

Maximizing Speech and Language Skills in Children and Adults with Down Syndrome



Professional Education Symposium
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Communication, Language and Speech

- A. Differences
- B. Examples from Daily Living



COMMUNICATION

- Is Holistic
- Can be powerful in affecting the environment
- May be unintentional or intentional



LANGUAGE

- Is a shared code
- Is an arbitrary code which uses symbols to represent real objects and events
- Has rules that specify how to use the code

LANGUAGE

- Is used intentionally or purposefully
- Is learned through social interaction
- May include gestures, signs, pictures, electronic device, and/or speech



SPEECH

- Is verbal language
- Is overlaid on other systems in the body
- Involves muscle programming, movement and coordination



Overview of presentation

- Communication Characteristics
- Applying Research to ELI
- Language Precursors
- Speech Precursors
- Family Based Early Communication
- Language Skills & Intervention in the Preschool Years

Overview

- Collaboration for School Success
- School-Based Language Skills
- Techniques for Success
- Transitioning to Adult Life
- Language Skills for Transitioning
- Preparing for Adult Life and Employment

Communication Characteristics

- Delayed development of expressive language
- Language below cognitive level
- Receptive-expressive language gap



**Communication Characteristics
(cont'd)**

- Asynchronous language development/skills
- Transitional communication usually needed
- Relative strength in vocabulary
- Relative strength in pragmatics
- Difficulty with morphosyntax

**Communication Characteristics
(cont'd)**

- Difficulty with hearing (fluid in ears)
- Poor auditory memory
- Difficulties with verbal short term memory
- Strong visual processing
- Strong visual memory

**Communication Characteristics
(cont'd)**

- Difficulty following verbal instructions
- Difficulty with sequential processing
- Need visual models
- Difference between abstract concepts in language and abstract concepts in technology

**Communication characteristics
(cont'd)**

- Usually require transitional communication system
- Relative strength in interpersonal language
- Difficulty with advanced pragmatics skills
- Difficulty with complex conversations

- Short MLU
- Short conversations
- Difficulty with staying on topic
- Difficulty with clarifications and repairs

- Difficulty with transitions from one activity to another
- Difficulty with changes in schedule
- Visual schedules can help

**Communication Characteristics
(cont'd)**

- Work well with routines
- Generalization difficulties
- Sensory processing issues
 - auditory and tactile directly affect speech and language

Speech Characteristics

- Reduced speech intelligibility
- Difficulty with oral motor skills
- Childhood apraxia of speech



Language Precursors

- Attention skills
- Auditory skills
- Tactile skills
- Imitation skills
- Motor skills
- An effective communication system at all ages

Basis for Interactive Communication Skills

- Communicative Intent
- Turn Taking
- Engaging
- Requesting
- Protesting
- Social Communication
- Home Activities



Prerequisite Skills for Language

- Attentional Skills
- Focusing
Lengthening



Visual Skills

- Visual Acuity
- Visual Integration
- Reciprocal Gaze/Eye Contact
- Referential/Shared Gaze
- Visual Attention
- Visual Tracking

Auditory Skills

- Hearing
- Auditory Attention
- Auditory Localization
- Auditory Processing
- Auditory Integration

- **Tactile Skills**
 - Tactile Defensiveness (Hypersensitivity)
 - Hyposensitivity
- **Imitation Skills**
 - Toy
 - Body
 - Oral Movements
 - Speech Sounds
 - Speech

Cognitive Skills

- Object permanence
- Cause and effect
- Means-end
- Referential communication

Multiple Intelligences (Gardner)

- Linguistic
- Logical/Mathematical
- Naturalist
- Musical
- Bodily/Kinesthetic
- Spatial
- Interpersonal
- Intrapersonal

Prerequisite Skills for Speech

- Respiratory Skills
- Feeding Skills
- Tactile Skills
- Imitation Skills
- Oral Motor Skills
- Sound Production Skills
- Home Activities

Transitional Communication Systems

- Total communication/Sign Language
- Communication Boards
- Picture Exchange Communication System (PECS)
- iPhone/Ipad touch syst.
- Assistive Listening Devices



Technology and Transitional Devices

- High Tech Electronic Communication Systems
- Communication Apps
- Use of Synthesized Speech

Augmentative/Alternative Communication

- **Augmentative:** Use of other methods of communication to enhance speech
- **Alternative:** Use of other methods of communication to replace speech
- **Aided** communication: Picture boards, communication books, electronic systems
- **Unaided** communication: Signs, gestures, facial expressions

Types of System

- **High tech:** Electronic
- Tape recorder with a switch; sophisticated computerized system



IPad and iPhone APPS



Low/Light Technology

- Nonelectronic
Picture board, communication notebook



Sign Language PECS

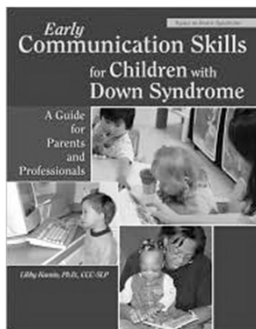


System Selection

- **Person using the system**
 - Sensory skills: auditory and visual
 - Motor skills
 - Language and cognitive skills
 - Motivation
- **System**
 - Durability
 - Portability
 - Acceptability
 - Ease of use
 - Physical and cognitive demands
- **Environment**
 - Temperature, moisture, lighting, etc.

Family & Teacher Participation

- Provide the information for the content to be included in the system
- AAC system needs to be available at all times in all environments
- Training for all regular communication partners is needed (peers, staff, educators, families)
- Maintenance/breakdowns need to be provided for



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