Responding to Student Differences

- Students vary in ways that are relevant to education.
- Teaching is most effective when it takes student variation into account.

What is Special Education?

- The education of children who deviate from average to such an extent that they require:
  - major modifications of the usual school practices, or
  - Access to regular education with adaptations.
What is Exceptionality?

- Differences from average are large enough to require modification of educational experience.
- Differences are found in multiple dimensions.
  - Intellectual, emotional, sensory, physical
- To be an effective teacher requires some understanding of disabilities.

Mainstreaming

- Trend Toward Inclusion in Schooling
- From Neglect, to Isolation, to Inclusion, to Full Integration, When Possible, Into Activities with Normal Peers.
  - Prior to 1900, Isolated Efforts
  - Until 1960, Segregation
  - Since 1975, Mandatory Free and Appropriate Education in the Least Restrictive Environment.

What Federal Laws Guarantee

- Public Law 94-142 and IDEA
- Full educational rights until age 21
- Rights include:
  - Free and appropriate education
  - Fair and nondiscriminatory evaluation
  - Appropriate assessment; separation of disability from English language ability.
  - Education in the least restrictive environment
  - An individualized education program
  - Due process
- Parental involvement is expected
**Intellectual Disability**  
*(Mental Retardation)*

- A Category of Special Education
- Defined by:
  - Significantly sub-average mental functioning
    - Often IQ or 70 or lower
  - Limitations in two or more skill areas
    - Communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, work
  - Must manifest before 18

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**Causes of Mental Retardation**

- Chromosomal Abnormalities (5%)  
  - Down Syndrome (Trisomy 21)
- Infection and Intoxication  
  - Congenital rubella; fetal alcohol syndrome
- Trauma  
  - Birth trauma, anoxia
- Sociocultural  
  - Poverty and neglect

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**Classification by Severity**

<table>
<thead>
<tr>
<th>IQ Range</th>
<th>By Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>55-70</td>
<td>Mild (90%)</td>
</tr>
<tr>
<td>40-55</td>
<td>Moderate</td>
</tr>
<tr>
<td>25-40</td>
<td>Severe</td>
</tr>
<tr>
<td>25 and lower</td>
<td>Profound</td>
</tr>
</tbody>
</table>
Intellectual Characteristics of Retarded Students

• Often Ineffective Learning
  – Achievement deficits; poor reading skills
• Deficiencies in Metacognition
  – Strategies for remembering
  – Keeping track of multiple goals
  – Monitoring comprehension
• Emotionally At-Risk
  – History and expectation of failure
  – Risk of learned helplessness

Strategies for Teaching Retarded Students

• Early Intervention
• Recognize Accomplishments Rather than Make Comparisons
• Use Collaborative Learning
  – Buddy programs, peer tutoring, cross-age tutoring
• Make Instruction Explicit
  – Giving directions
  – Presenting ideas

Emotional and Behavioral Disorders

• Related terms: emotionally handicapped, emotionally disturbed.
• Prevalance: About 10% of those receiving special education services.
• Defining behavior must be exhibited:
  – over a long period of time
  – to a marked degree.
  – May be manifest as an inability to maintain relationships; pervasive unhappy mood; inability to learn that cannot be explained by intellectual, sensory, or health limitations.
Examples of Behavioral Disorders

- Aggression
- Violence
- Theft
- Arson
- Depression
- Excessive shyness
- Withdrawal
- Anxiety disorders
- Tic disorders, including Tourette’s
- Eating disorders
- Oppositional defiance
- Schizophrenia
- Autism

Intelligence and Achievement

- Severely Disturbed Children Tend to Have Low IQ, in the Retarded Range (<70)
  - Contrary to some stereotypes of the bright, bored student who acts up
  - Higher IQ has better prognosis for learning
- Academic Achievement is Often Below Average
- Difficulty Dealing with the Demands of School
  - Paying attention, coming to class on time and prepared, following directions, completing assignments, social skills

Strategies for Students with Behavioral Disorders

- Prescribed Medications Can Sometimes Help
- Highly Structured Classroom Environment
- Behavioral Modification
  - Reinforcement schedules; token economies
- Social Intervention
  - Attention to improving health care, parenting, role models, conflict resolution
Adaptations for Students with ADHD

- For keeping on task
  - Break tasks into smaller, manageable units
  - Use hands-on activities
  - Use check-lists for self-monitoring
- For listening
  - Allow doodling or standing
- For excessive activity
  - Use activity as rewards
  - Allow standing during class
- For impulsive behavior
  - Provide acceptable alternatives (writing down questions and answers instead of blurting out)
  - Teach acceptable behavior, such as acceptable alternatives
- ADHD: Adderall, Ritalin
  - Improved attention, improved memory

Learning Disabilities

- By Far, the Largest Category of Special Education Disabilities
  - Over half of special education students
- Term was coined in the 1960s
- Manifest as a specific processing deficits
  - Reading, writing, mathematics, listening, spelling
  - By far, the most common learning disability is with reading—dyslexia

Discrepancy Definition

- Students with Learning Disabilities Are Assumed to Have Normal Intelligence
  - Disability is specific (not general, as retardation)
  - Skill area must be around 2 standard deviations below general intelligence (IQ)
- Some Experts Take Issue with the Discrepancy Hypothesis and Requirement
Types of Learning Disabilities

- Dyslexia: Written Language
  - Pronounced difficulty in reading, writing, spelling
  - Often the product of poor phonological awareness: Inability to distinguish sounds or to perceive order of phonemes
- Dyscalculia: Arithmetic; Number Concepts
- Speaking Disorder: Pragmatic uses of language
- Presumed to Have Origin in a Brain Processing Deficit
- Are Learning Disabilities Oversubscribed?

Strategies for Students With Learning Disabilities

- Instruction Targeted To Deficit Areas
- Low-Level Skills in Reading
- Flexibility in Instruction and Assessment
  - More Time on Tests, Assignments
  - Permit Lectures to be Recorded
  - Oral administration of tests
- But Many LD Children are Pursuing Higher Education
  - Services available at many colleges and universities

Hearing Impairments

- Kinds of Hearing Loss
  - Peripheral: Ear or auditory nerve
  - Central: Brain
- Causes
  - Congenital (Genetic) only 4%
  - More often disease, trauma, excessive noise
- Age of Onset is Critical Factor
  - Earlier onset is more serious
  - Prelingual/Postlingual Onset
### Degrees of Hearing Loss

<table>
<thead>
<tr>
<th>Hearing Loss in Best Ear</th>
<th>Severity</th>
<th>Effect on Understanding and Producing Speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25 db</td>
<td>Insignificant</td>
<td>Insignificant</td>
</tr>
<tr>
<td>25-40 db</td>
<td>Mild</td>
<td>Difficulty with faint speech</td>
</tr>
<tr>
<td>40-60 db</td>
<td>Severe</td>
<td>Difficulty with normal speech</td>
</tr>
<tr>
<td>60-80 db</td>
<td>Moderate</td>
<td>Difficulty with loud speech</td>
</tr>
<tr>
<td>80+ db</td>
<td>Profound</td>
<td>Cannot understand speech</td>
</tr>
</tbody>
</table>

### Achievement Among Deaf Students

- School Achievement is Below Normal
  - In reading, especially, gap can be several years below expectations
- If Sign Language is Used, English is Often the Equivalent of a Second Language
- A Deaf Child Peer Group is Often Other Deaf Children
  - The deaf community is also most strongly an independent culture
  - Not all deaf people regard mainstreaming as desirable

### Strategies for Teaching Deaf Students

- Translator to sign for student
- Technologies
  - E-mail
  - Close captioning
  - TDD: Telecommunication Device for the Deaf
- Seating Close to Teacher
  - For hard of hearing students
- Use and Proper Care of Hearing Aids
Visual Impairments

• Legally Blind
  – Only 20 percent are totally blind
  – Acuity of 20/200 or worse, after correction
  – Or visual field of 20% or less
• Partially Sighted
  – Acuity of 20/70, better eyes, after correction

Causes of Visual Impairments

• Refractive (Light-Focusing) Disorders
  – Astigmatism
  – Myopia & hyperopia
• Muscle Disorders
• Receptive Disorders
  – Retinopathy of prematurity--excessive oxygen to newborn
  – Detached retina
  – Glaucoma--retinal nerve damage
  – Color blindness

Characteristics of Visually Impaired Students

• Lags in Academic Achievement
  – About two years behind sighted peers
  – Differences in experience (social/physical)
  – Common delays in social and language development
    • Inability to perceive social cues
    • Inability to read gestures, facial expressions
• Misconception: Greater Acuity in Unaffected Senses (e.g., sharper hearing)
Strategies for Teaching Students with Visual Impairments

- Large Type Books, Computer Screen
- Audio Recordings
- Braille
  - Derived from “night writing” by Louis Braille
- Scanner/Speech Synthesizer
- Mobility
  - Cane and guide dog
  - Clear information about physical layout
  - Barrier-free environment; ready access

Physical Disabilities and Health Disorders

- Traumatic Brain Injury
- Spinal Cord Injury
- Cerebral Palsy
- Spina Bifida
- AIDS
- Epilepsy
- Diabetes
- Child Abuse and Neglect
- Adolescent Pregnancy
- Suicide
- Drug Addiction

Giftedness

- One Form of Exceptionality
- But Not a Special Education Category
- Often Well-Adjusted
  - Contrary to Stereotypes
  - Except Possibly at Extremely High Ability
- Often Multiple Criteria Are Used to Identify
  - High IQ (e.g. IQ>125)
  - Very high achievement
  - Unusual creativity and talent
Approaches to Gifted Education

• Two Basic Approaches
  – Acceleration
    • Moving through the curriculum quickly
  – Enrichment
    • Greater exploration but not more advanced content

• Teaching Strategies:
  – Optimize level of structure: High ability students often thrive with less structure than is typical in schools
  – Use open-ended tasks/questions
  – Promote problem finding

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