

Preparing Learners with Complex Communication
Needs for Life after School:
Goals, Principles, and Strategies to Build Community

Cullowhee, 2018

David McNaughton
Penn State University



What do we want for adults?



Transition **Goals**

1. Have a safe place to live



2. Participate in meaningful activities

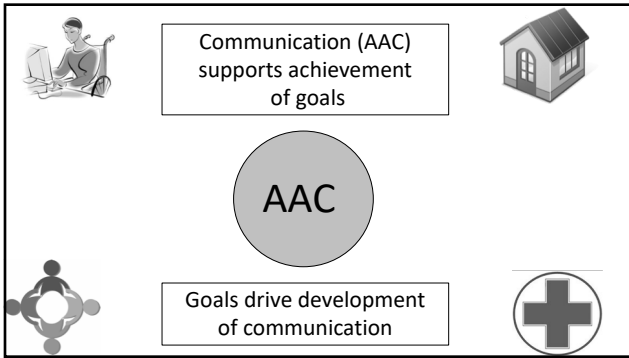


3. Access to services



4. Develop friendships and intimate relationships





**Preparing Learners with Complex Communication
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Goals, Principles, and Strategies to Build Community**

David McNaughton
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Plan for the future

- Visit the future
- Talk to someone who is already there
 - Success stories and challenges

Transition Goals

- 1. Have a safe place to live
- 2. Participate in meaningful activities
- 3. Advocate for services
- 4. Develop friendships and intimate relationships



Anne

Transition Goals



- 1. Have a safe place to live**
- 2. Participate in meaningful activities
- 3. Maintain a reliable source of income and access to services
- 4. Develop friendships and intimate relationships

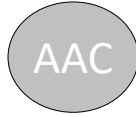


Personal Care Attendants



- No matter where someone lives, their quality of life depends to a great extent on the degree to which they can direct the services of the person who provides attendant care
 - 1. Direct care
 - 2. Give positive and constructive feedback
 - 3. Deal with conflicts and dangerous situations
- Barbara Collier, 2005

Documenting Service Routines



- Identify important contexts
 - Transfers, mealtimes, toileting
- Document Service Routine
 - Step-by-step description
 - Binders, pages on wall, programmed into devices
 - Photos
- Practice use in role-playing situations



Service Routine for Nail Care

(Collier et al., 2006)



- When cutting or cleaning my nails, it is important to know that my hand may clench. This is due to my spasticity. It does not help to ask me to relax or open my hand. I cannot control it.
- The best thing to do is
 - Gently pry open each finger
 - Hold each nail firmly when cut or clean the nail
 - Cut my nails short
 - File any jagged nails because I might scratch myself

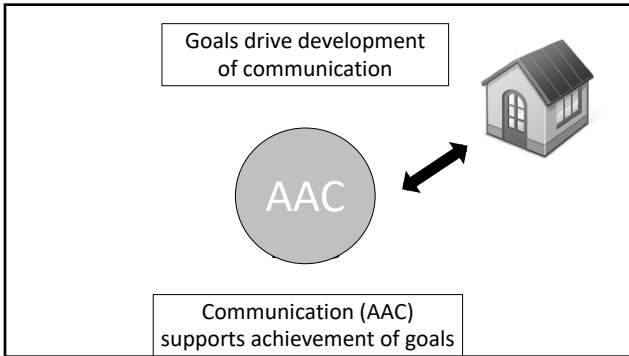
Teach Needed Strategies: Dealing with problem (Collier, 2007)



Use role plays to teach needed strategies

- Describe problem
 - *I have a problem with my nails*
- State significance
 - *It hurts when they have jagged edges*
- Communicate what needs to happen
 - *Please follow the service routine in my book*





Communication and Self-determination

AAC

Encourage children and young adults to

- Communicate what they want and how they want it done (**requires specific vocabulary**)
 - Give polite feedback
 - Problem solve
- Develop a sense of personal privacy
 - Say “no” when appropriate

Crime and Abuse
(Bryen, Carey & Frantz, 2003)

Survey of 40 adults who use AAC

- 45% have experienced crime or abuse
- 97% knew the perpetrators
- 71% victimized multiple times
- 28% reported abuse to police

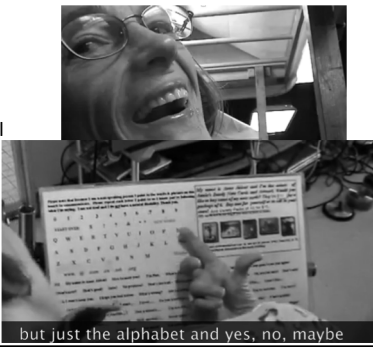
My Student:



Goal	Teaching opportunity
Introduce AAC system	<ul style="list-style-type: none"> peers without disabilities during group projects/ongoing activities restaurants, community trips
Document and teach service routines to others	<ul style="list-style-type: none"> classroom volunteers
Give polite feedback to staff, problem solve	<ul style="list-style-type: none"> "sabotage" opportunities (wrong coat) Communicate "no"

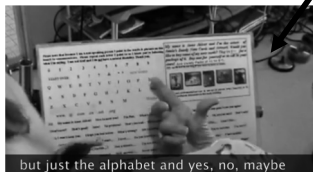
Transition Goals

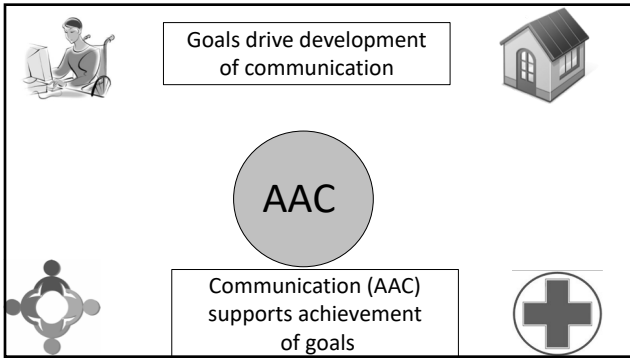
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2. Participate in meaningful activities
3. Advocate for services
4. Develop friendships and intimate relationships



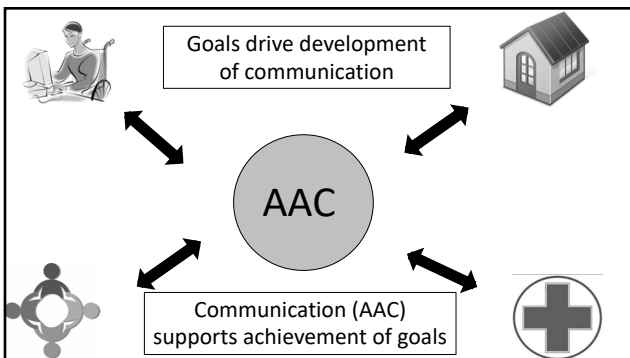
Expert communicators

- Need AAC systems that support communication about their **individual** interests
 - Literacy
 - Photos/videos





Coffee



Critical Principles in AAC Intervention

"Reach for the Stars":
Five Principles for the Next 25 Years of AAC
(Williams, Krezman, & McNaughton, 2008)

- 1) The time for **AAC** is now
- 2) One is never enough
- 3) My **AAC** must fit my life
- 4) **AAC** must support full participation in all aspects of 21st century life
- 5) Nothing about me without me

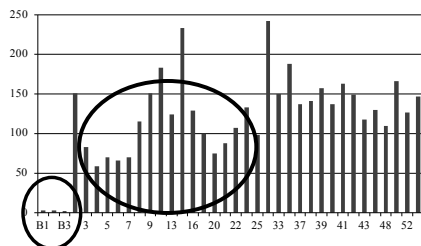


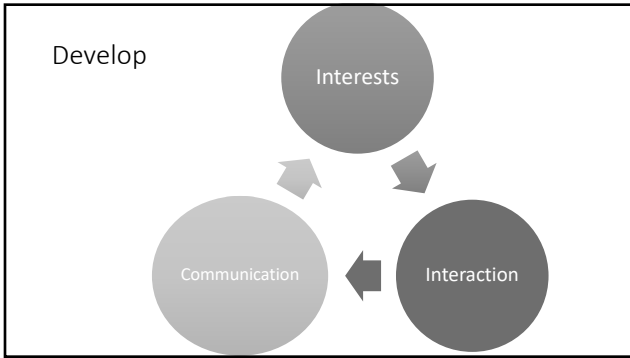
Principle #1: The time for **AAC** is now

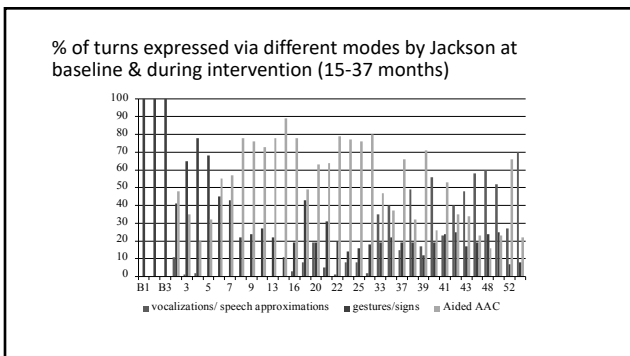
- **The Right to Communicate is a Basic Human Freedom**
- Less than 5% of adults with severe disabilities have access to appropriate AAC services

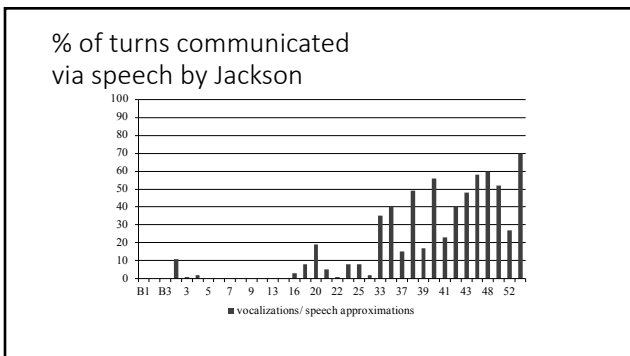


Frequency of turns expressed by Jackson at baseline & during intervention (15-37 months)







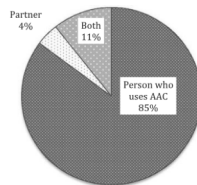


Jackson – 2 years 9 months

- Acquired >1,000 words
- Expresses 45-80 different concepts in 20 minutes of interaction
- Expresses wide range of semantic relations
 - agent, action, object, entity, attribute, adverbial, recurrence, locative, greetings, demonstrative, quantifier, question, affirmation, negation
- Typically uses single words
 - Increased use of 2-3 word combinations
- Navigates aided AAC system independently

Principle #2: One is never enough

- Individuals with complex communication needs require more than
 - One Device,
 - One Communication Partner,
 - One Communication Strategy,
 - One Communication Environment
- Too often we focus on supporting requests with familiar partners (if we focus on partner at all)



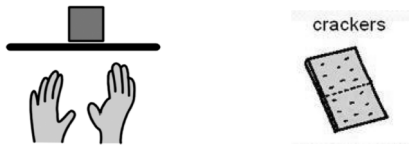
AAC intervention must include partners



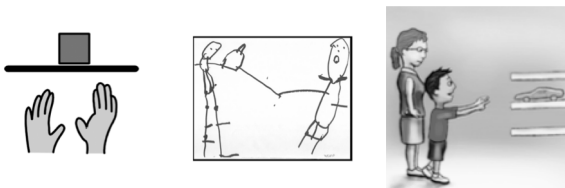
Principle #3: My AAC must fit my life

- AAC Systems Must Be Highly Individualized and Appropriate to Individual Needs
- Too often we focus on systems that are “easy” for us
 - We recommend what **we** know best
 - We provide the vocabulary **we** “think” they need
- Need to be easy for person who uses AAC!

Minimize learning demands for beginning communicators

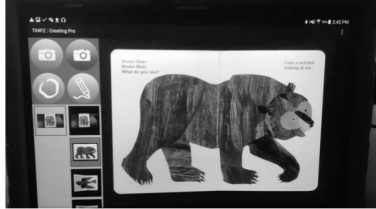


want




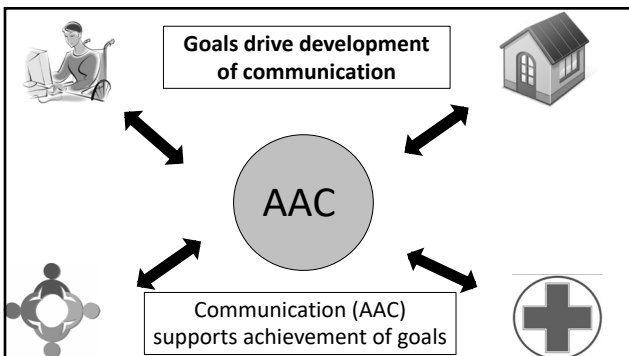
Strategies for Beginning Communicators

- Visual Scene Displays
- Video Visual Scene Displays



Principle #4: AAC must support full participation in all aspects of 21st century life

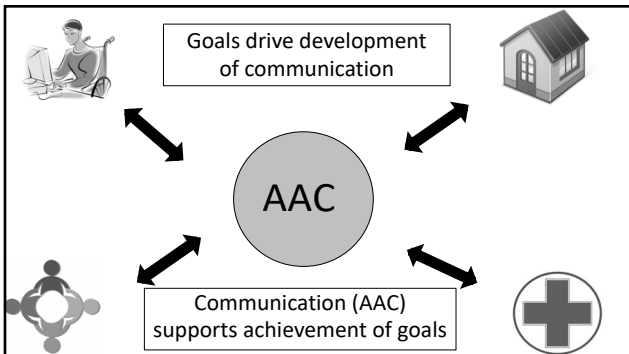
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3. Advocate for services 
4. Develop friendships and intimate relationships 



Principle #5: Nothing about me without me

- Individuals Who Use AAC Have a Right to be Meaningfully Involved in Every Aspect of AAC Research, Development, and Intervention

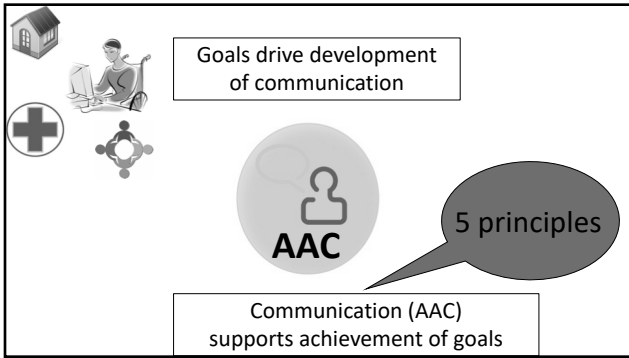




“Reach for the Stars”:
Five Principles for the Next 25 Years of AAC

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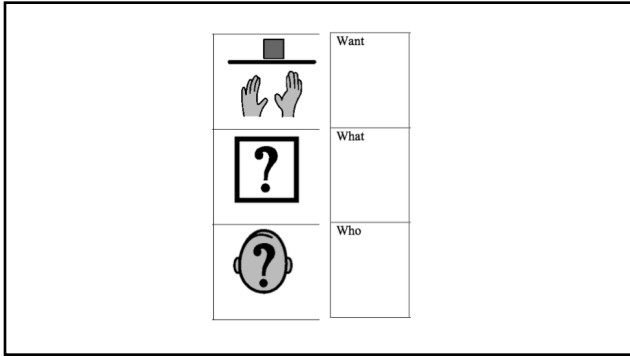
Transition Goals

1. Have a safe place to live
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3. Maintain a reliable source of income and access to services
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Fit my life, Full participation

Transition Goals

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What if we do the same thing for AAC?

Support for

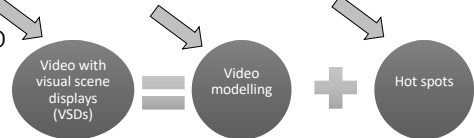
- Participation (learning a new skill)

AND

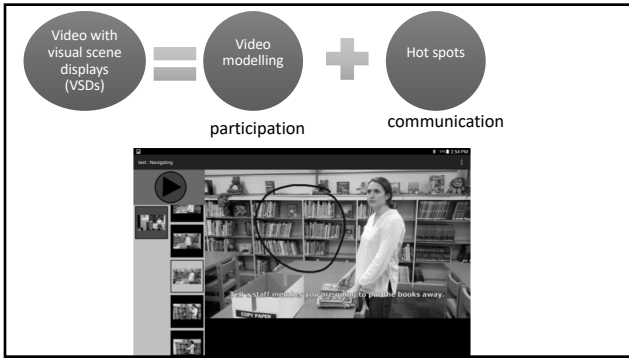
- Communication



Video VSD



- Automatic pausing of the video at key events provides opportunities for participation, and provides the necessary vocabulary within the VSD to fulfill the communication demands at that point.
- Video VSDs capture the dynamic routines within the learner's life (e.g., school, work, community activities) and cue the learner through the activities, one step at a time, fostering greater participation and communication



Robert

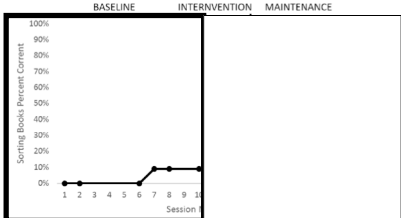
- 18 year old male with autism
- High school student
- No functional speech
 - A few signs – mostly yes/no, thank you
- Prompt dependent in activities
- Vocational training: Local elementary school library
 - Checking in books, putting away/sorting books, and making dye cuts

Task Analysis: Putting Books Away

1. Pick up the box of books
2. Bring the box to the table
3. Empty the books on to the table
4. Sort the books into piles based on categories
5. Pick up the books and take them to the bookshelves
6. Put the books in the correct place on the shelf
7. Return the box

Prompt dependent

Results: Putting Away Books/Sorting



Goals drive development of communication



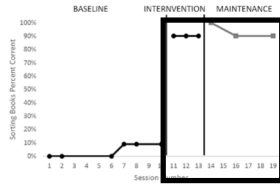
- My AAC must fit my life
 - easy to learn
- AAC must support full participation in 21st century life
 - Support learning new skills

Communication supports achievement of goals

Task Analysis: Putting Books Away

1. Ask to put the books away: **Can I put the books away?**
2. Pick up the box of books
3. Bring the box to the table
4. Empty the books on to the table
5. Sort the books into piles based on categories
6. Ask a staff member to check your work: **Can you check my work?**
7. Tell a staff member you are going to put the books away: **I'm going to put the books on the shelf**
8. Pick up the books and take them to the bookshelves
9. Put the books in the correct place on the shelf
10. Return the box
11. Tell a staff member you are finished: **I am finished putting the books away**

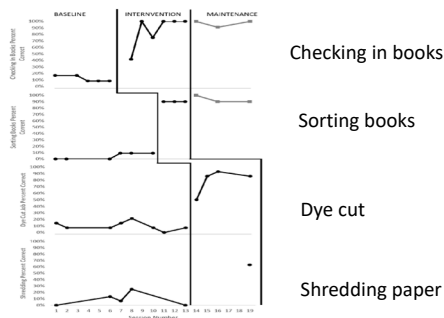
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Results



**“Reach for the Stars”:
Five Principles for the
Next 25 Years of AAC**



- (a) The time for **AAC** is now
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- (e) Nothing about me without me: Individuals who use AAC have a right to be meaningfully involved in every aspect of AAC research, development, and intervention


Visit future 


Sample future living environments

- LifeLink (State College, PA)
 - High school program
 - Students plan all week for a weekend “visit” to an apartment
 - Plan menu
 - Nutrition, math, meal preparation, transportation
 - Laundry
 - Recreation
 - Community living and problem solving

Tara


- Riding bus






Video visual scene displays (VSDs)

=



Video modelling

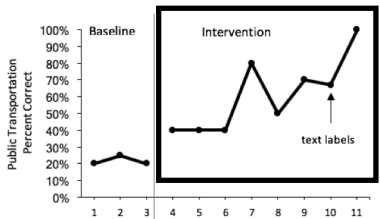
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Hot spots

participation
communication

% Steps correct in public transportation



•One is never enough: A different way of thinking about AAC



“Reach for the Stars”:
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Next 25 Years of AAC

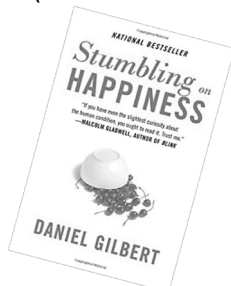
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Tracy Rackensperger

- For me, rather than specific services, succeeding in independent living was heavily influenced by being totally included in general education. This is where I learned to problem-solve. Being independent for me is about **problem solving and thinking outside-the-box.**

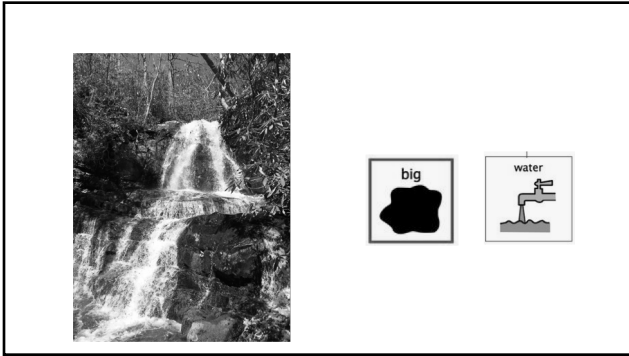


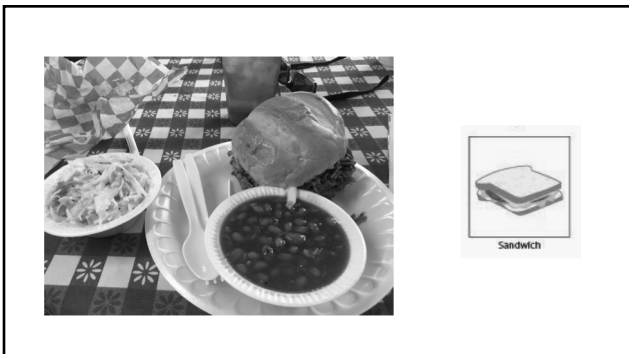
Happiness (and social closeness)



Happiness (and social closeness)







Communication should be fun!

- It should allow use to easily talk about what makes us interesting!



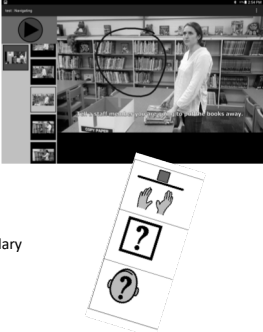
Visual Scene Displays (photos)

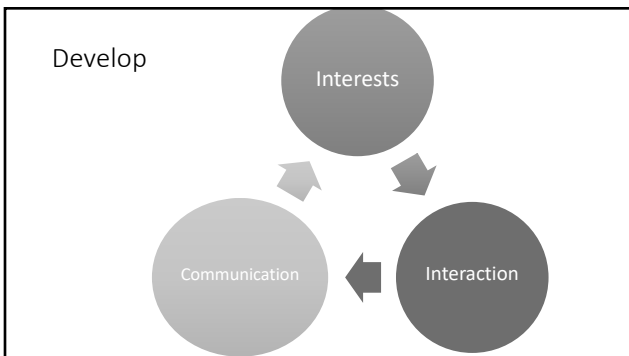
- Capture important activities in the life of an individual
- Add hotspots with speech (and text)
 - SnapScene,

Videos with Visual Scene Displays

- Videos with VSDs
 - Example: Library
 - GoVisual

- Rapid access to contextually supported vocabulary
- Easily expandable to capture interests of user
- Support sight word acquisition

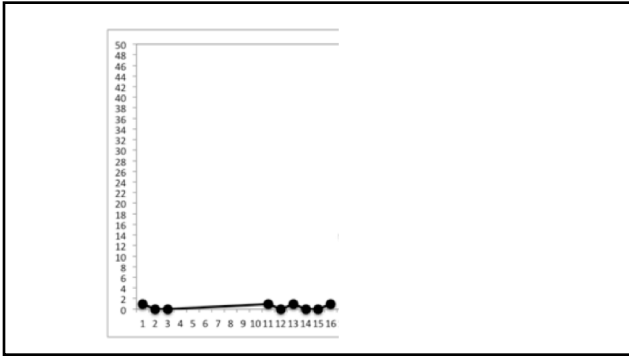


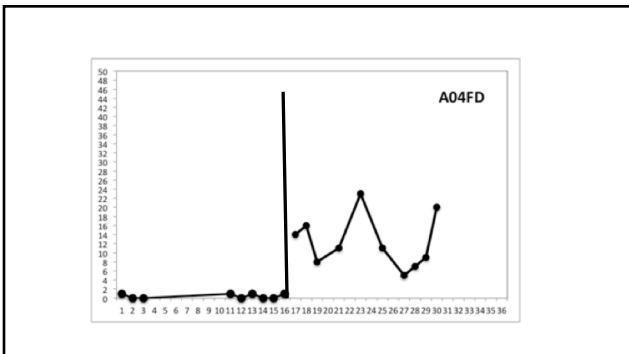


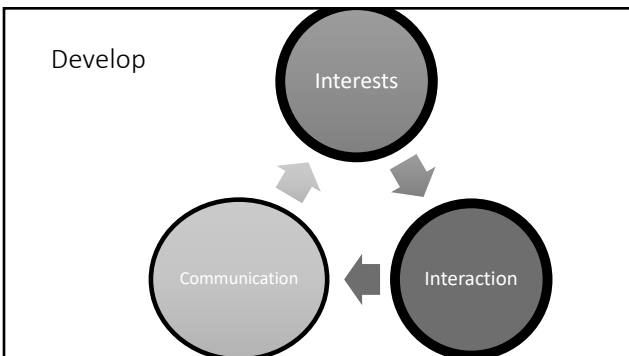
Beginning communication

Videos with Visual Scene Displays for
Beginning Communicators

Chapin, McNaughton, Light & McCoy







Use interests as jumping off point for literacy



Christine Holyfield

Teaching Sight Words Using VSDs: Tori

Christine Holyfield, Janice Light, & David McNaughton
Penn State University

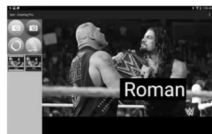




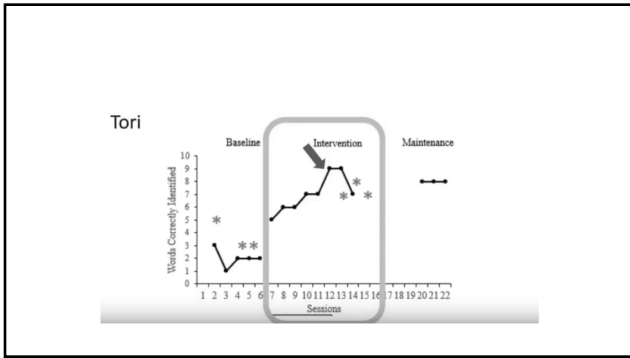
Christine - wrestling

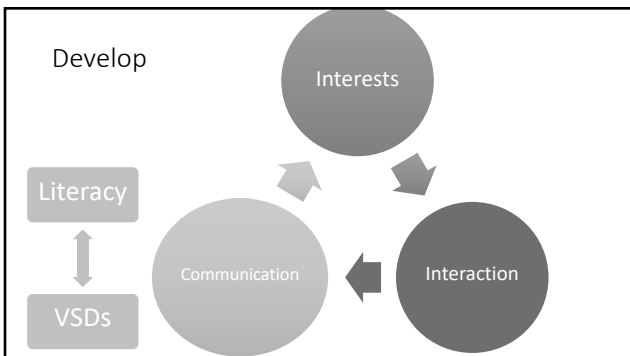
Intervention


- Visual Scene Display (VSD) software with Transition to Literacy (T2L) supports
- Instructor expanded on Tori's activations
 - 10 min interactions
- Two words introduced at a time



In the intervention phase, Tori engaged in conversation with the investigator using a







Effects of “Transition 2 Literacy” Software on the Sight Word Recognition Skills of Young Children with Developmental Delays

Suz Boyle
Salena Babb
David McNaughton
Janice Light
Pennsylvania State University

Participants

- Six dyads of preschoolers
 - One with developmental delay
 - One who is typically developing



What were we trying to teach?

- Sight word recognition
- Participants with developmental delays are asked to match a sight word to one of four pictures



Instruction: I Spy (with visual scene displays)



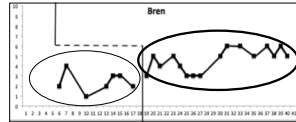
Where is the pig ?



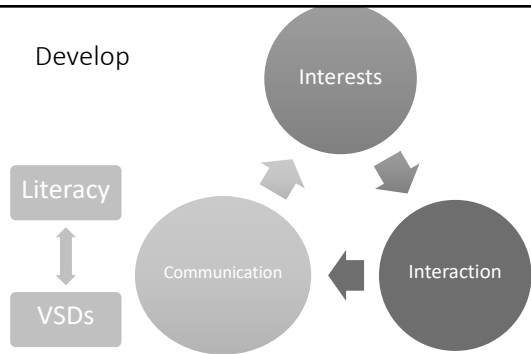
Where is the pig ?

Results

- All children with disabilities made gains
- All children without disabilities made gains
- All children enjoyed the activity and wanted to continue
- All teachers described the activity as appropriate



Develop





Transition to Literacy:
Dynamic Text in a Grid AAC App
During Storybook Reading

Jess Caron



Materials:
"Books"

- 3 custom books per participant
 - "I see"
 - "I want/like"
 - "Story"
- Books included:
 - Symbolstix representation for all 10 target words
 - Included characters and others topics of interest



Storybook Examples

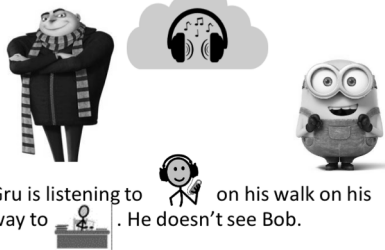


We still use grids sometimes, but we think about transition to literacy



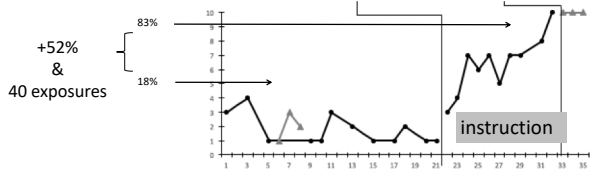


Cinderella likes to
with her  and 



Gru is listening to  on his walk on his way to . He doesn't see Bob.

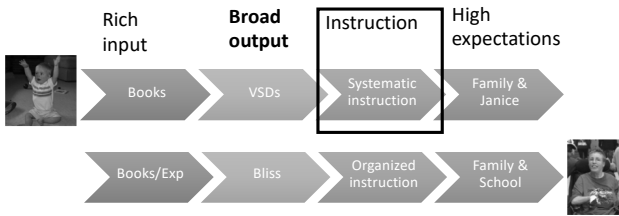
Results



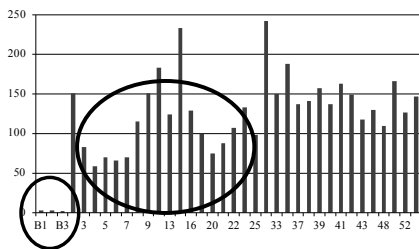
**“Reach for the Stars”:
Five Principles for the Next 25 Years of AAC**

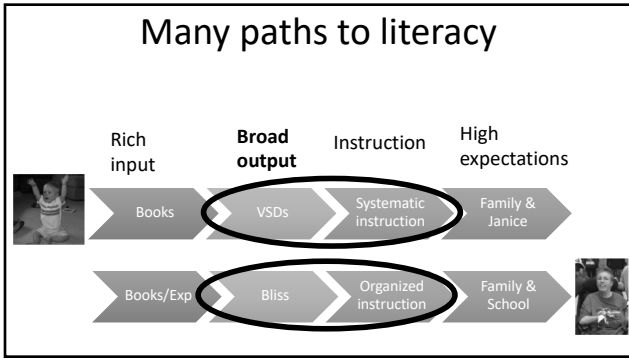
- (a) The time for **AAC** is now
- (b) One is never enough
- (c) My **AAC** must fit my life
 - Reflect my interests
 - Support and develop my skills
- (d) **AAC** must support full participation in all aspects of 21st century life
- (e) Nothing about me without me:

Many paths to literacy



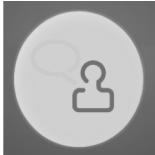
Frequency of turns expressed by Jackson at baseline & during intervention (15-37 months)





aacLiteracy.psu.edu
aac-learning-center.psu.edu

- Communication
- Self-Determination
 - Making choices and decisions
- What others think of him?
- What he thinks of himself?



“Reach for the Stars”: Five Principles for the Next 25 Years of AAC

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 - **literacy**
- (e) Nothing about me without me:

Self-expression,
 education,
 work,
 social media,
 self-image,
 societal impressions,

aacLiteracy.psu.edu
aac-learning-center.psu.edu

Transition Goals

1. Have a safe place to live
2. Participate in meaningful activities
- 3. Advocate for services**
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Medical Services (McNaughton, Balandin, Kennedy, & Sandmel, 2010)

Children	Adults
Parents coordinate care	Individuals are responsible for managing their own health care, including identifying service providers and advocating for needed services
Children's rehabilitation facilities often provide "one-stop" coordinated services	Individuals may need to interact with and coordinate information between: <ul style="list-style-type: none"> *general practitioners, *medical specialists and *habilitation / rehabilitation specialists
Government guarantees of health and rehabilitation services	Individuals need to be able to advocate for adult services

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Children	Adults
Parents coordinate care	Individuals are responsible for managing their own health care, including identifying service providers and advocating for needed services
Children's rehabilitation facilities often provide "one-stop" coordinated services	Individuals may need to interact with and coordinate information between <ul style="list-style-type: none"> • general practitioners, • medical specialists and • habilitation / rehabilitation specialists
Government guarantees of health and rehabilitation services	Individuals need to be able to advocate for adult services

What do doctors expect?



- Typical medical appointment : 20 minutes
- Time for patient to talk before being interrupted?
 - 23 seconds

Needed skills



1. Introduce oneself and one's communication system;
2. Use appropriate vocabulary and language to communicate concerns and needs;
3. Use appropriate communication strategies to ensure that previous health care and current health concerns are understood by the health professional.

Needed skills



• **Children**

- How AAC equipment should be set up and why it is important
 - Ask for AAC device
 - Make sure it is charged

• **Adolescents**

- Be familiar with names of medication, schedule
- Take leadership role in medical appointments, school meetings

My Student: Advocate for service.

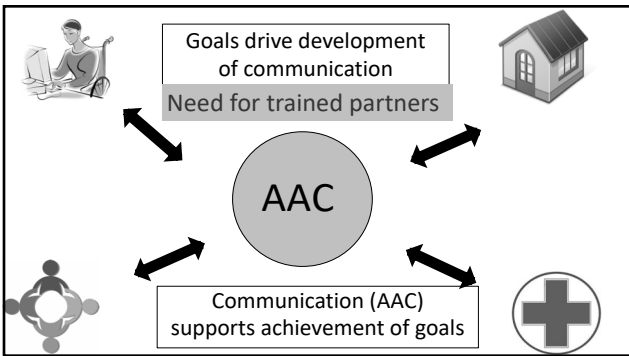
Goal	Teaching opportunity
Advocate for AAC	<ul style="list-style-type: none"> • “Ask” for AAC • “sabotage” • Direct charging schedule
Prepare for appointments	<ul style="list-style-type: none"> • Booking transportation • roleplay
Develop leadership skills in appointments	<ul style="list-style-type: none"> • “Speak for self” in appointment • roleplay


Transition Goals



1. Have a safe place to live
2. Participate in meaningful activities
3. Maintain a reliable source of income and access to services
4. **Develop friendships and intimate relationships**
 - Meaningful activities lead to friendship opportunities
 - Friendships lead to opportunities for meaningful activities







Effect of an AAC App-based Video Training on Peers' Accuracy Identifying Communicative Behaviors in Presymbolic Middle Schoolers with Multiple Disabilities

Christine Holyfield
Arkansas University
(Proud Penn State grad!)

- Symbolic language emerges through the “linguistic mapping” provided by communication partners (parents) in response to the child’s presymbolic communicative behavior .



The Problem

- Older pre-symbolic communicators interact with wide range of communication partners
- Inconsistent responsivity (including inconsistent linguistic mapping) can make symbolic communication much more difficult



What is the impact of

- a short, AAC app-based video training on participant’s:
 - accuracy in judging video clips documenting the behavior of presymbolic communicators, and
 - self-reported level of certainty when making those judgments.



Students with Multiple Disabilities

- Three middle-school students with multiple disabilities provided the communicative behavior serving as the content in the current study.



Students' Identified Communicative Behaviors

	Alyse	Van	Frankie
	Communicative Behavior #1		
Linguistic Map	"That's funny."	"Yes, I want it."	"I want it."
Operational Definition	<ul style="list-style-type: none"> • Smiles • Moves hand/arm 	<ul style="list-style-type: none"> • Moves head down • Hums 	<ul style="list-style-type: none"> • Extends arm toward person/object • Moves hand/fingers
	Communicative Behavior #2		
Linguistic Map	"I'm unhappy."	"Ball"	"I don't want it."
Operational Definition	<ul style="list-style-type: none"> • Moves eyebrows down and together • Moves hand/arm 	<ul style="list-style-type: none"> • Vocalizes a sound that starts with a "buh" 	<ul style="list-style-type: none"> • Extends arm with palm out to push person/object away

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Probes

- 18 unique clips showing the communicative and non-communicative behavior of the students with multiple disabilities.



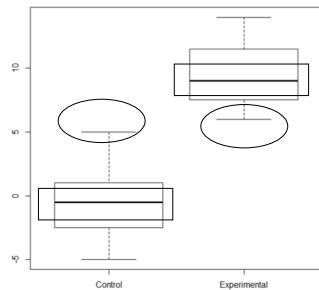
Video Training

- multiple clips of communicative and non-communicative behavior.
- videoVSD software (Jakobs, Invotek).
 - with hotspots.



Gain Scores

- Significant difference between control and experimental group



Students with Multiple Disabilities



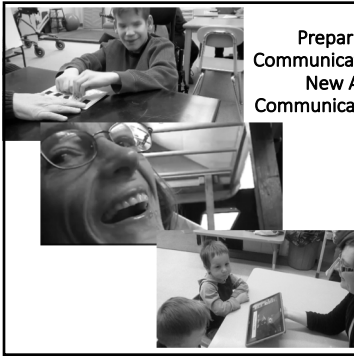
Transition Goals

- 1. Have a safe place to live 
- 2. Participate in meaningful activities 
- 3. Access to services 
- 4. Develop friendships and intimate relationships 

“Reach for the Stars”: Five Principles for the Next 25 Years of AAC

- (a) The time for **AAC** is now
- (b) One is never enough
- (c) My **AAC** must fit my life
- (d) **AAC** must support full participation in all aspects of 21st century life
- (e) Nothing about me without me:





**Preparing Learners with Complex
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New Approaches to Supporting
Communication and "Building Community"**

David McNaughton
Penn State University

aac.psu.edu
