Implications for Classrooms: Individuals with Cochlear Implants

PowerPoint Slides to be used in conjunction with the Facilitator’s Guide
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Introduction

• The day has come. A six-year-old child with a cochlear implant (CI) has enrolled in your classroom. You have read and studied about cochlear implants but you still don’t quite know what to expect.
Introduction, continued

• What resources are available to you to assist you in managing this child in your classroom?

• Have you planned for the adaptations you may need for your classroom?

• What strategies and techniques can you use to maximize this child’s learning experience in your classroom?
Introduction, continued

• In this module we will be discussing and demonstrating strategies and techniques and providing you with information to assist you in finding the appropriate resources in your community to help you with your mission.
Session Goal and Objectives

- The goal of this module is to help teachers in special and regular education provide for the educational needs of a child with a cochlear implant.
Session Objectives, continued

Objectives: Participants will be able to:

1. Identify the role that the education team plays in the child’s cochlear implant program.

2. Identify strategies for promoting early listening and language learning.

3. Identify a way to modify a classroom to support listening with a cochlear implant.
4. Identify a way to modify teaching style to support listening in the classroom environment.

5. Identify why children with cochlear implants might have difficulty learning to read.
Set the Course

• In this session we will learn about the composition of the cochlear implant educational team, possible school placements for the child with a CI, strategies for communicating with the CI Implant team, strategies for encouraging language development and stimulation for children with CIs, possible classroom modifications, teaching style adaptations, and strategies for encouraging listening and language in the classroom.
Set the Course, continued

• Education of the child with the cochlear implant is a **team responsibility**.

• **YOU ARE NOT ALONE!**

• CI educational and medical team members can be one of your most valuable resources in planning for and executing an educational program for the child with a cochlear implant.
Set the Course, continued

- We will cover sound practices and suggestions that will not impose extra time constraints on teacher and classroom.
- The changes made to support a child with a CI may be of benefit to all in the classroom.
Preparing for a Child with a Cochlear Implant

• Possible educational placements for the child with CIs include:
  – Preschool program
  – Early childhood special education settings,
  – Specialized schools for children with hearing loss,
  – Regular education or special education classes,
  – Self contained classes for children with hearing loss with a teacher of the hearing impaired using oral or total communication approaches.
Preparing for a Child, continued

• More than 60% of children with cochlear implants age 7 years and above attend mainstream classes (Cochlear America’s parent survey).

• Those children with CIs in mainstream or special education classes will likely need support therapies and frequent monitoring by the educational team as a whole.
The CI Education Team

- The Team likely includes key members:
  - Parents/caregivers
  - Classroom teacher
  - Special education teacher
  - Itinerant teacher of the deaf and hard of hearing
  - Speech language pathologist
  - Listening or aural rehabilitation specialist
The CI Education Team, continued

- School audiologist
- School psychologist
- If warranted, an Interpreter of sign language or Classroom Aid Administrator

• This team is similar to the special education team we are all familiar with.

• All of these team members can play a crucial role in supporting the education of a child with a CI.
The CI Medical Team

- The classroom teacher will also likely be in some contact with the Cochlear Implant Medical Team from the implant center to coordinate services. This team may include:
  - Parent/caregiver
  - MAPping audiologist - Surgeon
  - Speech language pathologist
  - Listening or aural rehabilitation therapist
  - Developmental pediatrician
  - Social worker and/or psychologist
Communication Between Teams

• Communication between the Educational and Medical Teams is essential to the child’s success with the CI and their educational development. The Medical Team:
  – shares test results;
  – suggests initial expectations and concerns with the educational team;
  – may monitor a child’s listening and speech/language progress at specific intervals.
Communication, continued

- The progress results and concerns should also be shared with the Educational Team.
- In many cases, the child will receive supplementary individual listening/speech language therapy at the implant center.
- These therapies should also have a strong emphasis on training parents to support speech, language, and listening in the home environment.
Communication, continued

• These services need to be coordinated with the school:
  – A home-to-school-to-therapy notebook or email groups help in maintaining communication between the individuals working with the child.
  – The parents/caregivers are instrumental in seeing that this communication strategy is implemented and maintained.
Communication, continued

• The parent and the educational team develop an IEP and listening, language, speech and learning goals for the classroom and therapies.

• The school audiologist or itinerant teacher of the hearing impaired may be the team lead.

• This team specialist may be responsible to maintain the functioning of the cochlear implant device and the FM system (if one is utilized) at school.
Communication, continued

• Other responsibilities of the specialist include providing in-service training on hearing loss, cochlear implants, listening checks of the CI, and demonstrating listening techniques in the classroom to the classroom and resource teachers.

• It is very important for the parents, teacher, and specialists to report observations and concerns about the child’s hearing to the MAPping audiologist.
Strategies and Techniques for the Classroom

• What can a teacher expect from a child with a cochlear implant?

• This depends upon the time the child has had in sound – that is, the time since the CI activation.

• Children enter school with varied periods of time in sound, different training and educational experiences, and at different listening, language, and speech levels.
Strategies & Techniques, continued

• Children receive CIs at very different ages (now typically between age 1 to 6 years) so they will enter school with different levels of listening, language, and speech needs.

• Ex. A six-year-old child comes to the classroom. He’s never heard well with a hearing aid and just received a CI. He is considered an early/new listener – they are \textbf{NEW} to listening. He will have limited language or may use sign language.
Strategies & Techniques, continued

• Other children can be intermediate listeners and others experienced listeners.

• These children may have been in a program or an oral school that tries to prepare them to enter mainstream education by age 6, 7 or 8.

• Teachers and family will have worked intensively with them early-on so that their listening, language, and learning skills are appropriate for a mainstream placement.
Strategies & Techniques, continued

• These children may arrive with good spoken language skills. But, even with good spoken language skills, children with cochlear implants often have “holes” in their language, i.e., gaps in language or vocabulary skills.

• These gaps can manifest themselves when you least expect it.
Children require different strategies and different classroom accommodations depending upon whether they are early listeners, intermediate listeners, or late listeners.

Some children arrive at school learning to listen (early listeners) and others will be listening to learn (intermediate and the experienced listeners).
Activity – Preparing for a Child with CI

• In small groups, review of one of the assigned Advanced Bionics web resources listed at end of the Facilitator’s Guide.

• After reviewing the resource, present to the other groups the five most important facts for a teacher with a new student who has CIs.
Repetition Encourages Language Development

• How is normal language acquired?
  – Repetition encourages language learning. In typical development, the overwhelming majority of auditory learning occurs within the child’s family during daily routines.
  – The parent/caregiver is the primary educator and has the primary responsibility of being a therapist/interventionist for a child with a cochlear implant from an early age.
Repetition Encourages Language Development, continued

• Consider typical development: diapering, feeding, play activities, dressing, washing, etc., the daily activities occur over 2000 times before a child even turns one.

• Multiply by more than 25 different daily activities over 2 years- a child is exposed to over 20,000 listening, language, and learning opportunities by age two.
Repetition Encourages Language Development, continued

• In typical development, language is learned through hearing words repeatedly in these daily routines over and over again.

• The predictability of the routine allows the child to attend to the sounds and words of the language as opposed to the activity and provides much needed repetition, repetition, repetition for language learning.
Repetition Encourages Language Development, continued

• The child listens and learns from the verbal repetition associated with the activity.

• The same repetition will be critical for children with CIs in the classroom – particularly those who are “early/new listeners.”
Classroom Strategies

• What are some of the strategies for the development of listening and language skills in school?
  – CI device check
  – Listening check
  – Consistent use of the CI
  – Repetition: the key to learning is repetition. Repeating helps the school age CI user (as well as all children in the classroom!). Repetition can be through a variety of teaching mediums.
Classroom Strategies, continued

• **Device Check**: The parent is primarily responsible for the operation and maintenance of CI(s) and ensuring the child is at school with a functioning CI(s).

• At school, the cochlear implant device should be checked by the designated person for appropriate functioning of the unit and the battery according to the manufactures guidelines at the beginning of the day.
Classroom Strategies, continued

• A listening check should be competed at the same time, see below. The manufacturers provide troubleshooting handouts that are available online and parents are given that information in their manual.

• Parents should share this information with school personnel when their child is implanted.
Classroom Strategies, continued

- **Listening Check**: A listening check, which is different from the device check, should be completed in the morning, after recess, after lunch, and after the child has engaged in some type of kind of physical activity (e.g., gym class), or if the CI has fallen off.

- This listening check can be as simple as assessing discrimination of those sounds mentioned previously (mmm, aaa, ooo, eeee, shhh, sssss).
Classroom Strategies, continued

• If the child does not respond appropriately trouble shooting of the device should be completed and the parent or school specialist should be notified.

• In therapy or tutoring activities, a listening check should be completed at the beginning of every session to make sure that the child is hearing across the speech spectrum – this check indicates the cochlear implant is working.
Classroom Strategies, continued

• Here is a connection to the Advanced Bionics Website where this procedure is described:
Classroom Strategies, continued

- **Consistent Use:** The child should consistently use the cochlear implant during the entire school day.
- The teacher uses the routines of the classroom to build listening and language during circle time, line-up time, familiar song time and transition times.
Classroom Strategies, continued

• For an early/new listener, the teacher uses a specific alerting word or phrase that the child needs to listen to and learn.

• The teacher uses the same words or phrases in routines day after day after day. So when the teacher announces “circle time”, “line-up”, “center time”, or “clean up time” the child begins to attach meaning to the words and knows what to do.
Classroom Strategies, continued

• **Minimize Background Noise**: The child with one cochlear implant still has only one ear with which to hear with.

• Children with CIs on both ears also need background noise minimized.
  – Background noise could include fans, chairs moving on floor, sounds from hallway, etc.

• All sound is magnified with one or two devices and it is difficult for a child to hear the teacher’s voice above the noise.
Classroom Strategies, continued

• Strategies for early/new listeners:
  – Get down to the child’s level and get the child’s attention.
  – Make eye contact with the child. Speak closely to the child’s face or have the child seated near you. Talk about the toy, action picture, activity, or book, whatever it is the child is engaged in.
  – **Follow the child’s interest** – talk about the present; the child does not have the language to talk about future or past.
Classroom Strategies, continued

– The child is an early listener, their language level is like that of a very young child.
– Use the child’s name frequently – this can help the child learn what their name sounds like.
– Do not use nicknames or call the child by one name one time and another name another time.
Classroom Strategies, continued

– Use a lot of **inflection** in your voice because inflection in your voice helps carry the meaning of the language. This is what a hearing infant focuses on initially and begins to imitate. (Think of how a new mother sounds when she talks to her child!)

– In some of the video clips coming up, note the variation in inflection that the parent and clinicians uses with early listeners.
Classroom Strategies, continued

• In the next video, strategies for early listeners are demonstrated. Strategies include:
  – talking repeatedly about what the child is seeing, doing, hearing, touching, tasting, and feeling.
  – use of inflection and variation in the speaker’s language. Just as typically-developing infants first tune into inflection and variation when they are learning language, the same is true for a child learning to listen with a CI.
Classroom Strategies, continued

– The speaker needs to be animated and use as much facial expression and body language as possible to help with the comprehension of what is being said.

– Model and “play” with sounds (ooh, aah, eee, Whee, Wow). This can be done with older children who are still early listeners, as well.

– Encourage vocal turn-taking and pause and wait expectantly after saying something, waiting for the child to say something.
Classroom Strategies, continued

– Imitate the child’s sounds; give meaning to his or her word approximations (e.g., child vocalizes “ba”-you say “BALL! OOH, I see the ball!

– Imitate word approximations and say what you think the child means. If it is wrong, the child may tell you. If not, then the child may hear how the intended word sounds.

– Be pleased and excited about any of the child’s utterances – any attempt at vocalizations, or attempt at using words or word approximations.
Classroom Strategies, continued

– Talk in phrases, very simple sentences, with a pause to allow for that processing time.
– For very young listeners, not in age but in listening time, talk in simple phrases.
– For those that are a little bit longer in sound, talk in simple sentences but remember to pause in that sentence and between the phrases to allow for processing time.
Classroom Strategies, continued

– Repeatedly model the names of objects, actions, and descriptions – what the child is seeing, hearing, doing, and touching.

– Then talk about the word or activity in different ways. Pause to give the child an opportunity to imitate and then imitate and expand on what the child says.
Classroom Strategies, continued

• Show the video at http://mast.ecu.edu/modules/ici_ic/lib/media/vid_1.html

This clip features Chloe, who was implanted at 17 months. In the video she is about 3 months older. You will see the mom and the therapist using a lot of vocal inflection, modeling of words (Copyright 2010 by C. Ruder).
Classroom Strategies, continued

• Notice how Chloe attended to the speaker, tracking the speaker’s voice, attempting to imitate the words and sounds?
• The mother and the clinician used some simple strategies to get Chloe to vocalize and these worked.
• This is a rich example of early language interactions.
Classroom Strategies, continued

• Think back to the developmental sequence.

• Chloe imitates the number of syllables, imitates inflection, approximating words, like “Oh.” When the therapist modeled “open”, “roll” – Chloe clearly said “O”, “roll”, and “help.”
Classroom Strategies, continued

• The imitation of “ba, ba, ba, ba” is an example of syllable repetition. This is a very rich example of language interaction with an early CI listener.

• The mom and the therapist were modeling language, imitating the child’s speech, and expanding on the child’s speech. Chloe was very communicative and productive.
Classroom strategies, continued

Other strategies for early Listeners and Beyond include:

• **Imitate and Expand** the child’s utterance.
  – If the child uses one word or word approximation, imitate the word and expand the utterance by 2 or 3 words.
  – If the child says, “Open”, imitate open and expand to “Open the book” or “Open the bear book.”
Classroom Strategies, continued

– If the child says two words, imitate and expand by 3 or 4 words. If the child says “go bus” imitate and expand to “We go to the bus now.”

– The expansion helps to increase the child’s vocabulary and language.

– Drop or do not use non-specific words, such as, “it, that, and thing.”

– In the Chloe video clip example, instead of saying “Roll it” more specific language could have been “Roll dough.”
Classroom Strategies, continued

– Using more specific words also helps target vocabulary and encourages the child to learn the names of new objects and actions.

• With early listeners and beyond, ask simple questions
  – In the natural exchange of conversation about the child’s wants and actions, ask “What do you want or have?” “What are we going to do or make?” “What do I have?”
Classroom Strategies, continued

– When asking questions, model answers by providing the child with choices.
– Give choices of answers that can be expected so the child can make choices and try to imitate the word.
– “Do you want a cookie or a cracker?” “Do you want a marker or a crayon?” If the child says “cracker” when they want “cookie,” they will receive a “cracker.”
Classroom Strategies, continued

– At this early stage, do not overuse questions, particularly if the child does not yet respond to them.

– Limit the use of questions that require one-word answers, (e.g., “What’s this/that/color?”) or questions that can be answered with a nod or “yes/no.”

– These types of question do not support turn taking and language development.
Classroom Strategies, continued

– Ask questions to support language not to “test” the child.

– If the child knows that you know the answer to the question (e.g., “What color is the grass?” “What is that?”) they are less likely to be interested in answering!
Classroom Strategies, continued

• **Use books** to encourage vocabulary development and literacy.
  – Interact with books that are fun, such as lift the flap books and colorful high interest books.
  – Find books with excellent illustrations and use your own words to tell the story from the pictures.
  – Act out the content of the page or story; utilize the language strategies discussed above (modeling, pausing, imitation, expansion).
Classroom Strategies, continued

• **Use music and singing** to encourage rhythm and better spoken language.
  – In the video Chloe, only 3 months post CI activation, demonstrates wonderful rhythm & inflection to her language.
  – Songs and singing help encourage development of rhythm, stress patterns, and language intonation.
Classroom Strategies, continued

• **Respond meaningfully** to any communication attempt by the child – whether the child is vocalizing, gesturing, making facial expressions, or using words/approximations, or phrases.
  
  – If a child looks at you with a questioning gaze, you might say, “What is that?” and then answer your question, “Oh, that’s a box of blocks.”
Classroom Strategies, continued

– Respond to communication attempts and watch for non-verbal communications because gesturing, vocalizing, and facial expressions may be the only means of communication the child is able to execute at that time.

– Continue to encourage the communications by responding.

– Then use that opportunity to verbalize the words and the meaning for the child (e.g., label the gaze, gesture, facial expression and talk about the communication).
Classroom Modifications for the Child with a CI

- Some simple classroom modifications to help the child with a cochlear implant:
  (Adapted from *Tools for Schools-Tips for Teaching a Child with a Cochlear Implant*, Advanced Bionics, 2007)
  - Maintain adequate lighting in the classroom. Light should not be shining in the child’s face. The teacher’s face should be clearly seen and not in a shadow.
Classroom Modifications, continued

– Seat the child away from noise sources including windows, doors, and noisy equipment, and especially noisy peers.

– If the child has one implant ensure that side of the CI faces teacher and the body of the class.

– Carpeting on the floor, window curtains, and tennis balls on the chair feet help reduce or dampen the background noise in the classroom.

– Captioning: all video presentations should contain written text at the bottom even for the child who is only learning to read.
Teaching Strategies

• Some common sense strategies for assisting the child with a cochlear implant in the classroom:
  – During various activities let the child move around to a seat that will maximize the child’s listening potential and provide a clear view of the speaker.
  – Use trial and error to find these spots in the classroom.
Teaching Strategies, continued

– Start with the child close to the speaker or source of the sound with his/her implant(s) toward the sound source.

– Consider using a buddy system – a peer who assists the child with a CI with classroom directions that s/he may not have understood.

– Consider a peer tutor – a classmate who assists the child with a CI with lesson activities. Peer tutors can be helpful no matter how long your student with a CI has been in sound.
Teaching Strategies, continued

– Listen to the child in your classroom. He/she may have some tips for you that will help them function better in the classroom.

– If a child cannot tell you their needs, observe their responses, facial expressions, behavior to see if they are understanding what to do or say.
Teaching Strategies, continued

• Watch video at http://mast.ecu.edu/modules/ici_ic/lib/media/vid_2.html.
  – In this video clip, two boys with CIs give their tips on cochlear implant use and how school personnel and their peers can help:
    • Help me find my CI if it is lost
    • Keep water from the implant
    • Talk clearly
    • Don’t mumble
Teaching Strategies, continued

• **Adapting teaching style** to encourage listening. Here are some tips for classroom teachers when communicating with the child with a cochlear implant:
  – During instruction be sure the child can see your face for lip reading cues.
  – Use clear articulated speech, “no mumbling” as AJ told us in the previous video clip.
Teaching Strategies, continued

– Do not talk fast and not too slow. Provide a pause between thoughts to allow for processing time. This strategy can be of benefit to all students in your class.

– Do not obscure your face with a book, paper, your hands, always provide lip reading cues.

– Wear an FM microphone (if one is prescribed) during all instructional time.

– Pass the FM microphone to other speakers during discussions.
Teaching Strategies, continued

– Provide visual support for new lesson content around the classroom: in the form of pictures, materials in learning centers, written words on the chalkboard, and posted on bulletin boards.

– Write assignments and directions on the board.

– Provide written information to parent for the child to take home or by email.
Teaching Strategies, continued

– Get the child’s attention by using his/her name or a familiar alerting phrase that you use consistently “Ready set, look and listen.” Or “One, TWO, Three, EYES on me.” Teachers use a variety of alerting phrases in their classrooms. Be consistent and use the same alerting phrase, pause, and then provide the direction for the next activity using clear speech.
Teaching Strategies, continued

– Talk near the child’s implant. If the child has only one CI take on the side of the CI or if you are working with the child at his/her desk or table make sure you are on the side of the CI.

– Use a listening cue, “I hear that --------!” To sharpen the child or class’s listening skills have then listen for a predetermined sound or word for the day that is presented at different times during the day (e.g., a whistle, musical sound, new vocabulary word).
Teaching Strategies, continued

- Limit the speaker to one person at a time. Teach your students this turn taking skill. Pass the FM to the child who is talking or repeat what that student has said for the benefit of the child with the CI and the rest of the class. When repeating the student’s response or statement, use that child’s name (e.g., “James said, “------------------“).
Teaching Strategies, continued

– Use an auditory hierarchy, that is, present information verbally (auditory mode only), then repeat the information with visual cues if needed for comprehension (e.g., visual cues can be signs, gestures, written words, objects).

– Mark the beginning and end of an activity with the same verbal phrase (e.g., at the beginning “1, 2, 3, look at me” and at the end “Good job, let’s move on.”)
Teaching Strategies, continued

• Watch the video clip at http://mast.ecu.edu/modules/ici_ic/lib/media/vid_3.html of a four-year-old boy who was recently implanted. He has multiple issues in addition to deafness and uses sign language.
Teaching Strategies, continued

• Note how the clinician marks the beginning of an activity with a phrase. The therapist is “bridging” or transitioning from the total use of signs to oral speech. The child is learning to overlay oral speech on his signing skills.
Teaching Strategies, continued

• Strategies for listening and learning in the classroom – Why are these necessary???
  – Children learning language need multiple cues to understand: auditory, visual, facial expressions, body language, pictures, and/or written words.
Teaching Strategies, continued

- Adjust the cuing as needed for comprehension; do not use all of the cues all of the time. Use as little cuing as is necessary for comprehension (typical for experienced listeners) or as much cuing as is necessary for comprehension (typical for new listeners).

- As the language progresses, the child is listening to learn the content being presented and may need less cuing, less visual support, less of the written word, perhaps less signing. But to start out, the child will need a variety of cuing.
Teaching Strategies, continued

• Watch the video at http://mast.ecu.edu/modules/ici_ic/lib/media/vid_4.html, featuring the same little boy with multiple issues that we saw in the previous video clip.
Teaching Strategies, continued

• The clinician is presenting information in the auditory/verbal only mode and is trying to get him to listen and understand with the cochlear implant (because he received the CI recently).

• The clinician wants the boy to hear these words and to try to figure out which puzzle piece she is talking about.
Teaching Strategies, continued

• Observe her cuing levels. As the child needs more, she presents more cues; as he is able to understand with less cuing, less is presented.

• Different levels of cuing were used to aid in listening, comprehension and learning.
Teaching Strategies, continued

• This video example was one-on-one, but it may be more difficult to adjust cuing level in the classroom.
• With practice it becomes natural.
• When teaching concepts and lesson content in the classroom, teachers already use different levels of cuing with typical students who are at different levels of learning.
Teaching Strategies, continued

• **Strategies for listening and learning in the classroom.** Specific strategies for increasing listening and learning in the classroom include:
  
  – **Acoustic Highlighting:** That is saying a target word or sound, a little louder or longer (e.g., “The girl’s lost **Backpack** was found,” “The boy ridessss his bike.”)
Teaching Strategies, continued

– **Auditory Sandwich**: auditory-visual-auditory. Tell students a direction verbally/auditory mode, present a visual gesture, then repeat the direction. Say, “All eyes up here” as you provide a raised hand gesture and pause. Repeat the directions saying, “All eyes up here.” Think of a sandwich with the auditory/verbal information being the bread. The middle of the sandwich is something visual (e.g., the raise arm gesture, a picture, a sign, a object.) The sandwich is topped with bread, the auditory/verbal information.
Teaching Strategies, continued

– **Auditory Descriptive Sandwich**: Label, label, describe, label – “I have a frog, a frog. Frog goes hop, hop, hop. I have a frog” then display frog. This example was demonstrated in the video with little Chloe.
Teaching Strategies, continued

• **Strategies for listening and learning - Experienced Listeners:**
  
  – Be responsive to the child’s language. Imitate and expand language to next grammatical step. With the early listeners you repeat the child word or simple phrase and expand by 1 to 3 words. For the later listener, imitate what the child has said and then expand to the next grammatical level. (e.g., the child says, “The boy wash car”, you would imitate and expand to, Yes, the boy **is washing** the car.” “Tell me again about the boy. The -------- **PAUSE** for the child to imitate your expansion.)
Teaching Strategies, continued

– Repeat what child said and expand to additional information. In relating a sequence in a story, the child says, “The grandma is coming for dinner.”Reply, “The grandma is coming for Thanksgiving dinner. She is bringing an apple pie.”

– Provide choices: Does the story mean this or that?

  • In the Jack and Jill rhyme, “Jack fell down and broke his crown.” Ask, “Class, does crown mean, Jack broke his pail or his head.” Student replies correctly, and teacher might add, “Yes Sidney, Jack broke his head or his crown. The word comes from the crown on a bird’s head.”
Teaching Strategies, continued

– Encourage the child with a CI to ask questions.

– Encourage the child to signal you when s/he does not hear you or does not understand what has been said.

– Sometime children with hearing loss and CIs do not know that they have not understood. Complete comprehension checks by having the child repeat what was said. If the child has not understood the message, present the same information using different words.
Teaching Strategies, continued

• Watch video clip at http://mast.ecu.edu/modules/ici_ic/lib/media/vid_5.html
Teaching Strategies, continued

• In video, observe how these strategies are utilized by the clinician in her interactions with the child.
• Identify instances of these strategies in this short video clip (e.g., grammatical expansion, information expansion, presenting new vocabulary, questions, turn taking, and acoustic highlighting).
Activity- Teaching Strategies

• Recall or watch again the previous video clip at http://mast.ecu.edu/modules/ici_ic/lib/media/vid_5.html.

• Observe how following strategies are utilized by the clinician in her interactions with the child. Identify an instance of each strategy.
Activity, continued

– Be responsive to the child’s language.
– Imitate and expand language to next grammatical step.
– Repeat what child has said and expand to additional information.
– Encourage the child to ask questions.
– Complete comprehension checks by having the child repeat what you have said. If the child has not understood the message, present the same information using different words.
Rich Text Environments for Experienced Learners

- When working with the children who have more time in sound with the cochlear implant, i.e., the EXPERIENCED LISTENERS, consider these strategies:
  - Present information in a rich text environment— that is saying the same information by explaining it two different ways.
Rich Text Environments, continued

– Use new vocabulary words and then explain using a synonym or provide an explanation or discuss the words/information with the child or the classroom as a whole – “What does this word mean?” and “How else can we say this?” “What word can we use here?”

– A study observed pediatric CI users in conversations with their parents. Data found that the best performing children with their CIs had parents who used rich text language and who were the most responsive to the child’s language.
Rich Text Environments, continued

– If the child said something, the parents responded in some way that was appropriate to what the child said.
– Parent responsiveness and then using language in different ways to describe the same thing resulted in the best language development.
Teaching Strategies, continued

• Watch video at [http://mast.ecu.edu/modules/ici_ic/lib/media/vid_6.html](http://mast.ecu.edu/modules/ici_ic/lib/media/vid_6.html) of the little boy seen earlier talking about folding and creasing paper.
Rich Text Environments, continued

– The video is an example of a child working on the vocabulary words “fold” and “crease” and equating them.

– The teacher is expanding Logan’s language and using expansion to provide a correct model of his grammatical errors.

– Observe how she is not correcting him directly but instead she is repeating his sentences and inserting the appropriate grammatical forms.
Rich Text Environments, continued

– Eventually, Logan spontaneously uses the word, “crease.” Notice a lot of back and forth questions and answers in this clip, good conversational turn taking.

– Try to identify the many different strategies being used in this clip. Jot them down as you go through and see how rich the language is in response to the child’s utterances, and how his language is imitated and expanded to include the correct grammatical forms.
• **Additional Strategies for listening and learning – Experienced Listeners**
  
  – Encourage conversational turn-taking between teacher and the child and between the child and his/her peers. Some children with CIs do not listen or understand well, so may find conversations and interactions with peers difficult. For some children with CI’s, there may be social concerns or the child may have difficulty getting along well with peers.
Rich Text Environments, continued

– Another child may be very quiet because s/he has difficulty understanding what the peer has said. Practicing conversations may help the child with a CI prepare for peer contact.
– When there is a communication breakdown between the teacher and the child with a CI or between the child and his/her buddy, try to help the child analyze the breakdown: “What did you hear?” “What words were used?”
Rich Text Environments, continued

– Help the peer learn how to talk to a child who has a cochlear implant and does not hear as well as he or she does. The child’s classmates need to learn some of the strategies for communicating that we have been discussing. The other students will learn these strategies as they observe you talking to the child with a CI(s), but it is also helpful if to discuss the important strategies with the class.
Rich Text Environments, continued

– In individual interactions with the child, in whole class and in small group lessons, ask meaningful, open-ended questions to encourage problem-solving thinking and using language in different ways. Examples: “I wonder what would happen if..?” “What do you think about that?” “I just wonder about what this means?”

– Use a lot of open-ended questions so that a child cannot give you single word answers. Again, this is a strategy to use with the experienced listeners—the better language users.
Another useful strategy is “Sabotage”- a violation of established expectations. This is really a “fun” technique. Once an expectation is well-established and expected, sabotage the routine in some way. Sabotage can encourage listening, language, problem solving, and verbal communication.

An example of “sabotage” might be telling the class they are going to do an art activity, but don’t give the students the necessary supplies.
Rich Text Environments, continued

– The students have to solve the problem and ask for materials or help.

– Having an “absent-minded” teacher really helps encourage language.

– Another example of sabotage would be to remove all the chairs from around a table to be used for an activity. Students try to figure out how to do this lesson without chairs by using language to solve this problem. The situation provides opportunities to respond to their language.
Rich Text Environments, continued

– Use **music and singing** to increase the rhythm of spoken language for later listeners, also. Songs and music are used with younger listeners as an alerting activity to change, such as transitions from one activity to another.

– For later listeners, music can be used in different ways. Examples- when the child hears a certain piece of music, students may be expected to alternate turns with a partner, say the vocabulary word or letter sound for the day, line up for lunch or recess.
Rich Text Environments, continued

– Using sounds and music helps the child with the CI be alert to different sounds.
– Also use music and singing to encourage appropriate inflection in spoken language.
– When using or studying music, remember that hearing music and developing a rich understanding of music is often very difficult for a child with a CI. The way in which a cochlear implant transmits sounds is quite different from the rich acoustic signal that we all appreciate when listening to music.
Introducing New Vocabulary

• Consider these strategies to introduce and expand new vocabulary:
  – Introduce category labels to sort things and label them. Talk about the items in the class during routine class activities. For example, a preschool class might sort a tub of zoo, forest, and farm animals. Then talk about the animals in different ways by describing them, what they do, what their habitat might be, what they eat.
New Vocabulary, continued

– Preschoolers could sort cars, trucks, land vehicles, construction vehicles, air vehicles, water vehicles, naming the categories, and then describing how they are used, what they look like, what jobs they have to do.

– An older class could sort tools of the school: classroom tools, tools for the music room, the computer room, the science lab, and the custodial tools- sorting the items and providing category labels and then identifying the function and attributes of the objects.
New Vocabulary, continued

– A lesson on zoning with older students could sort according to city, suburban, industrial park, and rural environments. Discuss what restrictions or activities are allowed in each environment. Again, providing category labels and then discussing functions and attributes helps extend a child’s vocabulary.

– For a child with a CI, provide advance organizers or a list of new vocabulary words for your next lesson to the parent and to the support personnel.
New Vocabulary, continued

– These team members can work with the child with CI(s) in hearing and pre-teach the word’s meaning before the words are introduced in the class.

– If possible, provide organizers a week in advance to the family, to the teacher of the hearing impaired, or the speech pathologist so that they can work on these vocabulary words, increasing the likelihood the child will then understand the new words in the context of the lesson.
New Vocabulary, continued

– Children who have been previously exposed to the vocabulary through an advance organizer will be more likely to understand and learn the material when it’s introduced to the class.

– Children with CI(s) tend to have limited “world knowledge” because they have not had the benefit of learning indirectly through incidental listening.

– Parents and familiar interventionists will often be able to use your advance organizers to identify areas with which the child is not familiar.
New Vocabulary, continued

– Focus on figures of speech- Children with hearing loss and cochlear implants have *holes or gaps* in their language, due to difficulty with incidental listening.

– Children with typical hearing learn these colloquialisms naturally without the need for direct instruction. They overhear phrases many times in daily living and use context to figure out meaning.

– Children with hearing loss miss out on overhearing this rich language on a regular basis.
New Vocabulary, continued

– Practice figures of speech in the classroom. For example, during daily weather activity, say to the students, “Oh gosh class, it’s raining cats and dogs. What does that mean? Is it really raining cats and dogs?” Have a discussion and use the phrase in a sentence. Help the students relate it to which aspects of raining, pouring, that the students have learned. This figure of speech relates to -------.
New Vocabulary, continued

– Another example, give the class an assignment for the weekend and say “It’s a piece of cake.” Ask: “Am I really going to send you home with a piece of cake?” Have a discussion on what that means? Conclude, “Well, it means that this is going to be a really easy activity for you to complete.”

– Children with CI/s need to practice sentence emphasis- stress patterns of sentences. The way a sentence is said can totally change the meaning.
New Vocabulary, continued

– For example, saying “Give it to me,” pleasantly can mean, “I want what you have – give it to me.” But saying “Give it to ME!” may mean the child is to give that object right now, this second, and they had better follow through immediately.

– Identical words have totally different meanings depending on the stress pattern used by the speaker. Example- “That is wonderful news!” means something different than “That’s wonderful news?”
Both sentences contain the same words, but have totally different meanings because of the stress points.

This change in meaning due to stress patterns is important to discuss with the whole class but particularly with the child with CI/s.

To help the child use various stress patterns, practice reading sentences in different ways, taking parts in plays. Talk about vocal emphasis and how it changes the meaning of what the child is able to say in the play.
New Vocabulary, continued

- Children with CI/s require a lot of practice understanding and using various stress patterns because it can be difficult for them to perceive the stress changes auditorily,
- Help cue them in to listening for the changes and learn to read non-verbal cues to give clues to the speaker’s intent (e.g., body language, facial expression).
Literacy Challenges for Children with CIs

• The literacy challenge:
  – Children with hearing loss are at a great disadvantage for learning early phonological skills associated with *developing phonemic awareness*. This is due to significant time that they did not hear language sound before they were implanted.
  – Because of this lag and in spite of all the training that is provided to the child with a CI, many still experience major difficulties with phonologic/phonemic awareness..
Literacy Challenges, continued

– A child who seems to speak well but may still struggle in rhyming, blending, sound symbol correspondence, and different aspects of reading.

– Children with CIs hear sound differently than children with normal hearing, and may have difficulty perceiving suprasegmentals (e.g., stress, rhythm, rate, prosody) critical for developing emergent literacy skills.
Literacy Challenges, continued

– They often have difficulty with the stress and the rhythm and reciprocity of the language.

– If the child has difficulty with these aspects of vocal communication in spoken language, they will likely have difficulty understanding these elements in a literary sense.

– The child may be able to “read” a story but not understand the meaning because of difficulty understanding how stress patterns changes the meaning of the content.
Literacy Challenges, continued

- The child may experience difficulty with dialogue in a story as they are reading and then not get the point of the dialogue.
- The teacher should help the child practice reading with stress and different emphases.
- Discussion of how stress patterns change the meaning will be critical to development of reading comprehension.
- The child may have reduced vocabulary, which is critical to developing higher level reading skills.
Literacy Skills for Children with CIs and Emerging Research

• Good news about emerging literacy in children with CIs:
  – Previous studies on reading levels of children who are deaf revealed that typically most children were below a fourth grade reading level.
  – A new study, however, suggests prognosis for children born with hearing loss recently is improved (Spencer & Oleson, 2008).
Literacy Skills, continued

– Universal Newborn Hearing Screening helps to identify children with hearing loss earlier.
– Very early identification of children with hearing loss leads to early amplification and to earlier intervention and improved language outcomes.
– Improved technology in the form of digital hearing aids and use of cochlear implants early on provides children with better access to spoken language. The reading levels have increased in children who received CIs early on and have good spoken language skills.
Literacy Skills, continued

• Remember Chloe, the 20-month-old who was 3 months post-activation of her CI?
• Watch video of her at 6 years:  
  http://mast.ecu.edu/modules/ici_ic/lib/media/vid_7.html
• Chloe attends a mainstream first grade class.
  – She was implanted at a young age.
  – Her parents were very dedicated to developing her listening, language, and speech skills at home during daily routines and activities. They are consistent in being responsive to her communications and in using rich text language.
Literacy Skills, continued

– Chloe received weekly listening, language, and speech therapy and preschool services.
– She demonstrates excellent spoken language skills.
– Chloe is a wonderful example of a deaf child who is achieving to her maximum potential.
Summary

• Children are being identified with hearing loss at much earlier ages.
• That allows us to intervene with early amplification and with cochlear implants.
• Many deaf children now receive improved access to auditory information at much earlier ages through the use of cochlear implants.
Summary, continued

• Cochlear implants provide good access to sound across the speech spectrum or the sound frequencies that are important to hear speech.

• This early access to sound promotes improved listening, language, speech, and literacy skills. Children with CIs are now more likely to have language levels that allow them to be educated in the mainstream classrooms.
Summary, continued

• At the present time, over 60% of children with CIs are in mainstream education settings beginning at age seven.

• Research suggests that it takes about five years for a child who received CI(s) early to be functioning similarly to their peers or at least within the normal range. Some children even enter into mainstream classrooms at the preschool level.
Summary, continued

• Today's teachers are challenged to modify classroom environments and established teaching methods for these children.

• Teachers help children with CIs learn to listen and eventually listen to learn.

• But children who have severe to profound sensorineural hearing loss now have the opportunity to be successful learners and communicators in mainstream classrooms!
Summary, continued

• Mainstream placements with regular and special education teachers open up opportunities for higher education and employment.

• Thanks to cochlear implants and other technologies and thanks to teachers who accept the challenge - children with cochlear implants can achieve to their maximum potential in mainstream and special education classrooms!
Focus and Reflection Questions

This session opened with the following scenario:
The day has come. A six-year-old child with a cochlear implant has enrolled in your classroom. You have read and studied about cochlear implants but you still don’t quite know what to expect. What resources are available to you to assist you in managing this child in your classroom? Have you planned for the adaptations you may need for your classroom? What strategies and techniques can you use to maximize this child’s learning experience in your classroom?  ---next slide
Focus and Reflection Questions, continued

• How have your thoughts about this situation changed in the past session? What would be your first steps? What changes would you make now in your classroom to be prepared for a child with a CI?
Application and Extension Activities

1. Assign a different strategy for listening and learning suggested in this module. Ask participants to identify a lesson or content area they are familiar and determine how the assigned strategy could be applied. Share with class.
Self-Assessment

- A self-assessment with response feedback is available at http://mast.ecu.edu/modules/ici_ic/quiz/
  Participants may take this assessment online to evaluate their learning about content presented in this module.
Session Evaluation

• A form for participants to evaluate the session is available in the Facilitator’s Guide.