner's spoken message

Subjects	Mode	Non-specific	Confirmation	Request for information	Ignore	Non-verbal	Total
SB	OR	5	0	0	0	1	6
CC	OR	1	0	0	1	0	2
TL	OR	9	2	0	0	0	11
PM	OR	1	0	0	0	0	1
KW	OR	2	0	0	0	0	2
PP	OR	3	0	0	1	0	4
	Total	20	2	0	2	1	26
	Mean	3.33	.33	0	.33	.17	4.33
KD	TC	4	1	0	0	0	5
HE	TC	3	0	1	1	0	5
DI	TC	0	0	0	2	0	2
EW	TC	7	0	0	0	0	7
BL	TC	5	2	0	3	0	10
BS	TC	5	5	1	0	0	11
	Total	24	8	2	6	0	40
	Mean	4	1.33	.33	1.0	0	6.7

Table 5
 First repair strategy used by child when he/she does not understand the communication partner

First repair strategy used by child	<u>Communication partner's response</u>							Total number of breakdowns
	A	B	C	D	E	F	G	
request for information					2			2
confirmation	1		1	3				5
what/huh/pardon	19	4	11			9		43
non-verbal							1	1
Total	20	4	12	3	2	9	1	52
Mean	1.67	.33	1.0	.25	.17	.75	.08	4.33

Note: A=repeat B=restructure C= reduce(keyword) D=provide feedback E=provide information
 F=elaborate G=performed no repair

Table 7		
Mean length utterances and total number of utterances in oral and total communication children		
Oral subjects	MLU	Total number of utterances
SB	5.1	250
CC	4.1	208
TL	4.0	168
PM	5.8	158
PP	5.8	259
KW	4.2	222
	X=4.83	X=210.83
Total communication subjects	MLU	Total number of utterances
KD	4.6	199
HE	7.4	150
DI	3.4	145
BL	2.5	83
BS	5.0	192
EW	3.7	135
	x=4.43	x=150.67

Table 8								
First Repair Strategy Used by Communication Partner (CP) After a Communication Breakdown was Recognized and Responses of Cochlear-Implant (CI) Subjects								
First repair strategy used by CP	CI response							Total number of breakdowns
	A	B	C	D	E	F	G	
Request for information	4				2		2	8
Confirmation	1		1	5	1	3		11
What/huh/pardon	1		1					2
Non-verbal								0
Total	6		2	5	3	3	2	21
Mean	.5		.17	.83	.5	.5	.33	

Note. A=repeated original message. B=restructured original message. C=reduced original message D=provided feedback. E=provided information. F=elaborated original message G=provided no repair