### Terminology

- Disorder
- Impairment
- Disability
- Handicap

### ADA (PL101-336, 1990)

The term disability means, with respect to an individual:

- A **physical or mental impairment that substantially limits one or more of the major life activities of such individual**;
- A record of such an impairment; or
- Being regarded as having such an impairment.

### WHO (1980)

- Disorder - result of some type of disease process or malformation of the auditory system
- Impairment - the resulting abnormal function of the auditory system
- Disability - extent to which an impairment affects performance or ability to use hearing in everyday activities
  - Hearing disabilities are the auditory consequences of the individual's hearing impairment.
- Handicap - the negative impact on well-being and quality of life
  - the nonauditory effects of hearing impairment and disability

### WHO (1999)

- See handout
- Shifted focus from condition to the individual
- Categorize effect of health conditions at the level of the body (body functions & structures), person (activity), & society (participation).

### WHO (1999)

**New**
- Health conditions
- Body functions & structures
- Activity
- Participation

**Traditional**
- Disorder
- Impairment
- Disability
- Handicap
WHO, 1980

a. Disorder - occurs as a result of some type of disease process or malformation of the auditory system.

b. Impairment - refers to the resulting abnormal function of the auditory system.

c. Disability - extent to which an impairment affects performance or ability to use hearing in everyday activities. *Hearing disabilities* are the auditory consequences of the individual's hearing impairment.

d. Handicap - the negative impact on well-being and quality of life, the nonauditory effects of hearing impairment and hearing disability.

WHO, 1999

[Diagram showing the relationship between health condition, body functions & structure, activity, participation, environmental factors, and personal factors.]
Other Definitions

• AAO (1979)
  – Permanent Handicap - the disadvantage imposed by an impairment...
  – Permanent Disability - inability to remain employed at full wages
• ASHA (1981)
  – Handicap - the disadvantage imposed ... on a person's communication ... in daily living
  – Disability - determination of a financial award for a significant hearing handicap

Summary

• In this country, the influence of the ADA has popularized the use of the term disability -- an impairment that "substantially limits ... major life activities."
• In practice, disability and handicap are often used interchangeably.

Individuals with Disabilities Education Act

• Free and appropriate education" (FAPE)
  – Free = no cost to parent
  – Appropriate = "can benefit" from education
  – All children = any child who needs individualized special instruction and/or related services in order to benefit from education is eligible. NO EXCEPTIONS
• Least Restrictive Environment

Major Educational Decisions

• Placement
• Modality for Communication and Learning
• Extent of the child's hearing disability = important factor to consider when making these decisions

Educational Placement Alternatives:

- Consultative support
- Regular Classroom (no support)
- Regular Classroom + Resource Room Support
- Full-time Self-Contained Class
- Part-time Day School
- Residential School
- Total Care
- Most Restrictive
- Least Restrictive

Major Factors Affecting Hearing Disability

• Age of Onset
• Severity of Impairment
  – Thresholds
  – Speech recognition capacity
• Site of lesion
  – Multiple handicaps?
• Communicative demands
• Willingness to cooperate!!!
Residential Schools

- **Advantages**
  - Qualified teachers
  - Support personnel
  - Curriculum
  - Funding
  - No stigma
  - Child-to-child communication

- **Disadvantages**
  - Separated from family
  - Limited experience with hearing world
  - Institutional environment
  - Impedes the development of independence
  - Other risks

Day Schools

- **Advantages**
  - Residential school + family contact
  - Experience with hearing world
  - Develop greater independence
  - (depends on parent attitudes & practices)

- **Disadvantages**
  - No opportunity for inclusion

Local Schools

- **Advantages**
  - Experience with hearing world
  - Family contact
  - After school
  - In school?
  - Inclusion and/or mainstreaming
  - Inclusion – integrated with peers to the extent possible
  - Mainstreaming – in regular education

- **Disadvantages**
  - Underfunded - short of: Supplies
  - Personnel
  - Wide span of ages & grades
  - Poor sound environment

Mode of Communication/Learning

- **Manual method**
  - Earliest schools for the deaf in USA
  - Rationale = deaf persons could not be taught to speak
  - Reception and expression = through sign only
  - Bilingual-bicultural = modern manual

- **Oral method (mid – late 1800’s)**
  - Rationale = to be accepted, deaf must learn to speak and speechread
  - Originally, based entirely on visual, tactile, and kinesthetic stimulation
  - Invisible elements taught in written form
  - Barry S Slate System
  - Fitzgerald Key
  - Manual communication = forbidden and often punished

- **Oral-aural method**
  - Oral method + amplification
  - Wear amplification and use auditory input, however limited, + speechreading
  - Multisensory (hearing + vision) approach
Mode of Communication/Learning

- Unisensory oral-aural method
  (Auditory, Acoustic, Auditory-Oral, Auditory Verbal)
  - 1960's
  - Stress exclusive use of hearing with amplification
    - Signs and fingerspelling = forbidden
    - Speechreading = discouraged
  - Acoupedic method (Doreen Pollack, 1970)
    - For infants and toddlers
    - Parents trained to provide auditory stimulation
    - Localize, imitate, discriminate and identify sound, and produce speech

Mode of Communication/Learning

- Oral-based methods
  - Cued Speech (Cornett)
    - Hand signals (cues) accompany speech
    - Cues are not signs – no symbolic meaning
    - Cues reduce speechreading ambiguity
  - Visible speech ("Rochester Method")
    - Fingerspelling + lipreading and audition
    - Signs are forbidden

Mode of Communication/Learning

- Combined Methods (oralism + manualism)
  - Total Communication
    - Underlying assumptions/rational:
      - Goal = use every means possible to develop rapid, two-way communication
      - Although early communication may depend on sign, as children become knowledgeable about language, speaking and lipreading will also develop
    - Simultaneous speech + sign, at a minimum
    - But, any and all methods should be employed
      - Reception: Audition, lipreading, reading, sign, fingerspelling, and gestures
      - Expression: Speech, sign, gestures, fingerspelling, and writing

Mode of Communication/Learning

- Combined Methods
  - Simultaneous Method
    - Speech + signs or fingerspelling for key words or concepts
    - Use speech & sign = not systematic
    - In some classrooms (at least until early 1970's) no exposure to sign until age 8 or 9
    - Premise = children should be given "chance to be oral"

Evaluation

- Most prevalent
  - Total communication
  - Auditory-verbal (oral)

- Oral Rationale
  - It is "better" to be oral than to use sign
  - Children will not be oral if exposed to sign

Evaluation

- Research
  - No detrimental effects of early exposure to sign on lipreading and speech skills
  - Deaf children exposed to sign early in life reach higher achievement levels than those children who are not exposed to sign

- Conclusion
  - No method is universally superior
  - Methodology must match the student
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>A manual language that is distinct from spoken English (ASL is not based on English grammar/syntax.) Extensively used within and among the deaf community. English is taught as a second language.</td>
<td>A program emphasizing auditory skills. Teaches a child to develop listening skills through one-on-one therapy that focuses attention on use of remaining hearing (with the aid of amplification). Since this method strives to make the most of a child's listening abilities, no manual communication is used and the child is discouraged from relying on visual cues.</td>
<td>A visual communication system of eight hand shapes (cues) that represent different sounds of speech. These cues are used with or without talking to make the spoken language clear through vision. This system allows the child to distinguish sounds that look the same on the lips.</td>
<td>A program that teaches a child to make maximum use of his/her remaining hearing through amplification (hearing aids, cochlear implant, FM system). This program also stresses the use of speech reading to aid the child's communication. Use of any form of manual communication (sign language) is not encouraged, although natural gestures may be supported.</td>
</tr>
<tr>
<td><strong>Primary Goals</strong></td>
<td>To be the deaf child's primary language and allow him/her to communicate before learning to speak or even if the child never learns to speak effectively. Since ASL is commonly referred to as &quot;the language of the deaf,&quot; it prepares the child for social access to the deaf community.</td>
<td>To develop speech, primarily through the use of aided hearing alone, and communication skills necessary for integration into the hearing community.</td>
<td>To develop speech and communication skills necessary for integration into the hearing community.</td>
<td>To develop speech and communication skills necessary for integration into the hearing community.</td>
</tr>
<tr>
<td><strong>Language Development</strong></td>
<td>Language is developed through the use of ASL. English is taught as a second language after the child has mastered ASL.</td>
<td>Child learns to speak through the early, consistent and successful use of a personal amplification system (hearing aids, cochlear implant, FM system).</td>
<td>Child learns to speak through the use of amplification, speech reading, and the use of &quot;cues,&quot; which represent different sounds.</td>
<td>Child learns to speak through a combination of early, consistent, and successful use of amplification and speech reading.</td>
</tr>
<tr>
<td><strong>Receptive</strong></td>
<td><strong>Expressive Language</strong></td>
<td>ASL is the child's primary expressive language in addition to written English.</td>
<td>Spoken and written English</td>
<td>Spoken and written English</td>
</tr>
<tr>
<td><strong>Hearing</strong></td>
<td>Use of amplification is not a requirement for success with ASL.</td>
<td>Early, consistent and successful use of amplification (hearing aids, cochlear implant, FM system) is critical to this approach.</td>
<td>Use of amplification is strongly encouraged to maximize the use of remaining hearing.</td>
<td>Early and consistent use of amplification (hearing aids, cochlear implant, FM system) is critical to this method.</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------</td>
<td>-------------</td>
<td>-------------------</td>
</tr>
<tr>
<td><strong>Family Responsibility</strong></td>
<td>The child must have access to deaf and/or hearing adults who are fluent in ASL in order to develop this option as a primary language. If the parents choose this method, they will need to become fluent to communicate with their child fully.</td>
<td>Since the family is primarily responsible for the child’s language development, parents are expected to incorporate on-going training into the child’s daily routine and play activities. They must provide a language-rich environment, make hearing a meaningful part of all the child’s experiences, and ensure full-time use of amplification.</td>
<td>Parents are the primary teachers of cued speech to their child. They are expected to cue at all times while they speak; consequently, at least one parent and preferably both must learn to cue fluently for the child to develop age-appropriate speech and language.</td>
<td>Since the family is primarily responsible for the child’s language development, parents are expected to incorporate training and practice sessions (learned from therapists) into the child’s daily routine and play activities. In addition, the family is responsible for ensuring consistent use of amplification.</td>
</tr>
<tr>
<td><strong>Parent Training</strong></td>
<td>If parents are not deaf, intensive ASL training and education about deaf culture are desired in order for the family to become proficient in the language.</td>
<td>Parents need to be highly involved with child’s teacher and/or therapists (speech, auditory-verbal, etc.) in order to learn training methods and carry them over to the home environment.</td>
<td>Cued speech can be learned through classes taught by trained teachers or therapists. A significant amount of time must be spent using and practicing cues to become proficient.</td>
<td>Parents need to be highly involved with child’s teacher and/or therapists (speech, aural habilitation, etc.) to carry over training activities to the home and create an optimal “oral” learning environment. These training activities would emphasize development of listening, speech reading, and speech skills.</td>
</tr>
<tr>
<td>Communication Options</td>
<td>Total Communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td>Philosophy of using every and all means to communicate with deaf children. The child is exposed to a formal sign-language system (based on English finger spelling (manual alphabet), natural gestures, speech reading, body language, oral speech and to the use of amplification. The idea is to communicate and teach vocabulary and language in any manner that works.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary Goals</strong></td>
<td>To provide an easy, least restrictive communication method between the deaf child and his/her family, teachers and schoolmates. The child’s simultaneous use of speech and sign language combined with the use of all other visual and contextual cues is encouraged.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Language Development (Receptive)</strong></td>
<td>Language (be it spoken or sign or a combination of two) is developed through exposure to oral speech, formal sign language system, speech reading, and the use of an amplification system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Expressive Language</strong></td>
<td>Spoken English and/or sign language, finger spelling and written English</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hearing</strong></td>
<td>Use of a personal amplification system (hearing aid, cochlear implant, FM system) is strongly encouraged to allow the child to make the most of his/her remaining hearing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family Responsibility</strong></td>
<td>At least one, but preferably all family members, should learn the chosen sign language system in order for the child to develop age-appropriate language and communicate fully with his/her family. It should be noted that a parent’s acquisition of sign vocabulary language is a long term, ongoing process. As the child’s expressive sign language broadens and becomes more complex, so, too, should the parents’ in order to provide the child with a stimulating language learning environment. The family is also responsible for encouraging consistent use of amplification.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parent Training</strong></td>
<td>Parents must consistently sign while they speak to their child (simultaneous communication). Sign language courses are routinely offered through the community, local colleges, adult education, etc. Additionally, many books and videos are widely available. To become fluent signers, parents must consistently sign and make signing a routine part of every day communication.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BEGINNINGS encourages parents to visit programs, talk with professionals and other parents in order to determine which methodology is compatible with the family and the child’s needs. It is the family’s choice.  http://www.beginningsvcs.com/printable.htm
Predictors for Success in Oral Programs

Spoken Language Predictor Index
- Hearing capacity
  - Percentile rank
    - Grammatical Analysis of Elicited Language (GAEL; Moog, et. al, 1983)
    - Scales of Early Communication Skills for Hearing-Impaired Children (Moog & Geers, 1975)
    - The Rhode Island Test of Language Structure (Engen & Engen, 1983)

- Language competence

- Nonverbal intelligence
- Family support
- Speech communication attitude
- Interpretation
  - Continuum from sign to speech emphasis:
    - 30-100 = Increasing speech emphasis
    - 55-0 = Increasing sign emphasis
    - 60-75 = "Provisional speech instruction"

Mainstreaming
- Chronological age ± 2 years of average
- Language, reading, & writing skills ± 1 year of the range
- Social maturity ± other class members
- Good oral communication skills
- Acceptable acoustic environment
- Acceptance by teachers and students
- Strong parental support

Mainstreaming
- Children most likely to meet criteria:
  - Children with mild to moderate hearing losses
  - Severely hearing-impaired children who have benefited from early intervention and are excellent users of amplification or cochlear implants

Classroom Management
- (See handout)
# Spoken Language Predictor Index

**Geers & Moog (1987)**

## Hearing capacity: (30 points)

<table>
<thead>
<tr>
<th>MST score (aided)</th>
<th>PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20% (no pattern discrimination)</td>
<td>0</td>
</tr>
<tr>
<td>21-48% (gross pattern perception)</td>
<td>10</td>
</tr>
<tr>
<td>49-69% (limited closed-set discrimination)</td>
<td>20</td>
</tr>
<tr>
<td>70-100% (consistent closed-set discrimination)</td>
<td>30</td>
</tr>
</tbody>
</table>

## Language competence: (25 points)

<table>
<thead>
<tr>
<th>Percentile</th>
<th>PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10th percentile</td>
<td>0</td>
</tr>
<tr>
<td>11th-20th percentile</td>
<td>5</td>
</tr>
<tr>
<td>21st-40th percentile</td>
<td>10</td>
</tr>
<tr>
<td>41st-60th percentile</td>
<td>15</td>
</tr>
<tr>
<td>61st-80th percentile</td>
<td>20</td>
</tr>
<tr>
<td>81st-100th percentile</td>
<td>25</td>
</tr>
</tbody>
</table>

## Nonverbal intelligence: (20 points)

<table>
<thead>
<tr>
<th>IQ Range</th>
<th>PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficient or retarded (IQ ≤ 70)</td>
<td>0</td>
</tr>
<tr>
<td>Borderline deficient (IQ 71-85)</td>
<td>5</td>
</tr>
<tr>
<td>Low normal (IQ 86-100)</td>
<td>10</td>
</tr>
<tr>
<td>High normal (IQ 101-115)</td>
<td>15</td>
</tr>
<tr>
<td>Above average (IQ &gt; 115)</td>
<td>20</td>
</tr>
</tbody>
</table>

## Family support: (15 points)

<table>
<thead>
<tr>
<th>Support Level</th>
<th>PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>No support or understanding</td>
<td>0</td>
</tr>
<tr>
<td>Minimal</td>
<td>5</td>
</tr>
<tr>
<td>Adequate</td>
<td>10</td>
</tr>
<tr>
<td>Above average</td>
<td>15</td>
</tr>
</tbody>
</table>

## Speech communication attitude: (10 points)

<table>
<thead>
<tr>
<th>Communication Attitude</th>
<th>PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor (little or no effort to communicate)</td>
<td>0</td>
</tr>
<tr>
<td>Fair (use of speech only when prompted)</td>
<td>5</td>
</tr>
<tr>
<td>Good (consistently tries to communicate)</td>
<td>10</td>
</tr>
</tbody>
</table>

**TOTAL SCORE**

**Sum** =

![Graph showing the distribution of scores for different communication attitudes]
GUIDELINES FOR CLASSROOM MANAGEMENT
OF CHILDREN WITH IMPAIRED HEARING

Classroom Placement

Determine the available options for classroom placement. Consider such critical factors as: the acoustics of the classroom relative to noise level and reverberation, the amount of structure within the classroom and the teacher’s communication style. In general, a self-contained structured situation is more effective for children with auditory deficits than an open, unstructured teaching environment.

Classroom Seating

Children with even mild auditory problems function much better in the classroom if they can both look and listen. Therefore, preferential seating is a major consideration in managing such children.

Hearing impaired children should be assigned seats away from hall or street noise and not more than 10 feet from the teacher. Such seating allows the child to better utilize hearing and visual cues. Flexibility in seating better enables the child to attend and actively participate in class activities.

In some cases, audiologic testing will reveal a significant difference in hearing ability between the child’s two ears. In such an instance, preferential classroom seating so the child can favor the better ear is recommended.

Classroom Communication

1. **Gain Attention.** Always gain the child’s attention before giving directions or initiating class instruction. Calling the child by name or a gentle touch will serve to alert the child and to focus attention upon the classroom activity.

2. **Use Brief Instructions.** Keep instructions relatively short; otherwise the child with hearing difficulties may become lost.

3. **Write Instructions.** Children with auditory problems may not follow verbal instructions accurately. Help them by writing assignments on the board so they can copy them in a notebook. Also, use a “buddy system” by giving a classmate the responsibility for making certain the child is aware of the assignments made during the day.

4. **Rephrase and Restate.** Encourage children with hearing problems to indicate when they do not understand what has been said. Rephrase the question or statement, since certain words contain sounds or blends that are not easily understood. Also, most children with auditory problems have some delay in language development and may not be familiar with key words. By substituting words and simplifying the grammar, the intended meaning may be conveyed more readily.

5. **List Key Vocabulary.** Before discussing new material, list key vocabulary on the blackboard. Then try to build the discussion around this key vocabulary.

6. **Pre-Tutor Child.** Have hearing impaired children read ahead on a subject to be discussed in class so they are familiar with new vocabulary and concepts, and thus can more easily follow and participate in classroom discussion. Such pre-tutoring is an important activity that the parents can undertake.
7. **Check Comprehension.** Ask children with an auditory deficit questions related to the subject under discussion to make certain that they are following and understanding the discussion.

8. **Visual Aids.** Visual aids help children with hearing problems by capitalizing upon strengths in visual processing and thus providing the auditory/visual association often necessary for learning new concepts and language.

9. **Encourage Participation.** Encourage participation in expressive language activities such as reading, conversation, story telling and creative dramatics. Reading is especially important, since information and knowledge gained through reading help compensate for what may be missed because of auditory deficits. Again, parents can assist the child through the participation in local library reading programs and carry over activities in the home.

10. **Individual Help.** The child with hearing loss needs individual attention. Whenever possible, provide individual help in order to fill gaps in language and understanding stemming from the child’s auditory problems.

11. **Quiet Study Areas.** Provide an individual study area relatively free from auditory and visual distractions.

12. **Pace Activities.** Remember that children with impaired hearing may become fatigued more readily than other children. Subsequently, they do not attend because of the continuous strain resulting from efforts to keep up and to compete in classroom activities. Therefore, provide short intensive periods of instruction with breaks during which the child can move around.

**S-P-E-E-C-H.** This mnemonic device helps teachers and parents remember the main guidelines for communicating with hearing-impaired children. (adapted from R. Peddicord, Ph.D.)

- **S** = State the topic to be discussed.  
- **P** = Pace your conversation at a moderate speed with occasional pauses to permit comprehension.  
- **E** = Enunciate clearly, without exaggerated lip movements.  
- **E** = Enthusiastically communicate, using body language and natural gestures.  
- **CH** = Check comprehension before changing topics

**Outside the Classroom**

1. **Involve Resource Personnel.** Inform resource personnel of planned vocabulary and language topics to be covered in the classroom so that pre-tutoring can supplement classroom activities during individual therapy.

2. **Inform Parents.** Provide the parents with consistent input so that they understand the child’s successes and difficulties, as well as the need for individual tutoring at home.

3. **Evaluate Progress.** Don’t assume a program is working. Instead, evaluate the child’s progress on a systematic schedule. It is far better to modify a program than to wait until a child has encountered yet another failure.