

Strategies to Assess and Improve Communication Repair Skills
Karen L. Anderson, PhD Summer Institute – Day 1 Afternoon DHH School-Age

Service Delivery Considerations Discussion

Current challenges!

- Increasing numbers of students are entering school with average scores on general language assessment are assumed to have no adverse educational effect
- Due to decreasing numbers of children who are D/HH with extensive language/learning delays some areas have discontinued center-based program options and the children are in the mainstream
- D/HH itinerant teachers are urged into consultative models or ‘teach the LD teacher’ and check in monthly
- IEP and IDEA Law Information topics: Eligibility; FM systems (assistive technology); Availability of specialized services; Hearing loss/hearing aids (i.e., progressive loss); List of 14 OSEP letters pertaining to students with hearing loss. Available at <http://successforkidswithhearingloss.com/resources-for-professionals/iep-issues>

Eligibility Issues

- The student is getting average/good grades or appears to have typical development on school entry. The school team concludes that this is evidence that the student requires no specialized support services.
- The student has received special education support and is now getting very good grades in school. The school team wants to discontinue specialized support services as the student is no longer showing adverse educational effect.
- A student with hearing aids/cochlear implants has entered our school district. The group who will evaluate him for eligibility will assess academics and speech/language however the team does not include a specialist in deaf/hard of hearing (teacher or educational audiologist).

In determining whether a child's impairment adversely affects educational performance, the multidisciplinary team must consider non-academic as well as academic areas. Therefore, the assessment is more than the measurement of the child's academic performance as determined by standardized measures.

FM systems (assistive technology)

- The student is getting good grades or appears to have typical development on school entry. The team says that an FM system is not necessary for the child to learn.
- The school team says that the old FM technology available is sufficient as they only have to provide appropriate technology, not ‘the Cadillac’.
- The student was late-identified and some members of the school team are suggesting use of an FM system at home and community events so that he can be exposed to more language and catch up with peers more readily.
- There is a high functioning student that struggles to keep up with directions and participate in classroom discussions. Our team is considering a 504 Plan that includes use of an FM amplification system. Because it is a 504 Plan and not special education, the team does not want the educational audiologist or teacher of the deaf/hard of hearing involved in any way.

Speech-to-Text Translation

- The student is not keeping up with the pace of classroom learning. Some members of the team conclude that only a sign language interpreter will assure that the child will receive FAPE, even though the child only has a few signs.
- Consideration of an assistive technology device for a child depends on whether the device is used to increase, maintain, or improve the functional capabilities of a child with a disability, and whether the child's individualized education program (IEP) Team determines that the child needs the device in order to receive a free appropriate public education (FAPE).

Hearing aids/Hearing loss

- There is a student with a hearing loss who appears to have had a significant change in hearing requiring a change in the level of accommodations, services and supports provided. The family has transportation issues and no insurance. The district will not pay for an audiological evaluation.
- There is a student with a progressive hearing loss. The IEP team does not want to convene more than once a year.
- There is a student in his neighborhood school who uses hearing aids. He receives consultative services from a teacher of the deaf/hard of hearing. It seems like he isn't hearing as well lately and I wonder if it is a problem with the hearing aids

OSEP Letters

- Thanks to the Listen-Up website for collecting these letters!

Further discussion?

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Speaker Disclosure: I have no financial relationship in presenting the basic research of what we know about children and communication repair skills nor general techniques for practical training that participants can ‘take away’ from today’s session. I do have a financial interest in the form of a program: *Student Communication Repair Inventory & Practical Training (SCRIPT)* based on the research that embodies these techniques. Examples from these materials will be included in this session.

Objectives

- Discuss how communication repair skills develop in young children.
- Discuss a method to assess a student’s ability to repair communication in comparison to typically developing age-peers.
- Discuss at least 3 strategies for developing student communication repair skills.

What is Communication Repair? Everyone experiences communication breakdowns regardless of hearing ability.

- Communication breakdowns occur whenever the speaker is not understood by the listener.
- Many variables can contribute to communication breakdowns

Premise for working on CR: Students who are aware of communication breakdowns when they occur and who effectively address the breakdown, via use of communication repair strategies and advocating with other communicators for their listening/communication needs are more likely to be empowered and perceived as a respected class member who deserves communication accommodations for full access. CR is a lifelong skill contributing to full independence.

Communication repair from the start.... Young children develop repair strategies as they experience communication breakdowns. It is an integral part of the language acquisition process. Repair strategies are an early developing mechanism. It starts early without teaching. Children with MLU between 1.5 to 2.9 respond to requests for clarification by repeating or revising their message. 4-year-olds when asked to clarify respond and are sensitive to indications that the clarification satisfied the listener. Children between 34 – 67 months respond at least 80% of the time to several types of clarification requests. So ...relatively unsophisticated language learners are sensitive to feedback that their messages are not understood. They are able to adjust so they can accommodate to be understood during conversations. **Strategies children use to provide clarification change with age.**

Research:

Toddlers repairing communication: 18 children age 21-29 months with normally developing language. Adult pretended not to understand and asked “What?” 20 times within a 1-hour spontaneous language sample. Responses categorized as repetition, revision or no response. Regardless of Brown’s Language Stage I, II, III, children responded when the communication partner indicated they were not understood. Strategies for revising utterances were based on child’s linguistic complexity. Gallagher 1977

Preschoolers repairing communication: Replicated study with children age 42-64 months with normally developing language at Brown’s Language Stage I, II, III. Students with language delay revised their utterances in ways that were unrelated to their knowledge of language structure. This result was in contrast with those who had typically developing language who had a pattern of increasingly complex revision strategies as their language became more complex. Gallagher & Darnton, 1978

Preschoolers repairing communication: Study with children age 42-64 months ability to respond to requests for clarification. Children’s responses are based on a shared awareness of specific interpersonal meanings – an aspect of social competence.

Requesting/responding to clarifications reflects an intersection of social and linguistic competence. Conversation results from the attempts of students to carry out their respective requesting/responding roles. Garvey 1977

Being included in conversation: Conversational competence requires paying attention to what the partner says and making appropriate replies. If a student is slower at processing the conversation, resulting in a delay in response or interjecting unrelated talk, the student will likely be ignored in the conversation. The more relevant and immediate the student’s conversational turn, the more likely he will not be ignored.

Ervin-Tripp 1979

Rules of Conversation Quiz	
True	It is important to take turns in a conversation.
False	When many people are talking at once, it is very easy for most people to understand what is being said.
True	In a conversation, it is important to do your share of the talking.
False	If you don’t understand something, it is okay to pretend.
False	I have a friend who talks only about what she is interested in – she is such a good conversationalist.
True	When someone is talking to me, it is okay to be looking at the TV, my computer, or out the window.
False	Only people with hearing loss have a hard time understanding everything in a conversation.
False	When someone stops to talk with me, I don’t have to worry about thinking of something to talk about.
False	Whoever starts the conversation is responsible for making sure the other person understands what is said.

Would your students score 100% on this quiz?

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Developmental Trends & CR: In contrast to preschoolers, older students appeared to realize that if their initial strategy did not provide clarification, then offering a different strategy could be effective. The oldest students addressed what they perceived as the breakdown by defining terms, or by providing background context. The findings indicated developmental patterns in the way that students respond to requests for clarification.

How has School-Age Communication Repair been Studied? Various methods have been used. To assess knowledge of CR strategies, researchers identify what strategies children use when they are asked to clarify **WHAT THEY SAID**. Typically one of a set of pictures or objects is described by the child. The clinician asks the child: Huh? What? I don't understand. Very similar research design across 4 studies* of children with typical development. All viewed pictures and were asked to describe. During their description they were asked for clarification ("Huh?" "What?" "I don't understand"). The younger students used repetition as a strategy to the initial request but had more difficulty in responding to the second and third requests, thus resulting in a large number of inappropriate responses.

*Brinton, Fujiki, Wingler, 1986a & 1986b. Scudder & Tremain, 1992. Most 2002.

CR and Children with Hearing Loss: 16 children with sev/prof bilateral hearing loss and 10 with typical hearing; ages 8-17 years. Children with hearing loss were divided into 2 groups: Good Speech Intelligibility (GSI), Poor Speech Intelligibility (PSI). Children looked at 5 pictures and had to describe. Adult said 'What?' 'Huh?' 'I don't understand.' PSI children used more repetition strategies than GSI. GSI students used more addition strategies and were more inappropriate on 3rd request ('Enough already'). Corroborated prior work that children with hearing loss do not spontaneously learn how to cope with communication breakdowns. Both groups require direct training of strategies. Most, 2002

Hearing loss and communication failure: Communication breakdown occurs frequently when hearing is fragmented. As talkers kids with HL may have difficulty in communicating verbally due to speech and voice characteristics. In order to overcome communication failure they need to learn to adopt strategies to facilitate their understanding and being understood, especially in educational settings. Children with hearing loss frequently require formal instruction in the use of communication repair strategies.

CR & children with disabilities: Similar to children with language delays, those with cognitive delays did not use CR strategies related to their knowledge of language structure (Dacey & Kretchmer 1981) and they appeared to lack the confidence to re-use effective strategies, instead responded inadequately or not at all (Scudder & Tremain 1992). Students with hearing loss do not systematically change their CR strategies used as their language becomes more linguistically complex (Givens & Greenfield 1982). Using the same study design ("Huh?" etc.), 9 high-functioning children with ASD matched with typical age peers. The children with ASD were found to have a variety of repair strategies similar to peers but were significantly more likely to respond with an inappropriate response that disrupted the flow of conversation (Volden, 2010).

Turn-and-Talk Think of one of your students who is in the mainstream with some struggles to keep up. When asked a question, if he does not understand, what does he do/say? If you did not understand what she said and ask for clarification, how does she answer?

So don't they already know how to repair communication? In 1998 a study compared children with NH to DHH children using Total Communication. The two groups used different strategies: DHH were more likely to repeat what they had said. NH repeated, revised, and also provided background cues (addition). As NH became more linguistically skilled they used fewer non-verbal revisions. DHH used linguistic responses less often and relied heavily on non-verbal information to clarify messages.

Will it really help? A study set up 7 small groups of 9-12 year olds, each with 3 hearing children and 1 child with hearing loss. 4 of the 7 children with hearing loss were trained in communication breakdown management. RESULT: There were fewer communication breakdowns for those who were trained. They added effective addition strategies to the frequently used strategy of repetition. Implications.

Children with hearing loss do not spontaneously learn how to cope with communication breakdowns at the same rate, or in the same way, as individuals with normal hearing.

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Typical language tests used are not designed to detect differences in pragmatic use of language specific to communication repair strategies. We need to break down the components of communication repair to be able to systematically talk about it, assess it and improve specific skills. **How are CR strategies classified?** 3 broad categories of verbal CR; also nonverbal CR. Each broad category has several strategies for a **total of 13 plus inappropriate responses to equal 16:**

- **REPETITION**
- **REVISION**
- **ADDITION**
- **NONVERBAL**
- **INAPPROPRIATE**

When you say “huh” or “what” the other person will usually just repeat what he or she has said. When you use these specific strategies, the other person will know what exactly you missed and then you both will understand each other.

If student was not understood

Repetition (repeat): Repeat at a slower rate; Repeat spoken more clearly; Repeat louder; Emphasize key words.

Politely ask him to repeat what he said – more loudly, clearly, and/or slowly.

- o This may be the best choice of strategies if you did not hear any words and don't know the topic.
- o Remember, hearing something louder doesn't help some people with hearing aids at all.

Use one or more of the words you heard and include it as you ask the person to repeat.

- o This shows you were paying attention and that you want to be a good conversational partner. This is the best choice of the repetition strategies if you heard enough to use it.

o I saw some students playing in Wright Park. → Students playing where?

Revision (change form): Break into two sentences; Different words, same meaning; Different form (word order)

Revision strategies are typically not used when you do not understand what someone says.

Exception: Can you say that a different way please?

Addition (add information): Add just a little information; Define terms; Add background context.

Clarifying addition skills are most reliant on linguistic skills and are the most sophisticated strategies.

Add a word or a bit of information along with what you originally said.

- o This way you are not just 'parroting' and adding a word may make your message easier to understand.
- o I saw some students playing in Wright Park. → I saw some students playing on the slide at Wright Park.*

Define what you meant when you said part of your message.

- o Maybe you were misunderstood because one word or concept was missed for some reason.
- o I saw some students playing in Wright Park. → Some kids were playing on the slide when I went past Wright Park today.*

Provide some background information to what you said to help explain your message.

- o Maybe you were misunderstood because one word or concept was missed for some reason.
- o I saw some students playing in Wright Park. → You know Wright Park, in the North part of town? I saw some students playing there today.*

Nonverbal:

Add a bit of visual information along with what you originally said.

- o A visual may make your verbal message easier to understand.
- o I saw some students playing in Wright Park. → Point to map of Wright Park, mime going down a slide, sign, fingerspell or write key information*

Nonverbally ask the person to say it again.

- o Raise your hands and shoulders; use a questioning expression; shake your head 'no.'*

If you heard part of what was said, then include it in your request for more information.

- o Do you mean Wright Park in the North part of town? Point that direction.*
- o Were the students playing baseball or were they at the playground on the slide and swings? Mime or sign baseball, slide, swings.*

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Turn-and-Talk

You are telling a colleague about a new assessment: “I just heard about the Auditory Discrimination Test and think it would be good for eligibility assessments, especially for our high flyers.” She was turned away from you and it was noisy. She says, “I’m sorry, what was that?” Respond to her using the following strategies:

-**Repetition**

-**Revision**

-**Addition** (simple, define, or add background)

-**Nonverbal**

Competence in Communication Repair: Competence in repairing communication is based on three skills:

- (1) the ability to **persist** in the communication process until comprehension is achieved
- (2) the ability to take on the perspective of the communication partner, allowing for the **recognition** that a communication breakdown has occurred and
- (3) the development of effective alternative communication **options**.

We need to identify the CR strategies used by children with language learning issues. These children need direct teaching of:

- Different communication repair strategies
- When to use the strategies
- Responses that are inappropriate and should not be used

They need to practice using the strategies and be expected to repair communication appropriately when breakdowns occur

How CR strategies develop

- **Repetition** develops first – *repeat slower, louder, clearer or repeat a key word with emphasis*
- **Revision** also develops early, but isn’t a major strategy – *use 2 sentence, alternate words, alter form grammar*
- **Addition** is the most useful strategy for achieving clarification – *simple addition or complex addition, i.e., define terms, add background context*
- By age 8-9, children use more addition repair strategies as their linguistic skills become more complex
- **Inappropriate** responses no longer occur by age 8-10, very few by age 7
- There are no norms for use of **nonverbal** strategies

Summary on Assessing CR

- The student can describe any materials
- Use the “Huh?”, “What?”, “I don’t understand” test protocol
- You are seeking 15 verbatim responses, scoring whether repetition, revision, simple addition, clarifying addition strategies were used or an inappropriate response occurred
- Inappropriate responses, like giving up the conversation or changing topics is acceptable up to 2 out of 15 responses for a 5 year old but should not occur at older ages

Developmental trend summary

- Simple addition (add a word): Age 3 – 1/15; Age 5 – 3/15; Age 7 – 4/15; Age 9 – 5/15; Above – 5/15
- Clarifying addition (define terms, add background): Age 9 – 1/15; Above – 5/15

SCRIPT – Student Communication Repair Inventory & Practical Training: SCRIPT Inventory obtains a baseline of the strategies that the student already uses when communication breakdowns occur.

The baseline is used to guide the teacher in what other strategies to familiarize the child. Developmental Trends provide guidance on specific skill building objectives.

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SCRIPT INVENTORY – What it looks like: You and the student will be looking at a set of pictures. The pictures are intentionally similar to make it more natural to have to ask for clarification. Ask the student to choose one of the pictures and describe it to you so you can locate the same picture. Ask the student ‘Huh’, ‘What’, ‘I don’t understand’ when you are both looking at the set of pictures. You need to obtain 3 communication repair responses for each set of pictures.

SCRIPT INVENTORY – Scoring: Collect student responses on the SCRIPT Inventory Response Sheet. While administering the SCRIPT Inventory you can choose to do one of the following: Make an audio recording; Write the student’s response down verbatim; Listen carefully and then select the category of repair strategy the student’s response best fits into. Select only 1 response strategy type.

Teaching opportunity: “Huh? What?” is annoying and it is valuable to have other ways to ask for clarification!

Scoring Addition is the most tricky

- **Simple addition** = adding a word. Example: If child has described colors, when asked for clarification more colors are mentioned. Blue and white car.
- **Define terms** = doing a better job of describing where or what. Example: Lines on the wheels, spikes on the comb.
- **Background context** = describing features that pertain to broader attributes. Example: Two of these are used when to help keep our teeth clean. Two are used to keep our hair neat.

Practice Scoring Kai - Put a 1 in the response sheet for the 1st item and a 2 on the response sheet for the 2nd item.

Assessing what student does when he does not understand: No research so no developmental trends for comparison. Classroom observation / Teacher LIFE-R. Responding to Oral Directions (R. Mancuso, Pro-Ed). SCRIPT Survey of Communication Breakdown. Read a short story and then ask comprehension questions: Very soft voice; Mumbled, hand in front of face; Mispronounce key words

Turn-and-Talk

A friend says to you, “I saw that there is a sale at ____ in the mall on ____, ____, and shoes.”

You didn’t get it all and want to find out more. Use the following strategies:

-**Repetition**

- **Addition** (simple, define, add background)

Reality Check –

Transfer of student’s skills responding when HE is not understood to when he doesn’t understand others

- Repetition – these examples transfer easily into how a student can ask appropriately for a speaker to repeat. **Emphasizing a key word is the most useful skill.**
- Revision – *these skills are specific to responding when someone doesn’t understand you.* These are ‘form changes’, including using different words with the same meaning, different word order, 2 sentences.
- Addition – **these are the most useful skills** to develop and rely on the student to add a little information. This lets others know that he has been paying attention but just misunderstood/misheard a portion.
- Visual strategies are also an option – use of facial **expression may be a key strategy** to work on.

Familiarization Strategies: Step 2: Building on the strategies the student already has, the teacher will familiarize the student with all of the communication repair ‘tools’ (13). The familiarization phase is intentionally SHORT. Familiarization should result in the student being aware that there are various ways to ask for clarification. *When you say “huh” or “what,” the other person will usually just repeat what he or she has said. When you use these specific strategies, the other person will know what exactly you missed and then you both will understand each other.*

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Modeling Listener Repair Strategies: Step 3: The Concept: Tell the student that you will be pretending that you don't clearly understand what s/he says. You will be showing him how people can respond when they don't understand. **The basics:** The teacher says a sentence or two; The student repeats the sentence ; The teacher models a repair strategy. Choose one or more strategies.

Specific Strategies: Step 4: In Step 3 the teacher was modeling how to respond with repair strategies. In Step 4 the teacher will start to shape the student's use of repair strategies. It is the student's responsibility to use an appropriate CR strategy. Be clear that in order to teach someone how to repair something, it must be broken first. Step 4 of Training: Once again the teacher reads sentences, this time making it challenging for the student to understand the complete sentence by adding noise, preventing speechreading, etc. Any appropriate material can be read to the student. It is still the student's role to repeat what he hears this time asking for clarification so that he can understand the sentence. **Example A:** If a student misses only the last word in the sentence but understood the rest, the student should then request that the last word be repeated (Excuse me, where was the penguin walking?) **Example B:** If he did not hear enough to understand the sentence then he would a repetition strategy. Could you say that again more loudly please? Could you face me when you say that please? **Example C:** If he knows and understands the gist of what was said but did not hear key information he uses an addition strategy to demonstrate he was paying attention but just missed a piece. I know that the other penguins thought Sid was fun to play with but what did they like to do?

Random CR Practice: Step 5: The teacher intentionally mispronounces words to cause a communication breakdown. Short phase to force use of CR strategies. Can use the Communication Repair Skill Wheel or cards. Teacher reads a sentence; Student uses a CR strategy to repair what was not heard clearly; Reinforce most useful CR strategies (addition).

Critical Thinking: Step 6: provides opportunities to target awareness & problem solving skills. When the student misses information the teacher/therapist should say something like: I heard you say X. Where in this sentence do you think something is missing or does not sound right? Does what I said make sense without that part? What do you think the sentence I said means? In order to really understand, do you think you need to get more information? (Develop problem solving "does this make sense" skills, use of context, redundancy of language, use of world knowledge, etc.). Primary task is to practice CR skills; Secondary task is critical thinking. When the student misses information the clinician can work on critical thinking skills: Missing Word Technique; Predication of Rhyming Words; Using context to Understand; Substitution Strategies; Existing Definitions or Antonyms in Context.

Role Playing Community & School Scenarios: Step 7: e.g., Let's pretend. I'll be the person at the fast food restaurant and you order your food. Remember you want a hamburger, fries, and a strawberry milkshake. Who am I? Who are you? What can you say/do to find out what she asked you? What is another thing you could say/do? Can you think of one more? Role Playing School Scenario: Now that the student is familiar with CR strategies and has had practice with them, they begin to be applied to school situations. Talk about : Why it is important to use CR strategies; When you know you missed something, ask yourself these questions...; If the teacher is ready to start and you still don't know, what can you say or do; This is also a time to start introducing self-advocacy activities.

Practicing in Real Situations: Step 8: Discuss WHEN to repair. Set up the student so he MUST provide clarification or request clarification. Playing games with a small group (i.e., Go Fish with background music). Send student on 'tasks' to request something of an adult who is aware that they need to.

Student Implementation: Step 9: 1. Randomly mispronounce words etc. and keep data these on informal instances and repair of breakdowns; 2. SCRIPT Student Self-Assessment; 3. LIFE-R After LIFE questions on use of self-advocacy strategies; 4. Discuss BLUFFING (Teacher Guidance provided); 5. Step-by-Step Changes; 6. Role-play situations: What's the worst that can happen?; 7. Validate via Teacher checklist(s): SAID; LIFE-R Teacher Appraisal; Classroom Observation

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Communication Repair Goals based on Core Content Standards

Skills	Objectives
Emphasizes key word(s)	During a 5-minute conversation with an adult, the student will emphasize key words in responding to a request for clarification 4 out of 5 times as measured by clinician tally.
Repeats what he thought was said	During a 5-minute conversation with an adult, the student will repeat what he thought was said to clarify 3 out of 5 times as measured by clinician tally.
Ask for restatement or clarification	During a presentation by a peer, the student will ask for repetition or clarification 3 out of 5 times as measured by teacher observation.

Turn-and Talk Case Study – Sally age 12

- **Communication repair:** minimal use of addition strategies, similar to a 9 year old. 7% inappropriate responses; primary use of repetition (62%)
- **Strategies to improve in the classroom:**
- Where would you start?

- How would you assess what she does in class?