

# The Use of Communication Repair Strategies by Young Adult Deaf Indian Sign Language Users - A Pilot Study

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**Abstract:** Communication refers to receiving or exchanging ideas, information, signals or messages through appropriate media, enabling individuals or groups to persuade, to seek information, to give information or to express emotions. Communication breakdown or failure occurs when message is not properly perceived and conversation is interrupted. The ability to recognize and repair breakdowns in communication is an important aspect of conversational skill. In hearing impaired population, communication. Numerous western studies explore various aspects of communication breakdown in hearing impaired who are either oral communicators or American Sign Language (ASL) users. Scarcity of researches explicitly showing the use of repair strategies in adult Indian Sign Language (ISL) users exist. Hence present study tried to investigate the use of repair strategies by deaf sign language users while communicating with a hearing communication partner. 30 ISL users between 17 - 21 years having severe to profound hearing loss were recruited for the study. Participants did a picture description task, they were asked to describe a picture using ISL to a sign language interpreter. Use of communication repair strategy by deaf participants in response to signed clarification request and facial expression by the interpreter was recorded and was later analyzed. Study results evidenced that there was an equal frequency of usage of most of the repair strategies by deaf sign language users in our study. Combination of two or more repair strategies were used by HI population rather than relying on a single strategy. Study also indicated that the most frequently used repair strategy by ISL users is finger spelling, which occurred in combination with other repair strategies. Current study also evidenced that though body language and facial expression are key elements in ISL, the deaf ISL users did not recognize the facial expression by the interpreter as an indicator of communication breakdown.

**Keywords:** Indian sign language, deafness, communication breakdown, repair strategies

## 1. Introduction

Communication is fruitful only if the messages sent by the sender are interpreted with the same meaning by the receiver. A communication breakdown or failure occurs when the message is not properly perceived and the conversation is interrupted. Communication breakdown may appear frequently in everyday communication (Gagne, Stelmachovich, & Yovetich, 1991). In order to achieve a successful level of communication in situations where learners face problems when there is a mismatch between their communication goals and their linguistic resources, they tend to use devices to improve their level of communication; these devices are called Communication Strategies (Oweis 2013). Communication strategies thus used to overcome any breakdown encountered while communication happens between a listener and a speaker. These communication breakdowns give rise to repair strategies that seek to overcome these disruptions (Most, 2002). The ability to recognize and repair breakdowns in communication is an important aspect of conversational skill. Repair strategies incorporate verbal or nonverbal activities used by the talker in order to keep the conversation going when speech is unclear or misunderstood (Gagne et al., 1991). The ability of conversational repair is a subset of pragmatic language (Zahra GhayoumiAnaraki, Leila Ghasisin, Behrooz Mahmoodi Bakhtiari, Ali Fallah, Fatemeh Salehi, Elham Parishan 2013). They may be initiated by the talker or may occur as a result of the listener's request. The capacity to recognize communicative

breakdown, to seek clarification, and to provide repair appear to be important skills that enhance face - to - face communication. Many different repair strategies may be used by the speaker to resume the communication process when a breakdown occurs, such as repeating, simplifying, or revising an utterance; providing a key word; or adding more information (Ciocci & Baran, 1998; Tye - Murray, 1994). Moreover, the use of communication strategies "facilitates spontaneous improvisation skills and linguistic creativity" (Dornyei & Thurrell, 1994).

## 2. Review of Literature

Commonly occurring repair strategies in conversation are other - initiated mechanisms in which the receiver identifies an unclear aspect of the sender's utterance and requests clarification; the sender consequently makes an adjustment based on the receiver's feedback and provides the repair, at which point the receiver resumes the conversation (Brinton & Fujiki, 1989; Gallagher, 1981). The communicative success of the clarification request sequence requires that both the receiver and the sender attend to previous conversational discourse before producing subsequent utterances, and that receiver and sender process the linguistic forms of the messages (Gallagher, 1981). Understanding check and repeat were the mostly used repair strategy by young school children (Cho, 2010). Valerie Hazan, Michèle Pettinato et al (2013) studied the use of repair strategies for communication in adverse listening conditions in normal children, teens and adolescents and

reported that reducing speech rate in the VOC condition was a strategy that was equally available to all three age groups, however the performance of adolescents in the age range of 13 - 14 were not in par with adults.

Hearing loss (HL) in early childhood may lead to immature or delayed social communication due to an early lack of exposure, among other factors. The delay in social communication is thought to lead to limited use of common conversational strategies (Guest et. al, 2013). Researchers found the use of repair strategy to be less developed among children with hearing loss than among their peers (Most, 2002). Communication situation appeared to have little influence on the type of clarification responses children provided. Most of the researches focusing on language acquisition in deaf children is based on the language, form and content. Pragmatic communication behaviors involve the ability to introduce and maintain conversation, take turns, modify statements, and ask questions (Adams, 2002; Ninio & Snow, 1996). Kolzak (1983) suggested that many children with hearing loss do not know how to initiate, sustain, or repair a communication routine. Delays in language, content and form, and speech intelligibility will definitely have a negative impact on the ability to interact successfully in a conversation. Furrow & Lewis (1987) opined that the ability to repair communication breakdown is one of the major aspects of effective communication. Unresolved breakdowns usually result in communication failure.

Teaching hearing - impaired children how to properly request specific clarifications can help them communicate successfully by asking the speaker to restate or elucidate his or her message using different words and grammatical constructions (Anderson & Arnoldi 2011). Study done by Kuei - Ju Lin (2017) reported that hearing impaired children use communication strategies rarely when compared to normal hearing peers, however they can be trained to use the repair strategies. Most commonly used communication repair strategies by the young hearing - impaired population includes revisions, additions and cues (Kuei - Ju Lin 2017, Tye - Murray 2006). Tova Most (2003) studied the communication strategies used by native sign language users who use spoken language. Results from her study indicated that language mode significantly influenced repair strategy behavior. In sign language, the children used a greater frequency, variety, and level of strategies. Researches on communication repair strategies used by young hearing - impaired population shows that repair strategies are evident in the conversations of very young children (Brinton, Fujiki, Loeb, & Winkler, 1986; Gallagher, 1977, 1981; Konefal & Fokes, 1984; Scherer & Coggins, 1982; Spilton & Lee, 1977; Wilcox & Webster, 1980). Ciocchi and Baran (1998) conducted studies on normal and deaf children who used total communication and reported that both deaf and hearing children employed different repair strategies. Deaf children were more likely to revise utterances; hearing children were as likely to repeat utterances as to revise, and were more likely to provide cue repairs.

Studies on use of repair strategies by deaf children who use sign language and spoken language, it is reported that the use of repair strategies were frequent and had greater variety

and levels when communicated in sign language over spoken language Most (2003). Little is known regarding the use of communication strategies by deaf adults. Tye Murray (2006) studied communication repair strategies used by hearing impaired adults and found out that they use more of repeat strategy when compared to other repair strategies like simplification, cueing and rephrasing. Researchers suggest that the repair strategies used to provide clarification changes with age and mode of communication. Communication strategy training has become a major part of many audiological rehabilitation programs (Tye - Murray et al., 1992). Therefore, investigation of the communication abilities of deaf adults in situations where communication fails should provide useful information about their communicative effectiveness and pragmatic skills. Also understanding of common communication repair strategies facilitates the hearing listeners' approach to communication attempts by deaf population. Hence the current study has been attempted as a preliminary effort to study the common communication strategies used by adult deaf sign language users.

### **3. Methods and Materials**

#### **3.1 Participants**

The participants include 30 adult deaf Indian Sign Language users who are within the age of 21 years and have been using ISL for a minimum of three years. Among the 30 participants, 12 were male and 18 were female. An interpreter who has passed Diploma in Indian Sign Language and has experience of more than 3 years is employed to interpret the signed description of the picture stimulus.

#### **3.2 Materials used**

- Consent form
- Stimulus picture card

#### **3.3 Procedure**

A performance task of picture description was employed to evaluate the communication repair strategies used by ISL users. The stimulus card is based on the theme - "road traffic in the midst of a city". Participants were given 2 minutes to observe the stimulus. The participant has to describe the details in the picture in sign language to an ISL interpreter. Communication breakdown was created by the interpreter by a single signed request 'I didn't understand' signed as 'understand not' and second one by using mere facial expressions. At first the interpreter initially utilized a facial expression to indicate to the participant that she didn't understand the description given by the participant. Then the interpreter used a signed request for clarification only when the participant didn't respond to communication breakdown indication by the interpreter through facial expression. The entire task was video recorded. The use of common repair strategies such as repetition, rephrase (revision), addition and finger spelling of information by the deaf ISL user during this task was then closely monitored and analyzed with the help of the interpreter.

## 4. Results

Almost all the participants used mainly four repair strategies in common. These are repetition, rephrase (revision), addition and finger spelling. The frequency of occurrence of these strategies were tabulated.

**Table 1:** Summarizes the different communication strategies identified:

Repetition	Subject repeated all or part of the original utterance. No information was added and the utterance was not restructured
Rephrase (Revision)	Subject retains the meaning of an utterance but alters its grammatical form or uses other words.
Addition	Subject added specific information to an utterance.
Finger spelling	Spells out the letters of the word

On evaluating the use of repair strategies by adult deaf sign language users, it was evidenced that, the most occurred communication repair strategy was fingerspelling over other three repair strategies. Although finger spelling was not observed to be occurring as an independent repair strategy, it occurred as a combination strategy with rephrase, addition or repetition in all participants.

**Table 2:** Most commonly used repair strategy by the participants:

Repair Strategies Used		Frequency	Percentage (%)
Addition	N=30	11	23.4
Rephrase		11	23.4
Repetition		11	23.4
Finger spelling		14	29.78

The repair strategy used to overcome the communication breakdown varied in individuals. Among the 30 participants, 12 of them used only one repair strategy as a response to the clarification request that is either a repetition, rephrase or addition of information. 17 participants used a combination of two strategies (repeat and finger spelling, rephrase and finger spelling, addition and finger spelling, repeat and rephrase or a combination of rephrase, addition and finger spelling). None of the participants used fingerspelling alone as a repair strategy. It only occurred in conjunction with other strategies. Similar trend was also seen in normal hearing adults. Hoa and Huhn (2015) conducted normal conversational analysis for use of repair strategies by normal population (adolescent to adulthood) and reported that repetition and rephrasing of utterances are most common communication repair strategies in normal population. It was also evident that in all these samples, combination of strategies was predominant

**Table 3:** Summarizes the number of repair strategies used in single or in combination

Number of Repair Strategies Used		Frequency	Percentage
Single strategy	N=30	12	40
Combination of two		17	56.7
Three strategies		1	3.3

**Table 4:** Repair strategies used by the participants

Repair strategy used	Frequency	Percentage (%)
Addition	3	10
Addition, Finger spelling	6	20
Repeat	4	13.3
Repeat, Addition	1	3.3
Repeat, Finger spelling	5	16.7
Rephrase	6	20
Rephrase, Addition, Finger spelling	1	3.3
Rephrase, Finger spelling	3	10
Rephrase, Repeat	1	3.3
Total	30	100

In the present study all the participants responded to the signed request of the interpreter except one, who responded to both signed request and facial expressions.

**Table 4:** Summarize the response to clarification request by participants

Clarification request	Number of participants
Facial expression + signed clarification request	1
Signed clarification request only	29

## 5. Discussions

The capacity to recognize communicative breakdown, to seek clarification, and to provide repair appear to be important skills that enhance face - to - face communication for all individuals (Dianne & Louise, 2010). People with normal hearing learn to use repair strategies spontaneously through everyday auditory experiences. However, in the hearing - impaired population diminished auditory experiences leads to difficulty in following communication breakdowns and hence they may require training in using repair strategies to overcome communication breakdown (Anderson 2010). Studies have also indicated that use of repair strategies by the hearing impaired varies with mode of communication. Hence, we attempted to investigate the use of repair strategies by deaf individuals who use ISL as the primary mode of communication. Current study showed that deaf sign language did use communication repair strategies in response to signed clarification requests. However, except one participant all others failed to identify a nonspecific communication breakdown indication (facial expression). Which warrants the need for training on identifying communication breakdown while communicating with a hearing communication partner. Similar findings have been reported by Gibson and Cassie (1994). It was also evidenced that almost equal frequency of usage of most of the repair strategies by deaf sign language users in our study. However, it has been noted that they use a combination of two or more repair strategies. It has been observed that the most frequently used repair strategy by adult deaf sign language users in our study is fingerspelling, which occurred in combination with other repair strategies. Wilson et al (1998 & 2013) reported that repetition was the most commonly used repair strategies by adult deaf individuals who used spoken language for communication. Tova Most (2003) reported that native sign language users will employ advanced communication strategies. None of the participants in the current study is native ISL user, which might have influenced the kind of repair strategy they used. Studies have reported that the communication becomes more complex

between two deaf sign language users in comparison to a deaf and hearing communication partner. Hence it has to be assumed that the trend in using communication repair strategies changes with deaf vs hearing communication partners.

## 6. Implications

- 1) In the current scenario where, inclusive education is gaining more popularity, this study gives an idea about the preferred communication repair strategies used by hearing impaired who use ISL in the specific context. The conversation between hearing impaired and normal can become much more effective once the communication breakdowns are reduced or rectified. This is also helpful for teachers of deaf in identifying and coping with the breakdowns occurring in classrooms.
- 2) Current study indicated that adult deaf sign language users identified communication breakdown only when indicated through specific clarification requests (signed) and failed to identify nonspecific clarification requests. Hence deaf sign language users can be trained to effectively identify the indication of communication breakdown and use repair strategies when they encounter any communication breakdown while communicating with hearing communication partners.

## 7. Future Directions

- 1) A comparison can be made to study the use of repair strategies by deaf sign language users while communicating with deaf and hearing communication partners.
- 2) Can study any underlying relationship between pragmatic skills and identification of communication breakdown in deaf sign language users.
- 3) Effective use of communication repair strategies after training on use of communication repair strategies can also be evaluated.

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