

Sandra M. Grether, Ph.D., CCC/SLP
Associate Professor, University of Cincinnati
Director of Speech Pathology, Cincinnati Children's Hospital Medical Center
Division of Developmental and Behavioral Pediatrics

sandra.grether@cchmc.org
513-636-8404

Information about the population

- Severe and profound retardation implies a slow rate of learning accompanied by a rapid rate of forgetting
- Most adults with SPMC (Severe/Profound Mental Challenges) have had limited experiences - "world knowledge" is limited
- Adults with SPMC can and do learn
- Intellectual functioning of individuals with MR, as well as their potential to learn new skills, increases as a result of their participation in more stimulating experiences and active involvement in their living and working environments
- Many are able to work, with support, in meaningful employment
- Many do not speak at all, or, are not understood
- Persons with SPMC often are provided with very few opportunities to communicate
- Caregivers can easily develop the belief that individuals who do not communicate in obvious ways have no desires or preferences
- Skill generalization and skill maintenance can not be assumed from one context to another. Instruction needs to occur in settings where behavior is expected
- This lack of generalization also makes it possible for persons with SPMC to learn to use different approaches for different circumstances without becoming confused.
- Behavior and communication problems are probably the most often cited reasons for segregating individuals with severe and profound mental retardation
- The geriatric population is increasing within this population bringing a combination of other issues

Case Study: Peter

- 20 years old
- Profound mental retardation – adaptive behavior estimated between 2 to 6 months – presymbolic
- Spastic quadriplegia cerebral palsy
- Seizure disorder
- Significant visual impairment – no glasses
- Nonambulatory – propels wheelchair in circles
- Attends MH class at local high school staffed by county MR/DD program
- Lives in 104 bed ICF-MR

Meet Peter

Monitoring

Request for Action

Protesting

Requesting Social Routines

Shutting Down

<i>Communicative Function</i>	<i>Does not communicate</i>	<i>Gestures/ Signs</i>	<i>Points to Object</i>	<i>Points to Picture</i>	<i>Vocalization</i>	<i>Verbalization</i>	<i>Speech Generating Device</i>
Requests objects							
Requests information							
Asks questions							
Answers <i>yes/no</i> questions							
Answers <i>wh</i> questions							
Social Exchanges (i.e. greetings, compliments)							
Protests (i.e. I don't want to.)							
Statements/ Stories (i.e. Talks about experiences.)							
Gives Feedback (i.e. It's too hard. I don't understand.)							

Equipment - a full range of options

• Speech	• Texture rings
• Gestures	• Remnant books
• Signs	• Calendar boxes
• Communication books	• Electronic devices
• Wallets	• Switches
• Mini-boards	• Environmental control units
• Wall boards	• Computers

Equipment - Desired Features

- Low symbolic load
- No or limited memory requirements
- Intelligible in targeted contexts
- Assists individual to accomplish tasks
- Portable, light weight, easy to transport
- Easily accessed and available
- Affordable
- Has setting specific vocabulary
- Easy to program

Messages

- Gestures, vocalizations, body language, and signs of persons with SPMC are often difficult to interpret
- Tangible symbols, graphic symbols, and speech output aids are successful
- Choose vocabulary AFTER direct observation of daily activities and arrange meaningfully for individual

Sample Functional Vocabulary

- Come here
- Leave me alone
- I like your shirt/pants
- You look nice
- Where is he/she?
- What's new?
- How are you?
- Will you talk to me?
- I want more.
- You're getting on my nerves.
- Can you take me?
- Go away
- Shh! Be quiet.
- Excuse me.
- Time to go.
- Happy Birthday
- I'm trying.
-

Light Tech - Environmental Displays

- Cue Board - step by step set of instructions to assist person to accomplish task
- Schedule/Calendar Box - Aids depicting the day's activities
 - Use tangible symbols for individuals with multisensory impairments

Light Tech - Individual Displays

- Wallets - symbols are placed in the wallet; multiple wallets can be utilized for different environments
- Janitor Key Chain - ring attached to a belt with a telephone loop cord with 1 or more symbols
- Fan displays - symbols fastened together with a rivet
- Remnant Books - photo album with peel back pages, put remnants of events on

each page to represent an activity; i.e.. Napkin from a restaurant; ticket from a bus or movie, grass from the park. Write something next to it. Good for sharing novel information about activities with communication partners.

High Tech

- Speech Output Devices
 - technology often raises partner's expectations and leads to more interaction and more validity ascribed to the interaction by caregivers
 - effect of the speech output on comprehension is being investigated
 - often are not useful in noisy environments or when "natural" modes of communication are effective

High Tech - what is being used?

Mostly digitized devices because individuals are generally not literate:

- Talara, Macaw 5 (Zygo Industries.)
- Tech/TALK; Tech/Speak (Amdi Inc.)
- MiniMO; MightyMO; M3 (DynaVox Technologies)
- Springboard Plus, Springboard Lite (Prentke Romich Co.)
- L*E*O (Assistive Technology)

A few synthesized devices have been used as well:

- Vantage/Vanguard (Prentke Romich Co.)
- MT4/DV4 (DynaVox Technologies)
- DynaVox V/V Max - visual scene capability
- MiniMerc/Mercury II- visual scenes (Assistive Technology)

Intervention

- Teach functional skills
- Teach in natural settings
- Teach communication as an embedded skill
- Involve natural communication partners
- Use aided language stimulation to teach receptive language skills
- Provide appropriate chronological age materials and activities (Remember storytelling.)
- Provide opportunities to practice skills in natural settings
- Consider light/visual cues rather than verbal

Role of Partners

- Partner - "one who joins in the activity of another"
- Facilitator - "one who makes it easier"
- Coach - "one who instructs or trains students"
- Advocate - "one who pleads another's cause or supports it"
- Interpreter - "one who explains or translates"

Quick and Easy Tips for Partners

- Pause and wait for partner to construct the message. Be patient. It might take awhile. (10 second rule)
- Don't feel you have to keep talking all the time. Relax and get into this slower rhythm of exchanging information.
- Give partner an opportunity to ask you questions or make comments.
- Don't finish sentences or words unless your partner gives you permission.
- Interact at eye level if at all possible. Grab a chair if partner is in a wheelchair. Pay attention to facial expressions and gestures.
- Don't look over your partner's shoulder.
- Be honest. If you don't understand - admit it. Ask for repetition/clarification.
- Talk directly to your partner not to a caregiver or significant other.
- If you understand the message, don't insist that your partner use their device. Accept whatever mode is used. Allow for a combination of modes if needed.

Staff Training

- Listen to what staff members say they want and/or don't want.
- Discuss what communication is.
- Show them how to create opportunities.
- Demonstrate how to interact with somebody who does not speak.
- Demonstrate how they can provide choices.
- Teach staff to respond to learners when they use augmentation, but not discount any of their attempts to communicate.
- Keep in mind that prompting strategies: verbal instructions, hints, models, cues, physical guiding are cues that may inhibit learning.

Dealing with "Excess Behaviors"

- Behaviors such as hitting, screaming, throwing, injuring oneself are "excess" or "challenging" behaviors
- Behaviors are communicative
- Once the intent is understood, alternative ways of communicating can decrease these "acting out" behaviors
- Need to teach efficient, adaptive, alternative or replacement behaviors across settings.

Identify Reinforcers

- Difficult to determine.
- "Food" is not always motivating.
- Institutionalized adults may not be interested in communicating basic needs – have an expectation that these needs will automatically be met for them.
- Swinging was found to be more effective reinforcer than food or praise in one study.
- Take the time to listen and learn from our clients.

Functional Communication Training (FCT)

- Designed to reduce challenging behavior (attention or escape) by teaching functionally equivalent communication skills
- Involves “both the assessment of the function of the challenging behavior and the teaching of a more appropriate form that serves the same function...” (Durand, 1990)

Essential Components - Response Success

- AAC behavior must be at least as successful as the challenging behavior in obtaining the desired response from others
- The communicative message(s) must “match” that/those of the challenging behavior(s)
- Conduct a functional assessment to identify the function of the behavior (behaviorist best suited - collaborate)

Essential Components - Response Recognizability

- Others (caregivers) must be able to easily recognize the AAC behavior in order to respond to it appropriately
- AAC modes must be maximally transparent to both familiar and unfamiliar communicative partners
- Instruction may need to include initial attention-getting prior to communication
- May need to teach appropriate attention getting to the child (I.e. tap on the shoulder)
- Select appropriate symbol and modality - one message Voice Output Communication Aid/Speech Generating Device, word cards, etc. work well

Essential Components - Response Acceptability

- Others (caregivers) must find the AAC behavior acceptable in order to respond to it
- Example: Child is taught to raise her hand for “Come and spend some time with me.” vs. “Can I help you?” (Durand et al. 1993)
- Example: Pay attention to me vs. “Am I doing good work?” (Durand & Carr, 1991)
- Involve caregivers & others in selection of specific message - make sure it “matches” the function!!!
- Look at both the context of the environment and the intended communication partner, then design message to fit with the function of the behavior

Essential Components - Response Efficiency

- New communicative behavior must be at least as “easy” to produce and as efficient as the challenging behavior
- Select an AAC mode that is easy to learn and use; provide effective instructional support during acquisition
- Physical effort
- Immediacy of reinforcement (when)
- Amount of reinforcement (how much)
- Density or schedule of reinforcement (how often)

Case Study - Ron (Durand, 1999)

- Age 9 1/2, diagnosis of autism and “severe mental retardation”
- spoke a few words out-of-context
- Very aggressive; hit teachers, other students, family members
- Variety of other intervention had failed (DRO (differential reinforcement of other behavior), time-out, restraint, etc.)

Ron - Assessment

- Functional assessment conducted to identify problem behaviors
- Appeared to be attention-motivated
 - Attention seeking - when come over and engage in negative behavior - partner attended to him - behavior increased
 - Escape motivated - something would be taken away if he engaged in the behavior - behavior increased
- Put in room with favorite toy placed out of his reach
 - If problem behavior would get it - tangible reinforcement
 - If in room alone, and behavior occurred - self-stimulation
- None of these resulted in the behavior increasing - only occurred when teacher was not attending to Ron

Ron - Intervention

- After consulting with teacher, Ron was provided with a VOCA that was programmed to make a request that would result in attention: “Would you help me with this?”
- Instruction (graduated guidance prompts and fading used) provided during regular classroom routines that were appropriate to the message being taught - attention provided when VOCA activated

Participation Planning

Educational Setting

- Public school
- General education Vs. Special education
- Least Restrictive environment
- Inclusion
- Response to Intervention (IDEA 2004)
 - Tier 1 Screening
 - Tier 2 Structured intervention in classroom
 - Tier 3 Comprehensive evaluation

Educational Barriers

- Logistical - time intensive nature of technology
- Financial - cost of devices and services
- Attitudinal - effects usage/equipment abandonment
- Knowledge - regarding AAC for evaluation, training, intervention - use of consultants

School Teams

- Who is involved in assessment decisions?
- Who provides the AAC expertise?
- Who refers? What referral process?

The Importance of the IEP

- IEP impact as a document
- AAC action plans
- AAC Participation Plans - integration with curriculum.
- AAC as supplementary aids and services - removal increases restriction
- Related services - provided in classroom environment.
- Ongoing assessment

Participation Plan

- Best Practice
- Functional outcomes
- Chronological age appropriate
- Instruction in natural settings
- Teaching communication as an embedded skill
- Training communication partners
- Collaborative approach to service delivery
- Integrated programming
- Student evaluation - in natural settings

PARTICIPATION PLAN FOR _____ 200__ TO 200__

<i>ACTIVITY</i>	<i>IEP GOALS</i>	<i>EXPECTATION OF TYPICAL STUDENT</i>	<i>EXPECTATION OF _____</i>	<i>ASSISTIVE TECH</i>		<i>STRATEGIES/SUPPORTS</i>				
				<i>LOW</i>	<i>HIGH</i>	<i>PEER</i>	<i>INSTRUCTIONAL AIDE</i>	<i>TEACHER</i>	<i>PARENTS/GUARDIANS</i>	<i>RESOURCE TEACHER/SLP/OT/PT</i>
HALL-WAY/ HOME ROOM/ OPENING ACTIVITIES - M - F TIME:										
CLASS: DAYS: TIME:										

<i>ACTIVITY</i>	<i>IEP GOALS</i>	<i>EXPECTATION OF TYPICAL STUDENT</i>	<i>EXPECTATION OF _____</i>	<i>LOW TECH</i>	<i>HIGH TECH</i>	<i>PEER</i>	<i>INSTRUCTION-AL AIDE TEACHER</i>	<i>PARENTS/GUARDIANS</i>	<i>RESOURCE TEACHER SLP/OT/PT</i>
LUNCH M - F TIME:									
CLASS: DAYS: TIME:									

<i>ACTIVITY</i>	<i>IEP GOALS</i>	<i>EXPECTATION OF TYPICAL STUDENT</i>	<i>EXPECTATION OF _____</i>	<i>LOW TECH</i>	<i>HIGH TECH</i>	<i>PEER</i>	<i>INSTRUCTION-AL AIDE TEACHER</i>	<i>PARENTS/GUARDIANS</i>	<i>RESOURCE TEACHER SLP/OT/PT</i>
CLASS: DAYS: TIME:									
HALL-WAY TIME BE-TWEEN ALL CLASSES									
DISMIS-SAL M - F TIME:									