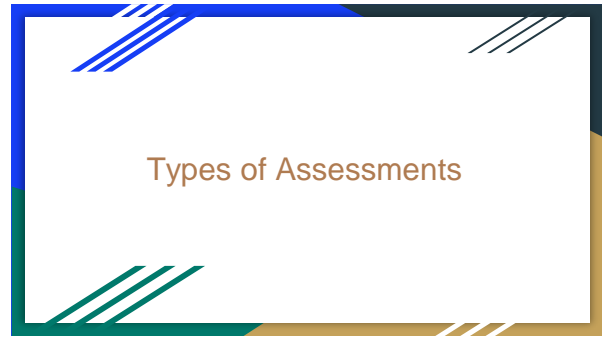


1



2

### Criterion Referenced

- Compare a child's performance to a pre-defined set of criteria (usually developmental)
- Language tests indicate the skills that are expected at particular age or stage in development
- Skills are typically reported as:
  - Present or absent
  - Emerging, mastered, or generalized
  - Observed or not observed

3

### Examples

- Rossetti Infant-Toddler Language Scale
- Infant-Toddler Developmental Assessment-2 (IDA)
- Cottage Acquisition Scales of Listening, Language & Speech (CASLLS)

4

### Total Score

- **Percentage**
  - The percent correct out of a total number of items/opportunities
  - The closer to 100%, indicates a better score
  - Scoring method for speech perception measures
- **Total number correct**
  - A simple score is achieved from test items
- These are usually checklists or surveys
- Functional assessments may fall into this category

5

### Examples

- Boehm Test of Basic Concepts -III Preschool Version
- Speech Perception Tests (MLNT, LNT, etc)
- Functional Listening Evaluation (FLE)
- Children's Home Inventory of Listening Difficulties (CHILD)
- Listening Inventory for Education-Revised (LIFE-R)

6

### Functional Assessments

- Evaluation at this level is the most beneficial for planning or goal development
- Skills a child is displaying in their everyday interactions in their natural environment
- By using these measures we can:
  - identify auditory or language skills already present
  - track skills based on performance in structured settings
  - observe and record skills demonstrated in naturalistic environments
  - set goals for continued development

7

### Examples

- Criterion referenced and Total score tests typically fall into this category
- Assessments where the child is in engaging with their natural environment
- Observing skills vs. eliciting
  - parent, child or teacher checklists
  - parent, child or teacher interview
  - language sampling

8

### Standardized

- Norm referenced
- A child's performance is compared to a large sample of other children of the same who also took the assessment.
- Tests are designed to be given in a specific way to insure that they are valid and reliable
  - Scripted language
  - Constraints for repetition, prompts, support, etc.
  - Starting and ending rules

9

### Examples

- Clinical Evaluations of Language Fundamentals Preschool-2<sup>nd</sup> Edition (CELF P2)
- Clinical Evaluations of Language Fundamentals 5<sup>th</sup> Edition (CELF 5)
- Oral and Written Language Scale 2<sup>nd</sup> edition (OWLS II)
- Test of Integrated Language and Literacy Skills (TILLS)
- Test of Auditory Processing 3<sup>rd</sup> Edition (TAPS-3)

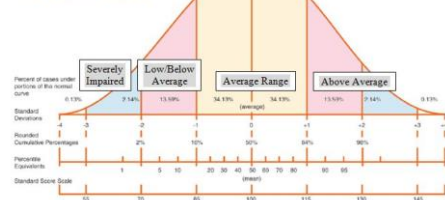
10

### Standard Scores

- Standard Score
  - Typically MEAN = 100; SD=15
  - Therefore "average range" = 85 to 115
- Percentile Rank
  - Tells student's position relative to the normative sample
  - 16th percentile to 85th percentile corresponds to average range
- Raw Score
  - The number correct (or errors-depending on the assessment) the child scored

11

### The Normal Curve



<https://auditoryverbaltherapy.net/2014/12/04/testing-testing/>

12

### Standard Scores

- Age-Equivalent Scores
  - AVERAGE score of children at particular ages
  - Do not inform instruction
- Grade Equivalent Scores
  - AVERAGE score of pupils at a corresponding grade placement
  - Do not inform instruction
- Standard Scores are typically used to qualify children for services
  - May not give us the whole picture of a child with hearing loss

13

### More information about Comprehensive Assessment

14

### Areas Of Assessment

- Auditory skills
- Self Advocacy
- Social/Pragmatics
- Language
  - Receptive
  - Expressive
- Vocabulary
- Articulation

15

### Auditory and Self Advocacy

16

### What do I want to know?

|   |   |
|---|---|
| <u>From the Audiologist</u> <ul style="list-style-type: none"><li>• Unaided hearing thresholds</li><li>• Age of identification</li><li>• Hearing Technology Status<ul style="list-style-type: none"><li>◦ Age at amplification</li><li>◦ Wear time</li></ul></li><li>• Aided testing results</li><li>• Speech Perception</li><li>• Anatomy concerns</li></ul> | <u>Communication Assessment</u> <ul style="list-style-type: none"><li>• Following directions</li><li>• Auditory memory</li><li>• Understanding of discourse with audition</li><li>• Perception of phonemes in words</li><li>• Understanding in noise</li><li>• Ability to manage equipment</li><li>• Ability to self advocate</li></ul> |
|---|---|

17


### Audiogram

- Audiologists often assess auditory skills at regular intervals to track progress and monitor device function
- Areas assessed could include
  - Aided testing
  - Speech detection levels
  - Pattern perception skills
  - Single word identification
    - closed set
    - open set
    - with contrasting phonemes
  - Sentence level identification

18

### Detection/Identification

- Ling 6 Sound Check
  - Ensure equipment is working
- May be the first indicator of hearing change or equipment problems
- Check distance and loudness level
- Resources:
  - AdvancedBionics.com/TFS
  - Boom Cards
  - Teachers Pay Teachers



19

### Standardized Tools

- Token Test For Children-Second Edition (TTCF-2) Ages 3:0-12:11
- Test of Auditory Processing Skills 3rd Edition (TAPS 3) Ages 4:0-18:11
  - Number memory forward
  - Number memory reversed
  - Word memory
  - Sentence memory
- Clinical Evaluation of Language Fundamentals 5th Edition (CELF-5) Subtests Ages 5:0-21:11
  - Recalling Sentences
  - Linguistic concepts
  - Following Directions


20

### Functional Assessment Tools

- Auditory Learning Guide (Walker)
  - <https://community.hearingfirst.org/professionals/m/mediagallery/82>
- Auditory Skills Checklist (Caleffe-Schenck/Anderson)
  - <http://successforkidswithhearingloss.com/for-professionals/listening-auditory-skills-development/>
- Cottage Acquisition Scales for Listening, Language, and Speech (Wilkes)
  - <https://sunshinecottage.secure.omnis.com/edstore/english/caslls-complete-english.html>
- Cochlear Americas - Tracking the Listening Child
  - <http://www.cochlear.com/wps/wcm/connect/intl/home/support/rehabilitation-resources/early-intervention/track-a-listening-child-tlc>
- Infant- Toddler Meaningful Auditory Integration Scale (IT-MAIS)
  - [https://advancedbionics.com/content/dam/advancedbionics/Documents/Regional/BR/AB\\_IT-MAIS\\_Resource.pdf](https://advancedbionics.com/content/dam/advancedbionics/Documents/Regional/BR/AB_IT-MAIS_Resource.pdf)

21

### Auditory Learning Guide



- Download at hearingfirst.org
- One thing to keep in mind when looking at this chart is that as we increase the language load, it will impact the auditory load. So for example:
  - If I have a field of balls different colors: Get the blue ball (1 critical element)
  - If I have a field of balls different colors and sizes: Get the big blue ball (2 critical elements)
  - If I have a field of balls different colors, sizes and patterns:
    - Get a big blue ball (2 critical elements)
    - Get a blue ball with stripes (2 critical elements)
    - Find a ball without polka dots (2 critical elements)
- You want to consider the linguistic skill as well when assessing and developing these skills.

22

### AUDITORY SKILLS CHECKLIST

Child's Name: \_\_\_\_\_ Birth Date: \_\_\_\_\_ Person Reviewing Skills: \_\_\_\_\_

**Disclaimers:** Skills should be assessed only if the child responds or has responded using auditory-only stimuli, without any visual information available. Although these skills are listed in a relatively typical order of development, it is common for children to express the depth of their developmental or particularly advanced skills with varying levels of more advanced skills. Focus on skills from one or two levels at a time. A child's rate of progression can depend on cognitive ability, the ability to attend for periods of time, vocabulary size, ability to point, abilities. Every time you monitor auditory skill development, check off changes in the child's ability to respond or perform each skill that is being worked on. Estimates of percent of the time the child is seen to respond are approximations only based on the observation of the parent and others who regularly interact with the child. In subsequent reviews of the child's auditory skill development check off progress made (e.g. add check to 1 column if child is seen to begin to respond or demonstrate skill).

| NOT PRESENT (0-10%)  |   | EMERGING (11 - 30%)  |   | INCONSISTENT (31-70%) |   | ACQUIRED (80-100%) |   |
|--|---|--|---|-----------------------|---|--------------------|---|
| 0  | 1 | 2  | 3 | 4                     | 5 | 6                  | 7 |
| <b>AUDITORY SKILL</b>  |   |  |   |                       |   |                    |   |
| <b>LEVEL ONE</b>   |   |  |   |                       |   |                    |   |
| Child hears hearing aid or present at hearing trials   |   | Hearing aids worn at all times except for naps and bathing                                 |   |                       |   |                    |   |
| Asks to locate "Child nonverbally or verbally indicates the presence or absence of sound."   |   | Child's eyes widen when she hears her mother's voice.                                      |   |                       |   |                    |   |
| Asks to locate "Child looks to where he hears for a few seconds or longer."  |   | Child points to where he hears his voice.  |   |                       |   |                    |   |
| Asks for the source of sound "Child looks around, but does not necessarily find sound source."   |   | Child gestures or moves in relation to the source of sound.                                |   |                       |   |                    |   |
| Auditory location: "Child turns to the source of sound."   |   | Child turns to listen when she talks for.  |   |                       |   |                    |   |
| <b>LEVEL TWO</b>   |   |  |   |                       |   |                    |   |
| Child hears "Child uses what he hears of his own voice to modify his speech, so that it more closely matches a speech model."  |   | Parent says on-edge and child says "I don't know." Parent says "and-ah" and child repeats. |   |                       |   |                    |   |
| Auditory discrimination of linguistic stimuli and background noise or music. "Child gestures or moves between sounds or sound qualities, such as loudness, length, pitch." |   | Child pretends child has "I don't know" if stimulus make a loud sound.                     |   |                       |   |                    |   |
| Distance hearing "Child responds at increasing distances from the source of the sound."  |   | Mother calls child from another room and she hears her.                                    |   |                       |   |                    |   |

<http://successforkidswithhearingloss.com/for-professionals/listening-auditory-skills-development/>

23

### CASLLS

| Nouns & Noun Modifiers | Prepositions & Pronouns    |                           |                            | Verbs & Modals       |                        |                          |
|------------------------|----------------------------|---------------------------|----------------------------|----------------------|------------------------|--------------------------|
|                        | E                          | M                         | G                          | E                    | M                      | G                        |
| 24-30 months           | 24-30 months               | 24-30 months              | 24-30 months               | 24-30 months         | 24-30 months           | 24-30 months             |
| can use "the" pronoun  | can use "in" preposition   | can use "on" preposition  | can use "up" preposition   | can use "is" verb    | can use "are" verb     | can use "can" modal      |
| can use "and" + noun   | can use "at" preposition   | can use "off" preposition | can use "down" preposition | can use "has" verb   | can use "was" verb     | can use "will" modal     |
| can use "with" + noun  | can use "from" preposition | can use "out" preposition | can use "back" preposition | can use "do" verb    | can use "were" verb    | can use "would" modal    |
| can use "to" + noun    | can use "by" preposition   | can use "up" preposition  | can use "down" preposition | can use "isn't" verb | can use "weren't" verb | can use "couldn't" modal |
| can use "in" + noun    | can use "to" preposition   | can use "off" preposition | can use "back" preposition | can use "isn't" verb | can use "weren't" verb | can use "couldn't" modal |
| can use "on" + noun    | can use "to" preposition   | can use "off" preposition | can use "back" preposition | can use "isn't" verb | can use "weren't" verb | can use "couldn't" modal |
| can use "with" + noun  | can use "to" preposition   | can use "off" preposition | can use "back" preposition | can use "isn't" verb | can use "weren't" verb | can use "couldn't" modal |
| can use "to" + noun    | can use "to" preposition   | can use "off" preposition | can use "back" preposition | can use "isn't" verb | can use "weren't" verb | can use "couldn't" modal |

- Criterion referenced
- Looks at several domains of listening and spoken language development
- 4 levels (birth-8 years)
  - Pre-Verbal
  - Pre-Sentence
  - Simple Sentence
  - Complex Sentence

24

### Functional Assessment Tools: Auditory Skills

- In addition to auditory skills development, functional assessments may also look at
  - Independence with accommodations
  - Behaviors related to self-advocacy
  - Classroom listening skills, teacher strategies, etc.
- ELF, CHILD, CHAPS, LIFE-R, FLE, Preschool S.I.F.T.E.R
  - <http://successforkidswithhearingloss.com/tests/>

25

### Functional Assessment Tools: Self Advocacy

- As more children are placed in mainstream classrooms we need to focus on their ability to advocate for themselves
- Functional Assessments:
  - Guide to Self-Advocacy Skill Development ([successforkidswithhearingloss.com](http://successforkidswithhearingloss.com))
  - Listening Inventory For Education-Revised ([successforkidswithhearingloss.com](http://successforkidswithhearingloss.com))
  - Audiology Self-Advocacy Checklist ([successforkidswithhearingloss.com](http://successforkidswithhearingloss.com))
  - Advocacy in Action (Bitz & Musselman)

26

### Reporting Results

- Report explicit information about how a child is using their hearing to learn from their environment
  - Establish goals to focus on auditory skills
- Functional assessments:
  - How noise and the environment may be impacting a child
  - Help you to justify HAT usage
  - Justify accommodations
  - Show a child's true abilities in their natural environment

27

### Planning Intervention

- Children are following a much more typical pattern of development
  - Development of technology
  - Early Intervention
- Consider whether certain skills can be developed in a naturalistic approach vs. strict auditory training
- Use of strategies will help facilitate a child's ability to develop these skills in their environment
  - Highlighting or low lighting
  - Auditory sandwich
  - Wait/Processing time

28

### Social/Pragmatics

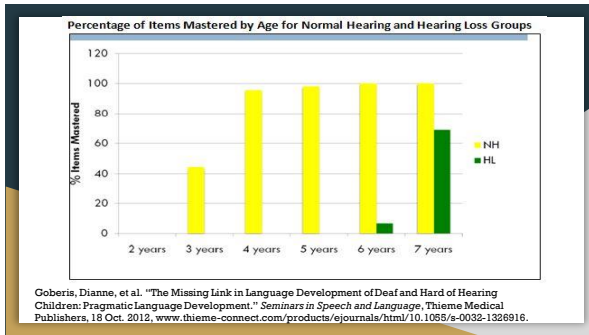
29

### Pragmatics

- Most abstract and complex language skills
- Children with age appropriate listening and spoken language skills from standardized assessments may still show a delay in this area
- Goberis (2012) found children with hearing loss to have significantly delayed social communication skills in comparison to typical hearing children.

Goberis, Dianne, et al. "The Missing Link in Language Development of Deaf and Hard of Hearing Children: Pragmatic Language Development." *Seminars in Speech and Language*, Thieme Medical Publishers, 18 Oct. 2012, [www.thieme-connect.com/products/ejournals/html/10.1055/s-0038-1328916](http://www.thieme-connect.com/products/ejournals/html/10.1055/s-0038-1328916).

30



31

### Assessment Tools

- Standardized
  - Pragmatic Language Subtest- Comprehensive Assessment of Spoken Language 2 (CASL 2)
  - Pragmatic Language Skills Inventory (PLSI) is for students (age 5;0-12;11)
  - Social Language Development Test (age 6;0-11;11)
- Functional
  - Pragmatics Checklist (<http://successforkidswithhearingloss.com/wp-content/uploads/2012/01/PRAGMATICS-CHECKLIST.pdf>)

32

## Language Skills

33

### Standardized Testing

- Language measures assess a child's comprehension or understanding (receptive language) as well as use or expression (expressive language) of the following features
  - Semantics/Vocabulary
  - Morphology
  - Syntax
  - Pragmatics
- What this may not tell us is how the child uses their language in everyday conversations

34

### Standardized Assessments

- Preschool Language Scale-5 (PLS-5)
  - Ages 0-6:11
- Clinical Evaluation of Language Fundamentals Preschool-2 (CELF P-2)
  - Ages 3;0-6:11
- Clinical Evaluation of Language Fundamentals 5<sup>th</sup> Edition (CELF-5)
  - Ages 5;0-21:11
- Comprehensive Assessment of Spoken Language 2<sup>nd</sup> Edition (CASL 2)
  - Ages 3;0-21:11
- Oral Written Language Scales (OWLS II)
  - Ages 3-21:11
- Test of Integrated Language and Literacy Skills (TILLS)
  - Ages 6;0-8:11

35

### Functional And Criterion Tools

- Rossetti Infant-Toddler Language Scale
- Brigance IED III- Early Childhood Edition
- Cottage Acquisition Scales for Listening, Language, and Speech (CASLLS) Wilkes
- Teacher Assessment of Spoken Language (TASL) Moog and Biedenstein
- Central Institute for the Deaf Rating forms
  - Syntax- TAGS
  - Vocabulary: *CID Early Childhood Vocabulary Rating Form*
  - Pragmatic Language: *CID Preschool Pragmatic Language Rating Form*
  - Language Related to Play: *CID Preschool Symbolic Language Rating Form*
- Language Sample

36

### Language Sample

- Analyze: morphology, syntax, semantics, phonology, pragmatics in conversation or play
- Utilize a language criterion referenced list (e.g., CASLLS, TAGS, etc) to analyze the sample
- Elicit a variety of narratives
  - Recounts- Factual reports of past events
  - Accounts- spontaneous verbalizations about events
  - Scripts- Description of typical event
  - Fictional Narrative- Story creation

37

### Keep In Mind

- Transcribe everything the child says
  - If the child omits or misarticulates a sound, write what the child says and in parenthesis write the target word (e.g., "tat"/cat, "boo"/book)
  - If the child uses the wrong word, transcribe that word
- The goal is to encourage a child to use connected language in conversation, play, and narratives.
- It's important to have language samples from a variety of contexts to evaluate a child's ability to engage in a variety of communication exchanges.

38

### Challenges

- Transcribing EXACTLY what the child says
  - As adults with a sophisticated language system, our brains automatically fills in missing sounds and words
    - That /s/ on the end of words are tricky!
- Prompting to encourage more complex language vs. 1 or 2 words
- Vocabulary and concept knowledge can lead to vague language
- It's important to plan when and how you will language sample and analyze

39

### Functional Tools

- Cottage Acquisition Scales for Listening, Language, and Speech (CASLLS)
  - Wilkes
- Teacher Assessment of Spoken Language (TASL)
  - Moog and Biedenstein
- Central Institute for the Deaf Rating forms
  - Syntax- TAGS
  - Vocabulary: *CID Early Childhood Vocabulary Rating Form*
  - Pragmatic Language: *CID Preschool Pragmatic Language Rating Form*
  - Language Related to Play: *CID Preschool Symbolic Language Rating Form*

40

### CASLLS

- Cottage Acquisition Scales of Listening, Language and Speech
- A hierarchy of skills developed from the milestones of typically developing child, birth to age 8
- Four hierarchically organized rating forms inventory language structures at
  - PreVerbal Level
  - PreSentence Level
  - Simple Sentence Level
  - Complex Sentence Level
- Rates behaviors as:
  - E=Emerging
  - M=Mastered in Some Conditions
  - G=Generalized to Many Contexts

41

### Examining Results

- Once a child's capacity for producing language structures has been ascertained, specific targets for intervention can be identified
  - Build a child's receptive and expressive capability within and across grammatical categories
  - Consider the setting in which any particular language target is observed
- Use functional tools/checklists to develop goals to fill in holes and avoid teaching to the test.
- It's valuable to report results by comparing to typically hearing peers
  - "\_\_\_\_\_ skills are in the \_\_\_\_\_ range when compared to same age typically hearing peers"

42



## Articulation

- Goldman-Fristoe Test of Articulation 3 (GFTA-3) Ages 2:0-21:11
- Arizona Articulation Proficiency Scale Third Revision Ages 1:0-21:11
- Ling Phonetic Inventory
  - Syllable level
- Audiogram

49

## Examining The Results

- Go back to your audiogram and see if the sounds omitted are audible to the child
  - If they are, the child may need articulation therapy
  - If they are not, the child may need visual supports to develop those sounds
- Check to see if sound substitutions are developmental phonological errors

50