

AAC Use in Vanderbilt's Preschool for children With Autism

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What is PCA?

PCA = Preschool for Children with Autism

at the Vanderbilt Bill Wilkerson Center

- Intensive communication intervention program for very young children with a diagnosis of autism spectrum disorder
- Primary focus is developing functional communication skills
- Incorporates a variety of evidence based practices along with principles of Applied Behavioral Analysis

Progression of PCA

Opened in August 2014

- 2 Classrooms for children 18 to 36 months of age
- Each classroom led by Speech/Language Pathologist
- Speech and Hearing Technician in each classroom
- Began with 5 children
- 10 children by January

- 1 Classroom for children 3-5 years of age
- opened in September 2014
- Led by Speech/Language Pathologist
- Assisted by Special Educator
- Began with 5 children
- 6 children by January

- Collaboration with Bodfish Lab
- OT consultation in each classroom
- Pediatric Medical Resident rotation

Year 2: August 2015 - July 2016

- 2 Classrooms for children 18 to 36 months of age
- Led by Speech/Language Pathologist
- Speech and Hearing Technician in each classroom

- 1 Classroom for children 3-5 years of age
- Led by Speech/Language Pathologist
- Speech and Hearing Technician in each classroom

Year 2

What's New?

- Special Educator consults with each classroom
- Special Educator serves as Parent Liaison
- 4th Speech/Language Pathologist serves as "Float"
- Coordinator of Curriculum and Instruction
- AAC Liaison
- Collaboration with MLHS – 2 students
- Formal methods of meeting needs for Parent Education
- OT and Feeding Therapy available as "push-in"
- Research collaboration with Bodfish Lab
- Decreased hours



Year 3: August 2016 – July 2017

- 2 Classrooms for children 18 to 36 months of age
- Led by Speech/Language Pathologist
- Speech and Hearing Technician in each classroom
- 1 Classroom for children 3-5 years of age
- Led by Speech/Language Pathologist
- Speech and Hearing Technician in each classroom



Year 3

What's New?

- Increased collaboration with MLHS
- LAMP training for PCA staff
- Long-term loan of SGDs from PRC
- Purchase of low tech AAC via donated funds
- Coordinator of monthly Parent Education/PCA Café
- Director of Preschools at VBWC
- Parent Advocates/Social Workers
- Increased research collaboration with Bodfish lab



Year 4: August 2017 – Present

- 2 Classrooms for children 18 to 36 months of age
- Led by Speech/Language Pathologist
- Speech and Hearing Technician in each classroom
- 1 Classroom for children 3-5 years of age
- Led by Speech/Language Pathologist
- Speech and Hearing Technician in each classroom



Year 4

What's New?

- Piloting More Than Words program with parents
- Next Steps Vanderbilt students interning in classroom
- Formal medical resident training
- Increased use of outside resources in parent training
- Collaboration with community ABA providers
- SLP graduate student clinicians in classrooms
- Collaboration with Master's ASD Course



Occupational Therapy in PCA

- To increase a child's level of independence through participation in their occupations and activities of daily living.
- Preschool age (2-5)- Play, coloring, cutting, self-care skills, etc.
- School age (5+)- Play, handwriting, self-care skills, etc.



OT's role in PCA

- Consultative
 - Fine motor and visual motor support
 - Lead teachers
 - Students
 - Assistance to modify activities
 - Sensory support
 - Classroom suggestions
 - Child specific
- Direct occupational therapy services (Push in/Pull out)



Fine Motor Support

- Finger isolation
- Hand preference
- Grasp development
- Preschool skills
 - Coloring
 - Cutting
 - Manipulating toys (removing toys from container)
- Opening containers- Play dough etc
- Vertical surface
- Coloring on the floor



Finger Isolation

- Definition: Ability to move 1 finger individually
- Why is this important?
 - In order to activate a button on the device, develop a functional pencil grasp and refined hand skills, a child must be aware of and able to separately move each finger.
- Practice Strategies:
 - Finger counting, finger puppets, finger plays



Hand Preference/Dominance

- Naturally developing skill that should be solidified by 6.5 years of age
- Why is this important?
 - In order to fully develop FMC, a child must consistently use one hand to complete activities such as using a communication device
- Classroom Strategies:
 - Present objects at child's midline & allow them to choose
 - Encourage child to use same hand to complete entire activity
- When to consult OT...



Fine Motor Support

- Grasp development
- Preschool skills
 - Coloring
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Visual Motor Skills

- Visual Motor Integration: Integration of motor ability with visual perceptual ability
- Visual Scanning (Positioning)
- Matching
- Puzzles
- Imitating lines



Pre-Writing Skills

- Developmental Milestones:



- Why is this important?
 - Drawing lines & shapes help children learn strokes necessary for writing letters



What is Sensory Integration?

- "Sensory integration is the organization of sensation for use" (Ayres, 2005).
- The neural organization of sensory information for functional behavior (Parham & Mailloux, 2005).
- What do you sense right now?



The Seven Senses

- Gustatory/Taste
- Olfactory/Smell
- Visual/Sight
- Auditory/Sound
- Tactile/Touch
- Vestibular/Movement
- Proprioceptive/Body Position
- Interoception



Patterns of SI Dysfunction: Sensory Reactivity

Hyperreactivity

- Tactile:
 - Dislikes fabrics of clothing
 - Dislikes grooming
 - Pulls away from touch
- Vestibular:
 - Avoids play activities involving movement
 - Shows distress when head is tilted
- Visual:
 - Bothered by bright lights
- Auditory:
 - Avoids places with loud noises
 - Dislikes loud noises (ex: vacuum)
- Gustatory:
 - Polys water; gags easily with textures
- Olfactory:
 - Unable to tolerate variety of smells

Hyporeactivity

- Tactile:
 - High tolerance for pain/temperature
 - Doesn't notice when touched
- Vestibular:
 - Takes excessive risks during play
 - Seems not to notice when motion starts or stops
- Visual:
 - Walks into objects or people
- Auditory:
 - Appears not to hear what is said despite hearing being okay
- Gustatory:
 - Unaware of strong or aversive tastes
- Olfactory:
 - Lacks awareness of odor



Classroom Strategies:

- Allow movement breaks (playground, gym time, wagon rides)
- Assign "helper duties" to incorporate heavy work
 - PCA- push chairs back to the table, pick up carry toys
 - Classroom suggestions- wipe of boards, wash tables, move furniture, carry books
- Incorporate "heavy work" or movement into activities
 - Squeezing, pulling, pushing, lifting, carrying, playing
 - PCA- walks pushing the rainbow, riding the bike
- Provide a variety of tactile bins
- Allow for fidgets
 - Squeeze ball, koosh ball, velcro in pocket or under desk, pencil toppers, wiggle cushions
- Use weighted blankets/lap buddies while in circle or at desk
- Have a quiet corner with heavy pillows, blankets, bean bag chairs that a child can go to



Sensory Tool Box

Let's Fidget

- Pull tubes
- Sand/Dry Rice/Dry Bean Bins (hide toys)
- PlayDoh/Putty/Moon Sand
- Bubble Wrap
- Squizg
- Wind-up Toys

Let's Move

- Animal Walks
- Push in the chairs
- Carry a heavy box/bag
- Push down the wall
- Tug of War
- Bounce on a Ball
- GoNoodle



Direct occupational therapy services

- Push in
 - Work with individual students using their device in the classroom with input as needed from the lead
 - Utilize the device to assist with communication during self care activities such as dressing, brushing teeth, and toileting.
- Pull out
 - Students begin to take responsibility for carrying their device to and from the therapy session
 - The device is accessible to the student during the session and used throughout.
 - Carryover of modeling is provided as needed



Self-care and AAC

- Self feeding
- Dressing
- Toileting
- Washing hands



Progression of AAC in PCA Program



AAC – Year 1

- signs, gestures, pictures symbols, low-tech communication devices (big Mack, twin talker)



AAC – Year 2

- more low-tech devices, high-tech devices



AAC – Year 3

- Devices on long-term loan
- Added low tech devices (GoTalk Pocket, TwinTalker, GoTalk 6).



AAC – Year 4

- One additional iPad in each classroom with ChatWraps and AAC Apps (LAMP, Dynavox, TouchChat)



Progression of AAC in PCA

Case Studies



Ideas/Resources for Implementation



Implementation

1. Take inventory of the technology to which you have access
2. Assess how you can use this to best meet the child's need
3. *Imbed opportunities to use AAC throughout sessions*
4. Use resources online and in your area to expand use of AAC in your setting



Imbedding opportunities to use AAC

- Centers
- Snack
- Gross Motor
- Art
- Circle time
- Books
- Any Activity
- Support Staff
- Other clinicians/therapists



Regional AAC Resources



Online AAC Resources

- [Speaking of Speech](#)
- [PrAACtical AAC](#)

