

## Essentials of Aural Rehabilitation with Deaf Children in Mainstream Settings

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## Population

- Children with hearing loss
- Deaf and hard of hearing children
- Children with hearing aids and cochlear implants
- Children who speak, sign, and/or cue



## Limitations

- This workshop is designed to provide a framework and bridge between the knowledge and skills professionals have and those needed to serve Deaf and Hard of Hearing Children
- A one hour workshop is only a beginning to the training needed to appropriately serve children with hearing loss



## Framework

- Holistic and Functional
- Comprehensive and Individualized
- Fluid and Developmental
- Children are whole and complete regardless of hearing status
- All children come with communication strengths and areas for improvement
- Children are not "broken" nor are their ears or mouths
- Presentation will be organized by general language function - CAUTION



## Psychosocial Issues

- Beyond the time limits of this workshop and critically important to the well being and development of a healthy, effective and assertive communicator.



## What you know: Language Development

- Follow what you know about the acquisition of language
- Consider bilingual language development information
  - <http://www.asha.org/public/speech/development/Bilingual-Children.htm>
  - <http://www.asha.org/public/speech/development/easl.htm>



## What may be new working with children with hearing loss

- Speech development
- Listening development
- Speechreading development
- American Sign Language Development



## Before Beginning

a recent audiogram



## Speech Development

- Segmental features
- Suprasegmental features
- Voice
- Breath Control
- Resonance



## Listening

- Auditory Development (Erber, 1982)
  - A. Detection – presence or absence of sound
  - B. Discrimination – perceive differences between/among speech and nonspeech sounds.
  - C. Identification – attach a label to a stimulus, or repeat the stimulus.
  - D. Comprehension – demonstrate understanding, appropriate response



## Speechreading Development

- Pre-requisite - Visual Acuity
- Visual adaptation of Erber's Hierarchy
- Inclusion of residual hearing, language knowledge, facial expression, body language, etc.



## Auditory and Visual Hierarchy

Auditory (after Erber)	Visual
Detection	Awareness
Discrimination	Discrimination
Identification	Identification
Comprehension	Comprehension



## References

- Information sheet
- Clerc Center CIEC Web page  
<http://clerccenter.gallaudet.edu/ciec/>



## Prelanguage

- Assessment Considerations
  - Speech
  - Speechreading
  - Listening
  - Other
- Integrated Therapy



## Spoken English Assessment

- Vocalization – Phonetic Inventory
- Breath Control – Play
- Oral Mechanism Exam
- Turn-taking – Play
  
- Ling Phonetic Level Evaluation
- Rosetti
- Birth to Three
- Meaningful Use of Speech Scale (MUSS)



## Speechreading

- Eye-contact/facial orientation
- Attention
- Turn-taking
  - Visual
  - Auditory
  - Gestural
- Imitation of mouth movement



## Listening

- Daily behavioral check
  - Ling 6 Sound test – ah, ee, oo, s, sh, m
- Infant-Toddler: Meaningful Auditory Integration Scale (IT-MAIS)
- Auditory Development



## Other Areas

- Intentionality/gestures
- Language vocabulary
- Pre-literacy
  - Exposure to print
  - Appropriate manipulation of book – directionally and page by page
  - Visually scan from left to right



## Integrated Therapy

- Book-Reading (picture book appropriate for the child's chronological age)
- Speech – production of CV syllables or words from the book
- Speechreading – use one syllable and two syllable words for the child to speechread



## Integrated Therapy

- Listening – use the same words as above with a listening hoop
- Pre-literacy



## Early Language

- Assessment Considerations
  - Speech
  - Speechreading
  - Listening
- Integrated Therapy



## Spoken English Assessment

- Speech sample – Conversational intelligibility, breath control, voice quality and resonance
- Speech Assessment – Goldman Fristoe -2 – Sound production word and sentence level
- Oral Mechanism Exam
- Intelligibility



## Spoken English Assessment

- CELF-P 2- Clinical Evaluation of Language Fundamentals (Preschool 2)
- Preschool Language Scale 4
- Screening Instrument for Targeting Educational Risk (SIFTER)/preschool SIFTER



## Speechreading Assessment

- Informal Assessment of speechreading at the word level – closed sets of 3 to 5 words from maximally to minimally contrastive
- Craig Lipreading Inventory – choice of four picture pointing task.
  - To order email [vcherney@wpsd.org](mailto:vcherney@wpsd.org)



## Listening Assessment

- Test of Auditory Comprehension – hard to come by and out of print
- SPICE- The Speech Perception Instructional Curriculum and Evaluation
- WASP- Word Associations for Syllable Perception
- CAST – Contrasts for Auditory and Speech Training
- Ling 6 sound Test - Daily Behavioral Check



## American Sign Language Assessment

- Language Knowledge and Use
- Content, Form and Use – Semantics, Syntax, Morphology, Phonology and Pragmatics
- Visual Motor Perception and Integration skills
- Sign Production – Stokoe's Parameters (1978)
  - Handshape
  - Location
  - Palm Orientation
  - Movement
  - Non Manual Markers



## Integrated Therapy

- **Brown Bear, Brown Bear, What Do You See?:** by Bill Martin Jr. & Eric Carle
  - Topic: Colors and animals
  - Materials: Book, mirror and printables
- <http://www.dltk-teach.com/books/brownbear/index.htm>



## Areas

- Equipment Check
- Listening – discrimination or identification of colors and animals
- Speechreading – discrimination or identification of colors and animals
- Speech – production of the target words – initial sounds, vowels and matching syllable length
- Language – vocabulary development, answering questions, following directions
- Literacy – exposure to print, predictable books



## Later Language Development

- Characteristics of kids in this age
- Goals
  - Address later language skills needed for academic and communicative success
  - Reinforce and expand upon speech, auditory, and speechreading skills, and provide strategies for dealing with communication limits.



## Assessment: Speech

- Suprasegmentals
  - Fundamental Speech Skill Test (FSST)
  - NTID Speech and Voice
  - Laver Voice Profile Analysis (VPA)
- Segmentals
  - Phonetic skills - Ling
  - Phonological – Inventory (e.g. Fisher Logemann or Goldman Fristoe-2)
  - Phonological Processes
- Speech Intelligibility



## Gallaudet Speech Intelligibility Scale

1. The child is easily understood – no obvious voice/articulation errors
2. Easily understood by general public – some errors noted
3. General public has some difficulty understanding, but the child can be understood once the listener adjusts to the child's speech patterns
4. Speech is very difficult to understand – probably understood only by those familiar with the child
5. Speech cannot be understood

Frisina & Bernero, 1958



## Assessment: Speechreading

- Assumption – child is functioning at higher levels (identification or comprehension)
- Sentence level tasks
  - E.g. Common Children's phrases – Educational Audiology Handbook
- Tracking



## Assessment: Listening

- Goal – to determine auditory functioning level
- Tools previously mentioned



## Treatment Goals

- Content: derived from classroom activities. E.g. incorporate work on idioms and vocabulary as well as discourse and reading



## Treatment Goals

- Speech reading
  - Identification and comprehension
- Listening
  - Identification and comprehension
- Speech
  - Contextual –articulation
  - Some work on speech skill development (drill and practice)
  - Pronunciation



## Integrated Therapy

- Language areas
  - Vocabulary/pronunciation/word definition
  - Figurative language – identify idioms in text, practice speechreading, define
  - Discourse and Reading



## Integrated Therapy

- Hearing technology check
- Exploring text for idioms and new vocabulary
- Articulation/pronunciation (using dictionary)
- Speech-reading/Listening: Tracking of text
  - With voice
  - Without voice



## Adolescent Language



## Adolescent Language

- Attitude and Motivation
- Assessment of Skills and Abilities
- Establishing Goals
- Intervention Approach



## Attitude and Motivation

- Communication Information Interview:
  - Interests and Needs
  - Technology Background
  - Communication Mode/Perceptions
- Classroom Participation Questionnaire



## Assessment

- Articulation
- Pronunciation
- Voice/Speech Intelligibility
- Functional Listening Skills
- Speechreading
- Communication Strategies
- Test Taking Strategies
- Receptive and Expressive Sign Skills



## Suggested Assessment Tools

- Articulation
  - The Fisher-Logemann Test of Articulation Competence
- Pronunciation
  - Pronunciation Skills Inventory
- Voice/Speech Intelligibility
  - Gallaudet Intelligibility Rating Scale
- Functional Listening
  - Tracking
  - The Listening Inventory for Education: an Efficacy Tool (L.I.F.E.)



## Suggested Tools (cont'd)

- Speechreading
  - The CID Everyday Sentences (Davis & Silverman, 1970)
  - Tracking
- Communication Strategies
  - Continuous Discourse Tracking
  - Communication Self Assessment Scale for Deaf Adults (CSDA)
  - Observation and Role Play



## Suggested Tools (cont'd)

- Test Taking Strategies
  - SAT/ACT
- Receptive and Expressive ASL
  - Sign Language Development Checklist
  - American Sign Language Proficiency Interview (ASLPI)



## Therapy Goals

- Consider the relationship between assessment results and the student's communication needs, motivation, attitudes, and interests
- Establish "realistic, functional and relevant" goals that impact the student's overall communication



## Intervention Approach

### Preparing for a Job Interview

- Analytic Intervention:
  - Develop a "constellation"
  - Vocabulary (comprehension, pronunciation)
  - Communication Strategies
- Integrated Therapy
  - Role Play Job Interview
  - Videotape/Self Assess



## Summary and Conclusions

- You have basic tools/skills
- There are some areas that are new
- You may need consultation re. additional language influences, hearing issues, etc.
- Questions?



## Thanks

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## Additional Resources

- See the handout

