


Promoting Communicative Competency in Children with Autism Spectrum Disorders and Intellectual Disabilities

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Why Communicative Competence?

- *The way we communicate with others and with ourselves ultimately determines the quality of our lives* (Anthony Robbins)



Why Communicative Competence?

- Self-determination, self advocacy, and independence requires a communicative repertoire



Why Communicative Competence?

- To be included and to develop relationships requires a communicative repertoire



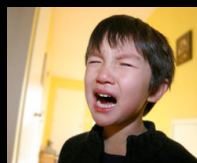
Why Communicative Competence?

- Acquiring new skills and demonstrating knowledge requires a communicative repertoire



Why Communicative Competence?

- Using socially appropriate means to control your environment requires a communicative repertoire



Barriers to Competence

- Blinding beliefs about Communication
 - Language/communication springs forth from the development of structures in the brain
 - Some individuals are too old to develop any substantial repertoire
 - Communication instruction is the job of a language specialist

Barriers to Competence

- Problems for Professionals
 - Limited training
 - Out dated ideas about multi-disciplinary approach
 - Ownership of the communication deficits
 - Limited skills-training others
 - Resources

Ok, What do we do now?

- Smash through the barriers



First Step

- Make a commitment to focus on communicative competence for every child in your classroom.
- Set Instructional targets for yourself



This is a good place to start?

- Take a minute and ask yourself.
- Can every student request a preferred item.
 - When it is in front of them
 - When it is not in sight
 - Across multiple partners and settings
 - When a communicative partner is 10 feet away
 - When asked "what do you want, which one, or which would you like"

A good place to start?

- Can every student request the termination of something unpleasant?
 - Across stimuli and partners
 - When the communicative partner is other than the person delivering the aversive?

Is this you?



Don't worry

- We can start today with some basic knowledge



The Big Picture: Be Intense!

- Programs must be intense, that is, students must be presented with hundreds of trials a day.
- That means you need help

100's of trials a day!

- The classroom teacher has to drive communication instruction with SLP support
- Paraprofessionals must be trained and required to recognize and respond to communicative attempts

100's of trials a day!

- Consider using a behavioral skills training (BST) model to get your staff on board
 - Write out a teaching program in observable teacher behaviors
 - Allow time to review the list
 - Answer questions
 - Model
 - Practice to high levels of fidelity

Accurate	Steps
	Present preferred item
	Wait 5 s
	If student says name of items, deliver immediately-Start next trial If no, deliver echoic prompt (state name of item)
	If the students says name of item, deliver immediately-Start next trial echoic prompt (state name of item)

The Big Picture: Mix it up

- Trials should be conducted in artificial and naturalistic settings



Mixed Approach

- Discrete trial sessions are required to ensure adequate practice
- But naturalistic sessions can promote generalization, put students in contact with natural reinforcers, and ensure responses are under appropriate stimulus control

Examples

- Teacher pauses before opening the door and prompts “open”
- Teacher sits across a table from a child who exchanges a picture card for a Gold fish cracker
- Parent places favorite toy on shelf and prompts child to ask for it.
- Teacher repeatedly asks student to label objects presented during 1:1 instruction

Be Systematic

- Apply teaching with surgical precision to instructional targets
- Evidence-based practices with high levels of fidelity and progress monitoring

General Research-based Approaches

- Discrete trial training
- Picture exchange communication training
- Scripting
- Pivotal Response training
- Incidental teaching
- Milieu teaching

Be Systematic

- Each instructional program must be evaluated continuously to ensure progress
- Data should be graphed



Be Systematic

- Used traditional graphing methods of daily performance

Be Systematic

- Also, consider graphing cumulative responses

Mand:

Probe procedure: Present with a preferred stimulus only and wait 5 s for response

Key "+" Independent Correct "X" no response/incorrect

After three consecutive corrects P2 -new communicative partner D- increased distance more than 5 feet

	8/10	8/11	8/12	8/13	8/16
Star	X	X	X	X	X
Doll	X	X	X	X	X
Rake	X	X	X	X	X
Blanket	X	X	X	X	X
Tickle	X	X	X	X	X

Develop a curriculum

- Though language certainly lives within the brain, it and its multiple functions can be observed and controlled by the environment
- These environmental variables are critical for designing curriculum



Context matters

- “Dog”, when you want to touch the dog
- “Dog”, we you see a dog
- “Dog?” when wanting to know if that is a dog
- “ Dog” vs. Dog
- “dog” answering the question what has four legs and goes “ruff”



Functional Approach

- So it might be helpful to consider language as behavior because we have a lot of research on methods for teaching behaviors
- Verbal behavior?

Key Communication skills

- Speaker behaviors(Expressive)
 - Requesting (Mand)/Commenting(Tact)/(Intraverbal Conversation/Echoics)
- Listener Behaviors (Receptive)
 - Following directions/identifying pictures
- Imitation skills (verbal/motor)

Complex curricular questions

- What do I teach first?
- How do I know he/she has the skill
- Where do I go next?



Selecting a curriculum

- Curriculum is key and cannot be operationalized in terms of general categories (e.g., expressive skills)
- Curriculum should address the performance of responses in the presence of relative environmental variables
 - Child says cookie, when he sees a cookie but also says cookie when he wants a cookie

Follow a Curriculum

- Most intervention teams will require the help of an established assessment tool
 - SCERTS model (Prizant, Wetherby, Rubin & Laurent, 2007)
 - Early Start Denver Model (Rogers & Dawson)
 - VB-MAPP (Sundberg)
 - ABLLS-R (Partington)

Today's Pick

- Verbal Behavior Milestones Assessment and Placement Program (VB-MAPP)
 - criterion-referenced assessment tool, curriculum guide, and skill tracking system that is designed for children with autism
 - based on B.F. Skinner's (1957) analysis of verbal behavior, established developmental milestones, and research from the field of behavior analysis.



Research?

- Esch, Lalonde, & Esch (2010) compared 28 commonly used assessments and determined that few assessments analyzed causal variables. 26 of 28 did not include mand assessment
- Gould, Dixon, Najdowski, Smith, & Tarbox (2011) compared 30 assessments, found VB-MAPP to meet 5 evaluative criteria

Reliability & Validity

- 97% Micheal, Miklos, Amiris DiPuglia, & Sundberg (In press)
- Validity for intraverbal section (Sundberg & Sundberg, 2011)

Administration

- In general, skills are presented in a developmental sequence
 - Milestones are balanced across 3 levels
 - Level 1: 0-18 mo.
 - Level 2: 18-30 mo.
 - Level 3: 30-48 mo.

The image shows a screenshot of the VB-MAPP Manual Scoring Form. It is a table with three main sections: Level 1 (0-18 months), Level 2 (18-30 months), and Level 3 (30-48 months). Each section has columns for different skill categories (e.g., Imitation, Vocabulary, Nonverbal, Verbal) and rows for scores. The form is partially filled with yellow and green cells, indicating scores for various skills.

Administration

- the VB-MAPP contains 5 components
 - Milestones
 - Barrier Assessment
 - Transition Assessment
 - Task analysis and Skills tracking
 - Placement and IEP goals

Individuals Assessed

- Targeted for young children but can be adapted for any age
 - Age-appropriate materials should be used.
- Can be used with students with a variety of expressive and receptive language disorders

Who can use the VB-MAPP

- Basic grasp of ABA, VB, and linguistic structures
 - MO, SD, Verbal operants, Prompting
- Familiar with the child
- Multiple people may be involved
- Time

Determining an Operant Level

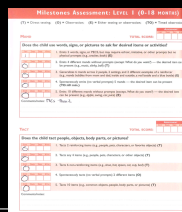
- The VB-MAPP is used to effectively and efficiently develop an intervention program
- You may score items that you are confident the child has in his repertoire without testing
- There are basically four methods of measurement

Milestones Assessment

- Contains 170 measureable learning and language milestones
 - Master form
 - Milestones Assessments
 - Levels 1,2,3,
 - Echoics assessment

Milestones Assessment Form

- Assesses general performance across skills
- Four administrations
- Found in protocol



Milestones Assessment Form

- Specific scoring guidelines are found in guide

Item:	Child is able to name several animals (e.g., dog, cat, horse, sheep, etc.)
Options:	10 items (e.g., dog, cat, horse, sheep, etc.)
Response:	Child names several animals (e.g., dog, cat, horse, sheep, etc.)
Item:	Child is able to name several colors (e.g., red, blue, yellow, green, etc.)
Options:	10 items (e.g., red, blue, yellow, green, etc.)
Response:	Child names several colors (e.g., red, blue, yellow, green, etc.)
Item:	Child is able to name several shapes (e.g., circle, square, triangle, etc.)
Options:	10 items (e.g., circle, square, triangle, etc.)
Response:	Child names several shapes (e.g., circle, square, triangle, etc.)

Task Analysis

- Helps to determine instructional targets
 - Is not a rigid scope and sequence


Task:	Child is able to name several colors (e.g., red, blue, yellow, green, etc.)
Options:	10 items (e.g., red, blue, yellow, green, etc.)
Response:	Child names several colors (e.g., red, blue, yellow, green, etc.)
Item:	Child is able to name several shapes (e.g., circle, square, triangle, etc.)
Options:	10 items (e.g., circle, square, triangle, etc.)
Response:	Child names several shapes (e.g., circle, square, triangle, etc.)

Getting Started:

- Selecting a response form
- Form is about what communication response looks like
 - Sign, vocal, picture based, problem behavior
- Function is the purpose it serves
 - Protest, request, access to attention



Selecting Forms



- All efforts should be made to teach vocal communication
- That being said, no student should be without a functional communication system
- Many students **will** require augmentative and alternative communication systems

Very Loose Recommendations

- Consider usability across settings and people
- Ensure expandability
- Select a system that will likely enhance vocal speech
- Consider teaching multiple forms

Very Loose Recommendations

Reichle, York, & Sigafoos (1991)

- If the student has Echoics and acquires mands and tacts fairly easily, consider speech as the primary mode
- If echoics (vocal imitation) are not forthcoming then consider AAC
- If fine motor skills are a problem then try an picture based system

Show me the data?

- Potter & Brown (1997)
 - Reviewed nine studies, 6 indicated TB to be more easily acquired
- Vignes (2007)
 - Six participants (3 with autism, 3 NT) mixed result but generally SB had better outcomes for persons with ASD
- Adkins & Axelrod
 - 1 child -SB better
- Tincani (2004)
 - 2 children mixed results but TB resulted in more vocalizations during training

Quick Review

- What considerations should be made when determining a response form to teach



Getting Started

- Communication instruction should be fun
- But what does this mean?



Communicative Climate

- Is rich with reinforcers
 - Determined as preferences through assessment
 - Highly valued
 - Accessed with minimal effort
- Is motivating
 - Motivation involves increasing the value of reinforcement for particular responses

Motivating?

- Motivation is not derived by the internal stuff of posters



MOTIVATION
It's not that I'm lazy, it's that I just don't care.

- It is controlled by the environment

Motivating Operation

- Increases or decreases the value of a reinforcer
- Micheal eats lunch before working on requesting food items
- Micheal is restricted access to the computer unless asks for it

Communicative Climate

- Kids know reinforcement is available
 - Adults are paired with reinforcement through multiple opportunities to respond
 - Adults and environment comes to signal the availability of reinforcement

Communicative Climate

- Generally instruction starts in a naturalistic context
- The goal is to quickly teach student to control their environment while pairing communicative partners with reinforcement
- Instruction starts with teaching the mand

Functional Definition of a Mand

- A response that is controlled by an establishing operation and names its reinforcer

- | | | |
|---------------------------|-----------------|----------------|
| Desire or motivation (EO) | Verbal behavior | Specific to EO |
|---------------------------|-----------------|----------------|

Mand is a fancy word for Request

- Requesting/Approach
 - Controlled by a state of deprivation (EO)
 - Often occur in typically developing children at 9 mo.
- Rejecting/avoid
 - Controlled by Aversive stimulation (EO)
 - Often occur in typically developing children at 8 mo.

Unconventional Mand

- Some children already use problem behavior and other alternative forms of communication to access and reject stimuli
- These responses may compete with the functionally equivalent responses you are trying to teach

Mand: Instructional Components

- Teacher observes EO is present
- Teacher prompts target responses
- Child responds
- Teacher immediately delivers reinforcement

Desire or motivation (EO) → Verbal behavior → Specific to EO

Prompt

Observes EO is present

- Capture Motivation
 - Observe Behavior indication- precursor behaviors to mands
 - E.g., looking at object, Moves to object
- Contrive Motivation
 - Engineering environmental events
 - Block access
 - Contrive thirst
 - Interrupted chain (Duker, Kraaykamp, & Vissar, 1994)

Prompt Correct Response

- Use errorless teaching procedures
 - Time delay
 - Most to least prompting
- Use a controlling prompt until the response is under control of the prompt before fading

Child responds

- Accept initial approximations
- Then use shaping strategies
- Avoid using generic responses
 - More
 - Eat
- When using signs teach signs that differ significantly in form



Immediately deliver reinforcement

- Specific to the response
- Reinforce prompted corrects
- Don't be stingy

What Mands to Teach First

- Reinforcers that are consumable
- Reinforcers that allow for short duration of contact
- Reinforcers that are easy to deliver
- Reinforcers that can be delivered on multiple occasions

What Mand to Teach First

- Select words that may be familiar to the child
- Select relatively short responses
- For signing students select words that are iconic
- Select salient items available in daily life

Sundberg & Partington, 1998

AAC and the Mand

- PECS
 - First established in 1994, by Lori Frost and Andy Bondy
 - Based on the principles of Applied Behavior Analysis
 - One of the most widely used communication interventions for autism
 - Considered an Evidence-Based Practice in ASD

Six Phases in PECS

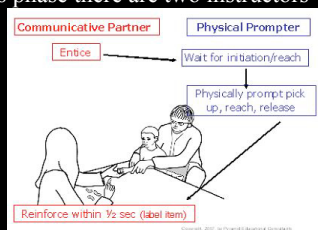
- Phase 1: Requesting an item
- Phase 2: Increasing persistence
- Phase 3: Discriminating between pictures
- Phase 4: Establishes simple sentence structure
- Phase 5: Teaching a child to respond to “what do you want” and attributes
- Phase 6: Commenting

Phase 1

- Essentially establishing a mand repertoire
- Target Instructional Sequence
 - Student picks up card
 - Reaches to Communicative Partner (CP)
 - Releases card

Phase 1

- In this phase there are two instructors



Phase 1

- Communicative Partner Role
 - Present preferred item in front of student
 - Wait for the student to respond
 - Do not open hand to receive card until student reaches (wrist grab technique)
 - Reinforce response immediately
 - Say the name of the item

Phase 1

- Prompter
 - Waits for student to initiate response
 - Use of graduated guidance
 - Fades physical assistance
 - Says nothing

Wait for it



Consider more complex systems

- What principle can you apply to AAC?
 - Two prompters
 - Easing into more complex discriminations



Where is the AAC device?

- Do not say “on the shelf”
- Do not say, “we lost the picture”
- Do not say, “the batteries are dead”

Consider using video modeling

- Preliminary data suggest that showing models prior to training may facilitate responding

■ Cihak, D. F., Smith, C. C., Cornett, A., & Coleman, M. B. (2012). The use of video modeling with the picture exchange communication system to increase independent communicative initiations in preschoolers with autism and developmental delays. *Focus on Autism and Other Developmental Disabilities*, 27(1), 3-11.

Expand the mand!

- Incidental teaching in 5 steps
 - First, allow child to interact naturally with environment
 - Second, observe child to identify requesting opportunities
 - Third, require child to make a request
 - Fourth, use shaping or teaching procedures to expand response
 - Five, provide desired item

Where do I go next: Listener Skills

- Often referred to as receptive language skills, involves responding to the language of others.
- Responses must come under control of specific speaker responses



Where do I go next: Listener Skills

- Listeners skills are taught early in a program. After a student has acquired a few mands, instruction on listener skills begin.
- Unfortunately, listener skills are often required in the presence of competing contingencies, "Stop doing that"

Listener Skills

- Children first must acquire the **capacity for sameness** (Engelmann & Carnine, 1991)
 - Attributes of sameness in non-vocal sounds and spoken words
- Discriminate between words and other sounds
- Discriminate between words and the complexity goes on.....

Teaching first commands

- First demands often help teacher's develop instructional control
- Teaching to sit
 - "Sit" serves as the SD, for sitting behavior
- Look at me
- Come here

Teaching first commands

Teaching "Wait"

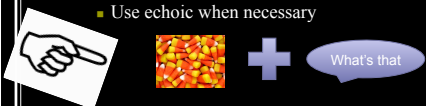
- Identify several reinforcers
- Present reinforcer, say "wait" and withhold for one second, then deliver reinforcer.
- Slowly increase response interval.

And next: The Tact

- A response under control of a nonverbal discriminative stimulus and produces generalized conditioned reinforcement
- A speaker names things, actions, and attributes within the immediate environment
- Expressive labeling/building blocks of language

Teaching Tacts

- Approach 1:
 - Starting with mands that are already learned
 - Use "what's that"
 - Use echoic when necessary
- Fade access direct access to item
 - Use picture, weaker EO



Teaching Tacts

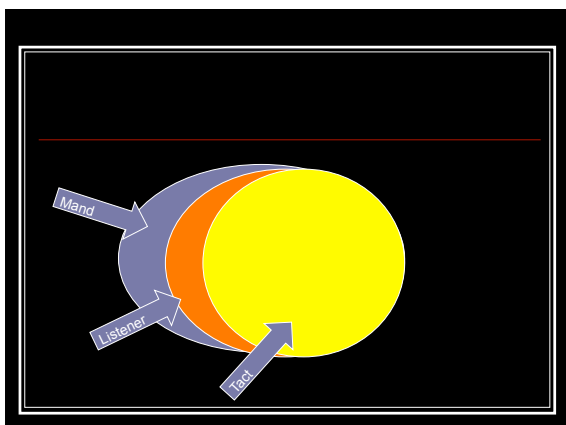
- Approach # 2
 - Train novel responses
 - Present verbal prompt "what is this/that"
 - Use echoic prompt
 - Use time delay procedures to fade the prompt

Selecting Novel Tacts

- Consider
 - Age appropriate relevance
 - Frequency of contact
 - Clarity
 - Ease of discrimination
 - Short

Tact and Listener skills

- Occur at the same time in typically developing children
- Tact and listener skills can be taught simultaneously and may have facilitative effects
- Teacher says, Touch Apple
 - Then says "what is it?"



More Complex responses

- Mand for information
- Intraverbal responses
 - Conversation
 - Answering questions

The screenshot shows the AVB Press website. The header includes the logo 'AVB Press' and the tagline 'Advancements in Verbal Behavior'. Below the header is a navigation menu with 'Home', 'Contact', 'About', 'Training', and 'FAQ'. The main content area features a banner for 'Assessment and intervention programs for individuals with autism or other special needs'. Below this are several product listings, including 'VB-MAPP Full Set', 'VB-MAPP Guide Only', 'VB-MAPP Pretest Manual', 'VB-MAPP Pretest CD-ROM', 'VB-MAPP App', 'VB-MAPP Guide Only', 'VB-MAPP Pretest Manual', 'VB-MAPP Pretest CD-ROM', and 'VB-MAPP Pretest App'. Each product listing includes a brief description and a 'View Details' button. The footer contains a Facebook link and a 'Welcome to AVB Press' message.

Resources to Help



<http://www.stimuluspublications.com/autism-big-book.html>

- http://www.amazon.com/Behavioral-Intervention-Young-Children-Autism/dp/0890796831/ref=sr_1_1?s=books&ie=UTF8&qid=1371481775&sr=1-1&keywords=maurice+autism



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