

"Nobody is too anything..."
David Yoder

Children with Multiple Disabilities as Communicators, Writers & Readers

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Presenters

Karen Casey, MA, CCC-SLP, ATRC consultant
(Durham CDSA)

Assistive Technology Resource Centers of North
Carolina

Deaf-Blind Census Certification

Can contact Gretchen Hanser with any questions:
gretchen_hanser@med.unc.edu

What is this?

- There is a state Deaf-Blind Project that keeps a census of all students (birth through 22) who have deaf-blindness in NC. All states have a DB project and receive federal money to support these students. Chris Jones is the NC DB Project director. You can contact him at: CJONES@dpi.state.nc.us

Who can be on this census?

- Students need to have a dual sensory impairment-a vision impairment AND a hearing impairment. There can be a range of the severity of the impairments--**students DO NOT have to be completely deaf and blind** like Helen Keller to be on the DB census.

Why should students be on the census?

- Being on the census entitles students, their families, their educators and other caregivers to free training, resources and outreach services. There is an annual DB Summer Conference. It is free for those who work with students who are deaf-blind. It's a great conference--families bring their kids. There is onsite day care support. This year's conference is on June 20-24th in Greensboro.

Deaf-Blind Census Certification

How do I get my student on the census?

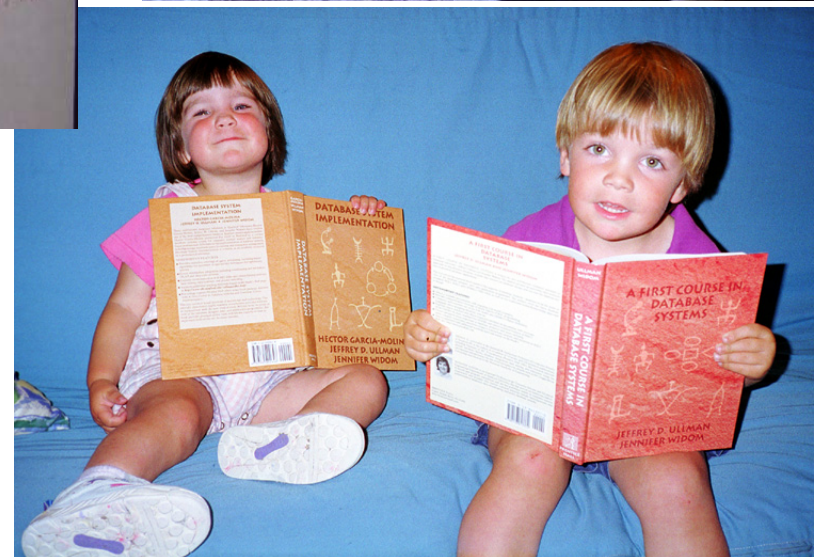
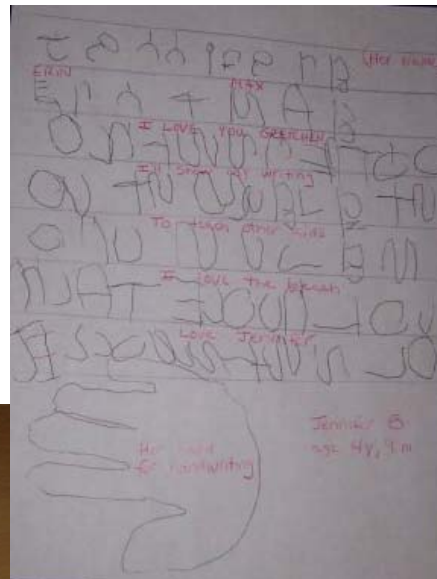
- Two forms need to be completed: the DB Certification form and the Student Contact Information form. Documentation of a vision impairment and a hearing impairment will need to be submitted along with the forms. One piece of documentation is needed for each impairment. The documentation can be done with reports from an eye doctor, audiologist, VI teacher, related service provider, and/or teacher. If needed, one of the impairments can be documented with an informal observational assessments as many kids are difficult to formally test. The forms and documentation should be submitted to Chris Jones at CJONES@dpi.state.nc.us
- Alana Zambone Ph.D at ECU in Greenville is an excellent resource to assist with certifying students. ZAMBONEA@ecu.edu
- The DB certification and the Student Contact forms can be downloaded from: www.med.unc.edu/ahs/clds/DBhomepage.htm

Agenda

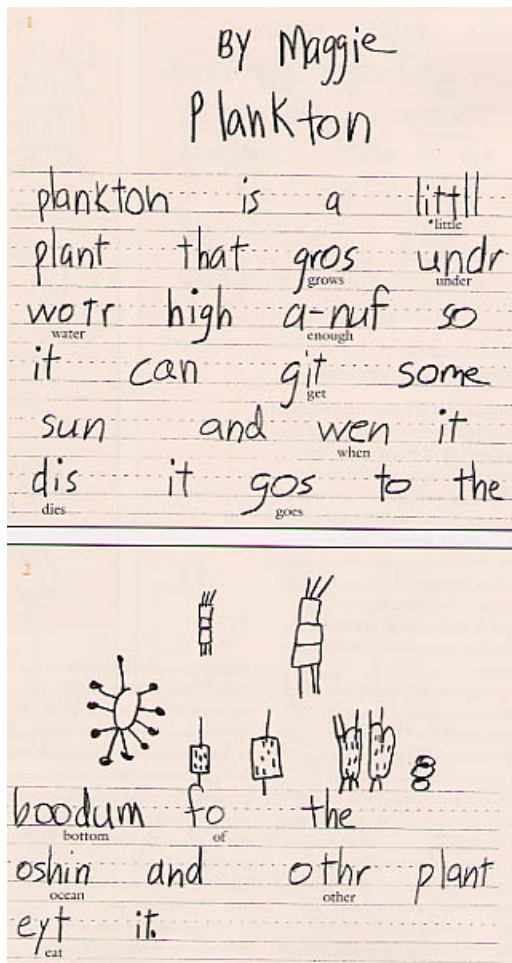
- Who We are Talking About and Why they are ready now for multi faceted intervention
- Early language and literacy development
- Specific strategies for communication, writing & reading integrated with positioning, motor and vision needs

Emergent Literacy:

All of the **CRITICAL** literacy learning that occurs **BEFORE** the elementary years



All of These Experiences Lead to the Development of Successful Conventional Writers & Readers



QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Who Are We Talking About: Our Kids!



*After 2-3 Years of Good Emergent Literacy
Experiences...*
Moving to Conventional Literacy Instruction



Nobody is "too anything" to
benefit from...
meaningful opportunities to
communicate, play, read and
write.

Myths & Realities of AAC Use

(Ronski & Sevcik, 2005)

- Myth 1: AAC is a last resort
- Myth 2: AAC hinders speech
- Myth 3: Have to have a certain set of skills
- Myth 4: Have to have intact cognitive skills
 - ASHA Statement: NO Cognitive Referencing
 - www.asha.org/members/slp/schools/prof-consult/cog-ref.htm
- Myth 5: Have to be at a certain age to benefit from AAC
- Myth 6: There is a hierarchy of symbol use

Oral and Written Language Development



Speaking/AAC:

Knowledge of narratives;
vocabulary

Reading: letter
name and letter-sound
knowledge, beginning
decoding; emergent
reading

Writing: early
preconventional/
developmental
spelling

Listening: comprehension,
phonological & syntactic
awareness

All 4 modes of communicating develop together and
help one another to develop through out a life time



National Early Literacy Panel (NELP)

Found Three Highly-Significant
Predictors:

- Oral Language/AAC
- Alphabetic Code/Phonological Awareness
- Print Knowledge/Concepts

NIEER.ORG

“Oral/AAC language is:
the foundation for literacy
development, a strong predictor
of later reading achievement
because of its relationship to
reading comprehension”

(Strickland & Riley-Ayers, 2006)

Considerations for Our Kids...

"Consistently Inconsistent"

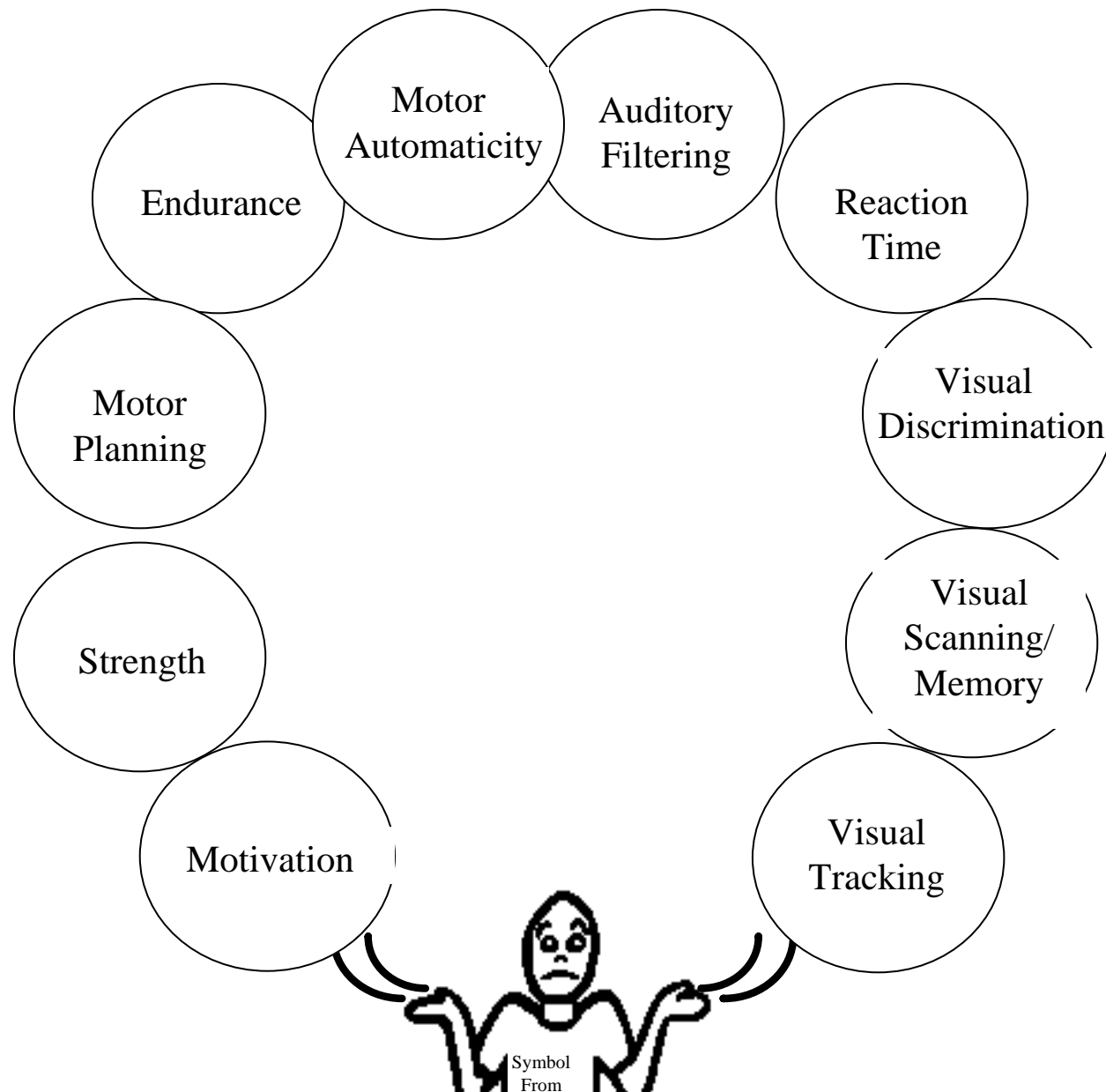
- Motor Challenges & Fluctuating Tone
- Positioning Needs Vary
- Access Needs Vary
- Vision Impairments & Cortical Vision
Impairment: "inconsistently looks", "eye gaze too quick", "too distractible"
- The goal is NOT consistency

Juggling the Motor, Language and Cognitive Demands

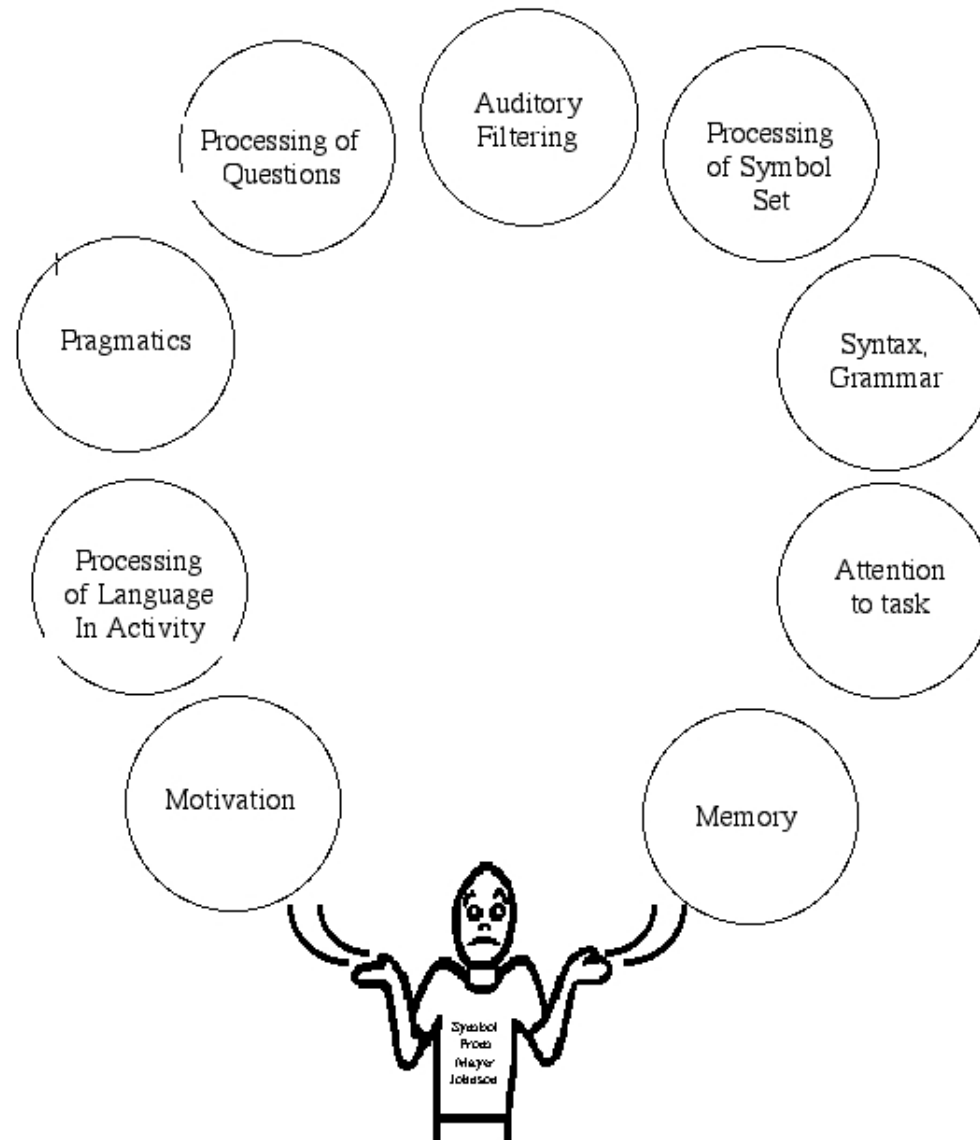
- Can't wait for motor, vision, hearing... to all develop together.
- Overwhelming to work on all of them at the same time!
- Work on individual components in parallel. Give opportunities where only one component is cognitively challenging them at a time.

Juggling the Sensorimotor Demands of Switch Use

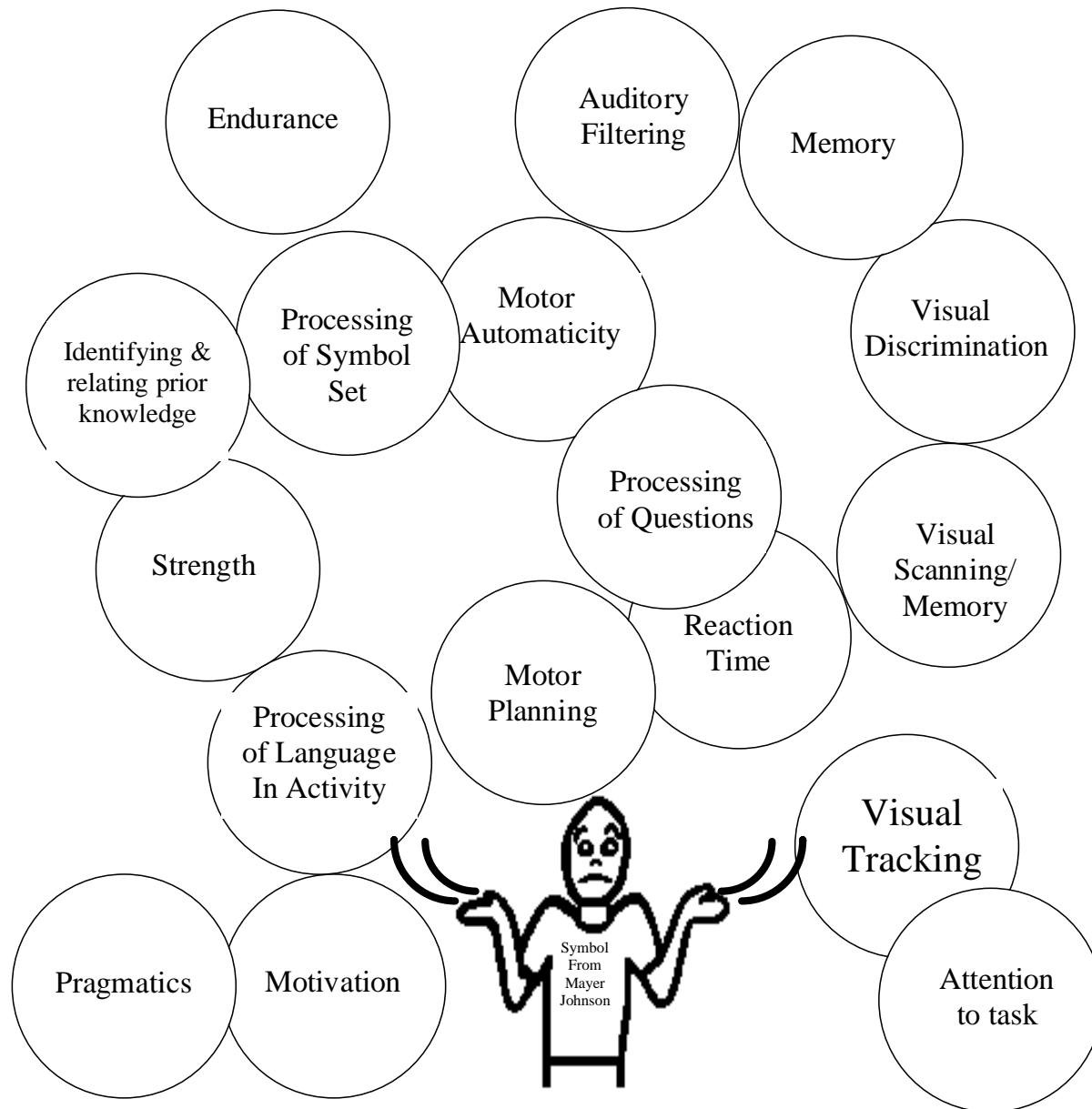
(Hanser, 2001)



Juggling the Language Demands (Hanser, 2001)



What happens when a new switch user tries to JUGGLE it all at once?



When Looking for Motor Movements: Be Clear on the Goal of Using Switches

- Be cautious about combining the demands of "therapeutic rehab goals" and "communication goals"
- May lead to student trying to work on too many skills at the same time.

Examples of what NOT to do:

- Don't work on communication and head control at the same time
- Don't work on fine motor pointing skills and communication at the same time
- Communication is already hard enough--we don't need to make it harder!

Do what comes naturally!



Sam:
Now That's Using Your Head!!

Looking for Switch Access

- Find movements that are EASIEST for the individual OR movements that they have the POTENTIAL to learn: Look at head, hand and then leg.
- Consider child's position
- Try positioning switches in vertical planes: avoid gravity assisted scanning.
- Make sure switch offers enough feedback.
- Use switch mounts so you can sit back and observe.
- Give the individual low pressure, ongoing opportunities.
- Include the child in decision making.

Cortical Visual Impairment

Shirley Hand

TVI

Governor Morehead Preschool

What is CVI?

- Cortical Visual Impairment is a temporary or permanent visual impairment caused by the disturbance of the posterior visual pathways and/or the occipital lobes of the brain.

What Causes CVI?

- The major causes are: lack of oxygen, prenatal lack of oxygen, head injury, developmental brain defects, hydrocephalus, and infections of the central nervous system, i.e. meningitis or encephalitis.
- **Important!!!!** The eyes themselves are usually normal. It is the brain that has the problem in perceiving what the eye sees.

What are the characteristics of children with CVI?

- Usually a “normal” eye exam
- Color: objects viewed are generally a single color
- Movement: objects viewed generally have movement or reflective properties
- Latency: Prolonged periods of visual latency-child takes a long time to look at something new or unfamiliar

CVI characteristics continued:

- Visual Fields: Child usually shows a preference for one visual field or another
- Complexity: Child usually responds visually only in strictly controlled environments
- Light gazing/non-purposeful gaze
- Distance Viewing: Usually attends in near space only
- Visual Reflexive Responses: Child does not blink to touch or visual threat

Characteristics Continued

- Visual Novelty: Only favorite or known objects gain visual attention
- Visual Motor: Look and touch occur as separate functions.

(Dr. Christine Roman)

How can we help?

- Reduce "visual clutter"
- When introducing new objects, show them against an uncluttered background with good contrast
- Don't talk to the child when she/he is busy looking. The child will attend to your voice and not look at the toy or object. When the child has stopped looking, then reinforce by saying, "you saw the toy, object, light, whatever"
- Make sure the child is positioned comfortably. It is very hard to look and try to maintain a position at the same time.

How can we help? Cont.

- Choose objects that the child can interact with. Objects meant just for viewing are not as interesting.
- Use the lightbox to gain visual attention. Put the lightbox on the wheelchair or stander tray. Use a variety of objects such as slinkies, scarves, translucent blocks, etc. **Remember, don't talk to the child if he/she is looking at the object.**
- Once the child seems to be visually alert, remove the light box and place other objects in front of the child and spotlight the object with a flashlight. See if the child will look at it.
- Do these activities several times during the day.

Functional intervention strategies

- (American Printing House for the Blind website APH.org, has a CVI site from which many of these strategies have been taken.)
- We don't just use our vision on occasion. We are always using our vision along with our other senses for our daily routines. The best way to help a child learn to use his or her vision is provide opportunities throughout the day during feeding, toileting, circle time, free play time, therapy, etc.
- FEEDING: Avoid just putting the spoon in the child's mouth. See if you can alert the child to the spoon by moving it first at the side of the child's eyes, then slowly bringing it around to the front. Tell them when mouthful is coming.
- If the child has his/her own cup or bottle, try placing some reflective tape around it.

Functional intervention strategies, continued

- Bathroom- Use an unbreakable mirror over the changing table.
- Dressing- Allow the child to see the clothing as you put it on. Name the different items.
- Table time- Use defined spaces as often as possible. Again, reducing visual clutter when showing new objects is very important.

Goals for Communication *may* be different from those of vision specialist

- Primary goal is creating and expanding communication opportunities, not increased use of vision.
- (paraphrased from Linda Burkhart, CVI and Complex Communication Needs: Characteristics and AAC Strategies, 2008)

Sam Using Partner Assisted Scanning to Pick a Song Verse

QuickTime™ and a
H.263 decompressor
are needed to see this picture.

Partner Assisted Scanning

- How to get to *communication* when can't talk, can't direct select or reliably control switches, perhaps can't see!
- "Presenting vocabulary that doesn't disappear and can be built upon".
- "Vocabulary presented in systematic way so child can learn the pattern & predict what is coming". Consistency of vocabulary presentation
- "Communication is co-constructed and both child and partner participate!" (Burkhart)

Partner Assisted Scanning

- The communication partner verbally and sequentially presents choices with a 3 to 5 second delay between each one for selection.
- May be visual, auditory, visual plus auditory, tactual, signed.
- When the person hears the cue representing desired choice, he or she signals in some way using a consistent vocalization, movement or simple voice output.
- The partner confirms the selection.. "you want...."
- Always have a way to say "I don't want those choices".

Partner Assisted Scanning

- No tech (without a communication aid)
- Light tech (with single or multiple level communication aids)
- High tech (sophisticated electronic devices)

"Smart Partner" vs Technology:
Human partner can observe and
problem solve to assist communication
process unlike computer.

(G. Porter and L. Burkhart)

Partner Assisted Scanning

- Communication success and language development is not dependent on having good vision that day or symbol recognition or good motor skills and can begin NOW
- Can expand language beyond simple choices

No Prerequisites for Symbol Use: No Waiting Required!!

- Not knowing abilities does not mean not giving access to materials!
- Symbol hierarchy

Glennen and DeCoste, 1997

Handbook of Augmentative and Alternative Communication

- “The Hierarchy should **not imply that AAC communicators must move through the hierarchy** as they use AAC techniques. *Multiple symbol types* are frequently employed in AAC systems. The selection of specific symbols is an individual decision based on the characteristics of the communicator and the various communication environments encountered.”

Partner Assisted Scanning

- Scanning Frame: A square frame made of sturdy board is mounted on popsicle stick. The frame is moved in front of the choices while partner says the choices. The user makes a selection while frame is on choice.

QuickTime™ and a
decompressor
are needed to see this picture.

Partner Assisted Scanning

- Light Tech: the communication partner verbally presents the choices with 3 to 5 second delay between each one.
- The user activates a voice output system (e.g. Big Mack or One Step) that says "I want that"



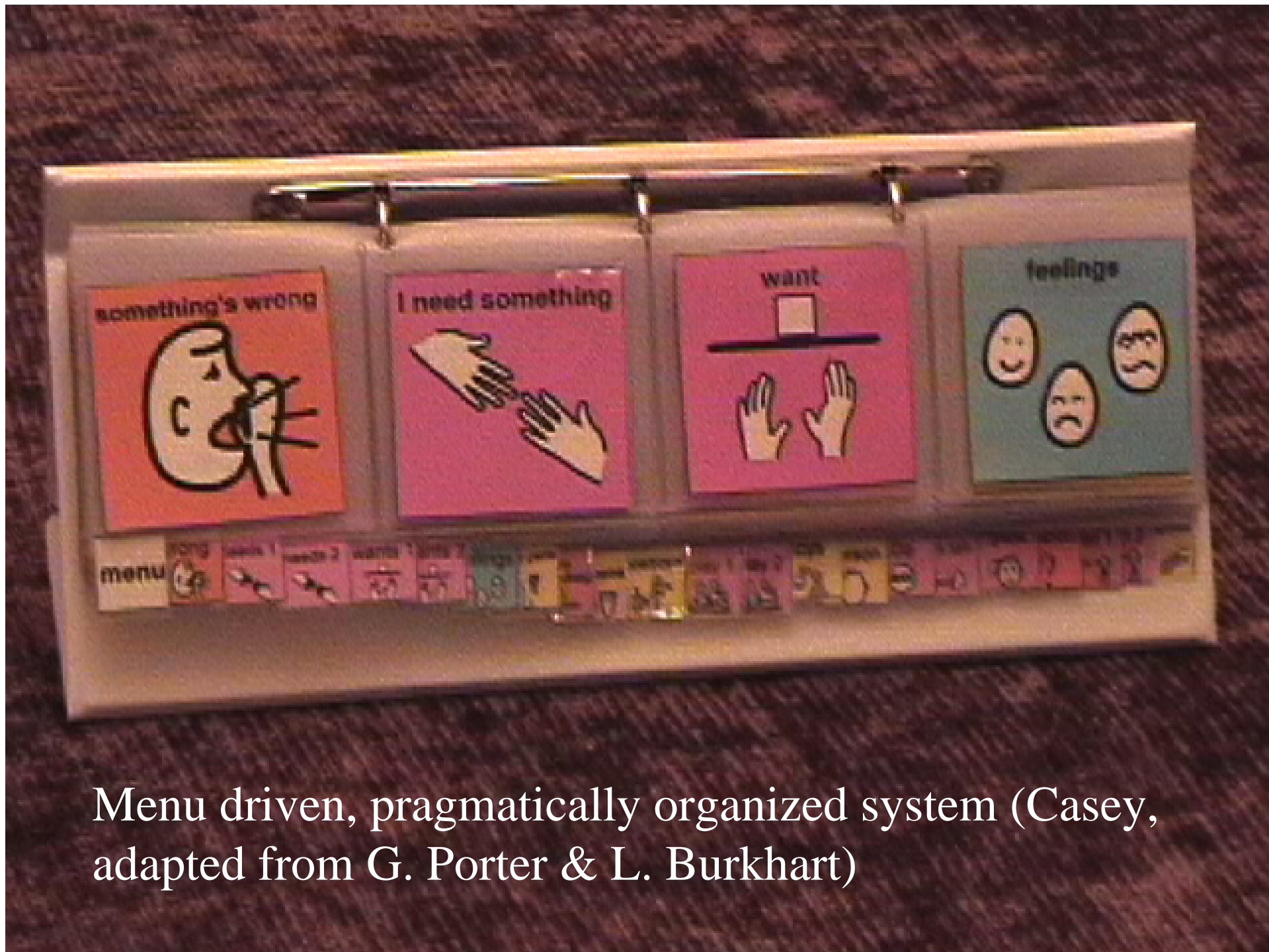
Partner Assisted Scanning

- Device Use: the choices or communication options can be put on a *sequential device* (e.g. Step by Step). User activates device to hear choices. When hears desired choice, activates a **second switch** with message "I want that"

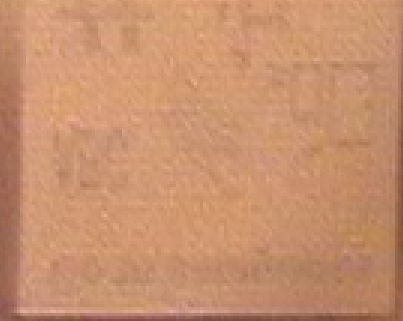


Micah & Mom

QuickTime™ and a
H.263 decompressor
are needed to see this picture.



Menu driven, pragmatically organized system (Casey, adapted from G. Porter & L. Burkhardt)



play

book

person

go somewhere

words 1

words 2

words 3

words 4

words 5

words 6

words 7

words 8

words 9

words 10

words 11

words 12

words 13

words 14

words 15

words 16

words 17

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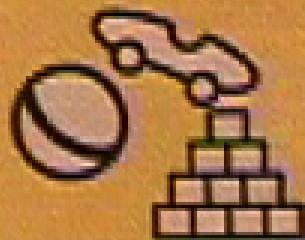
words 99

words 100

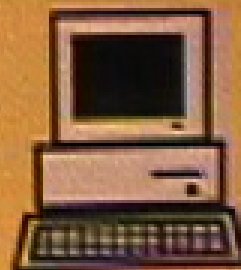
video player



toys



computer



TV



play 1



play 2



toys



computer



TV



TV



TV



TV

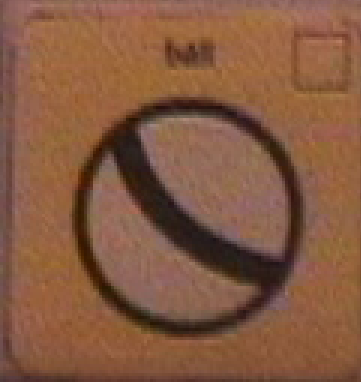
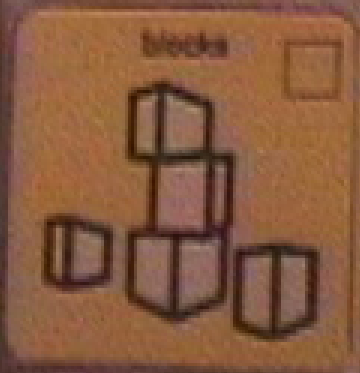
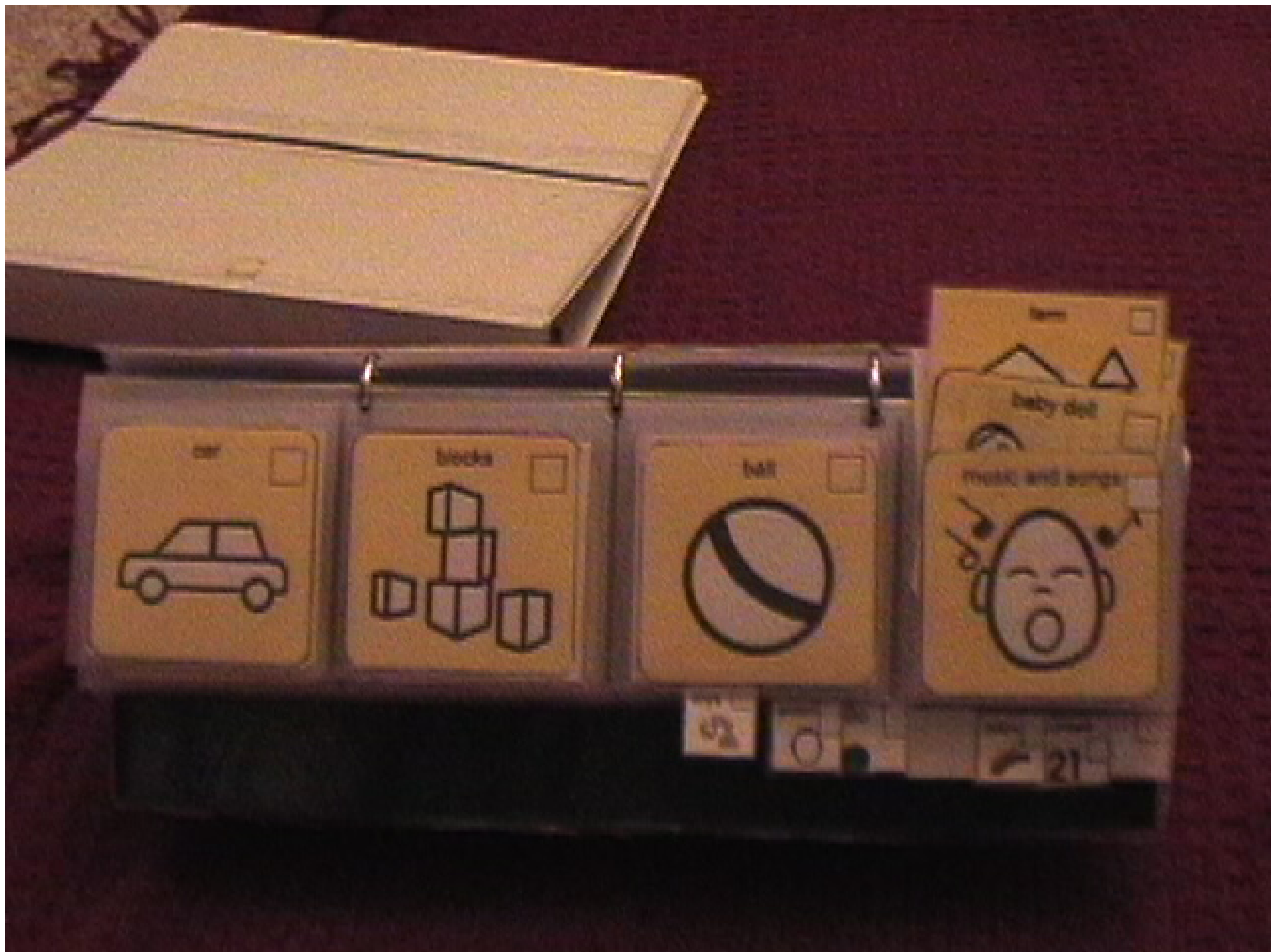


TV



TV







Menu driven PAS systems

- Start at the beginning even if you think you know what child wants to say... you may not and, need to learn the order
- Adults use the system also at times to communicate TO the child!
- There is a known gap between the adult input and the kid output

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

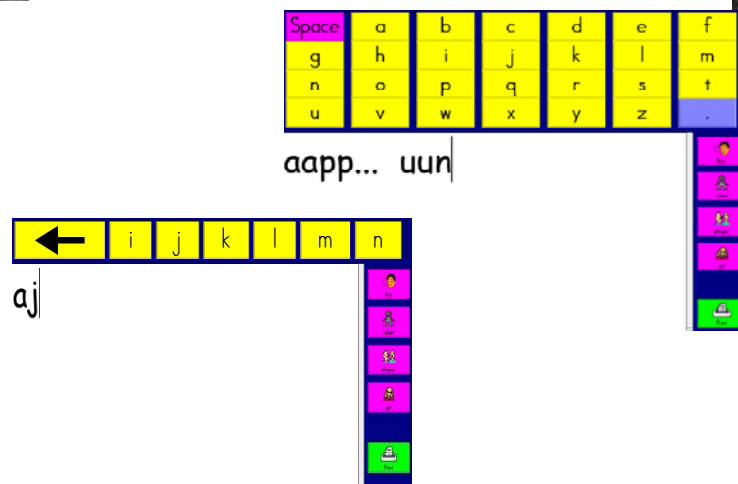
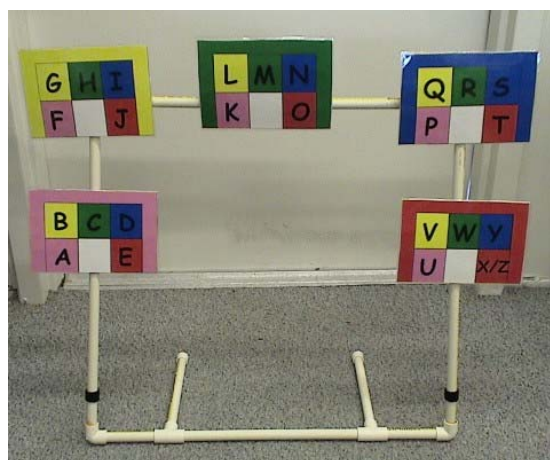
Try It Offline!

Partner Assist Scanning Thru a Communication Flip System

- Pair up with a partner
- Use menu to pick a toy to play with
- Switch and give partner a chance to try
- Questions to consider:
 - What would have made this easier?
 - What was it like to wait?
 - Did you feel like you were going to get there?

Children Learn When They Are Actively Engaged: Write From the START!

*Writing With Alternative Pencils,
Center for Literacy & Disability Studies, University of North Carolina, Chapel Hill,
Available for Checkout at Tadpole*



CD for Sale

The Print Alphabet Flip Chart

Write From the START!

*Writing With Alternative Pencils,
Center for Literacy & Disability Studies, University of North Carolina, Chapel Hill,
Available for Checkout at Tadpole*



Flip Charts: Place pictures on a flip chart and the cards are flipped with a 3 to 5 second interval. When card appears with choice, user selects. (can be auditory or visual or both)

Note: Modification in Scan Pattern

Writing with the Print Alphabet Flip Chart



QuickTime™ and a
Sorenson Video 3 decompressor
are needed to see this picture.

Allow For Errors: A Window in on Students' Understandings

(Bear & Templeton, 1998; Gentry, 1982; Gould, 2005, Henderson, 1981)

Toy Dills-Booth, North Shelby School, Shelby, NC



Emergent Literacy Develops Through Meaningful Social Interactions

(Mandel-Morrow, 2001; Teale & Sulzby, 1991; Schickedanz & Casbergue, 2004)



QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

From:
Krista Wilson's Classroom
Progressive Educational Program
Asheville, NC

Students Need to Write Regularly

- Understand what print is by actively making it!
- Foster problem solving
- Need to use the full alphabet in order to learn what the alphabet is.
- Writing is a window in on students' understandings of print and sounds...their way to "sound it out."
- Ongoing informal assessment of errors (Bear & Templeton, 1998; Gentry, 1982; Henderson, 1981)
- Need a **RANGE** of **real** reasons to write: just because, cards, captions, poetry, books, journaling, alphabet activities. Watch time & burn out factor!!

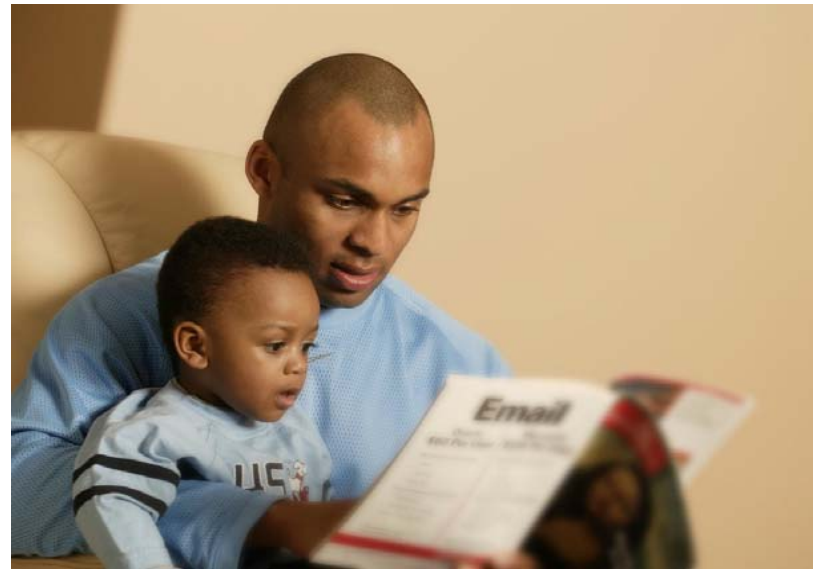
Try It Offline!

Partner Assist Scanning Thru a Print Alphabet Flip Chart

- Pair up with a partner
- First partner: Write about favorite restaurant
- Switch and give partner a chance to try
- Second partner: Write about their computer processor
- Questions to consider:
 - What would have made this easier?
 - What was it like to wait?
 - How much brain energy was focused on the letters and how much on the act of partner assisted scanning?

What is shared reading?

- “The interaction that occurs when a child and adult look at or read a book together.”
 - Ezell & Justice, 2005



Making Shared Reading Effective

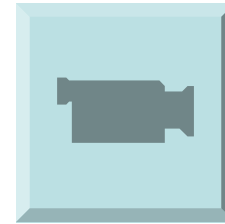
- Physical Arrangement
- Social Involvement
- Materials Selected
- Reading Style
- Conversation



What's GOOD shared reading

- One of the best measures of quality of shared reading is the "adult's responsiveness to children's concerns and interests"
- High level's of responsiveness are characterized by adult behaviors that are:
 - Child oriented, interaction-promoting, and language modeling
 - Ezzell & Justice, 2005

Shared Reading with Children with Disabilities ALISON



"Teaching" During Shared Reading (especially for children with disabilities)

- Use core (high frequency) and fringe (specific) vocabulary and model use of vocabulary using AAC
- Model use of AAC while asking questions and making comments
- Model concepts of print
- Use repeated lines, props, puppets to encourage interaction
- Choose books with dialogue, "juicy" words, all kinds of interaction: "3-D Books"
- Put the "CROWD" in the "CAR"

Sam Using a Repeated Line

Getting/Keeping Children Engaged in Shared Reading

- Let child choose
 - 0-3 children let you know if they want to look at a particular book
 - Let older children select the book they want
 - Have multiple books that appeal to children's sensory and topical interests
- Let child turn the pages if they wish
 - If they turn 3-4 pages at a time, just talk about the pages that you see
 - Let child decide when they are finished and move on
 - Have "Next Page Please" and "Finished" symbols available
- Talk about what child says, points to, or does
 - As children get older ask harder questions
 - What do you see?
 - What do you think will happen?

Materials: This "squishy" book can be easily modified by removing the label and replacing it with more sophisticated text.



B
U
G
S

I see a lizard.

The bugs are hiding.

INSERT STRAW HERE ↓
CAPRI SUN
ALL NATURAL™ JUICE DRINK

PACIFIC COOLER
Flavored Juice Blend
from Concentrate



NO AD
TS

Computer Books

- Backlit Screen
- Animation
- Reinforcing
- Customize for specific goals with specific graphics
- Offer large, simple, uncluttered graphics
- Can make texture, tangible, object overlays for keyboards like Intellikeys
- Can use a switch interface and switches

QuickTime™ and a
decompressor
are needed to see this picture.

Sam Using the Computer to Explore Songbook

QuickTime™ and a
H.263 decompressor
are needed to see this picture.

Sample Electronic Book Authoring Tools

- IntelliPics Studio/Classroom Suite
 - Intellitools, www.intellitools.com
- Clicker 4/5
 - Crick Software, www.cricksoft.com
- My Own Bookshelf
 - Soft Touch, www.softtouch.com
- PowerPoint See authoring directions

Alphabet Books Available from Tadpole www.tadpole.org

- Created in Intellipics Studio
- Accessible using switches or the IntelliKeys
- Music A-Z
- Animals A-Z

Fun PowerPoint Books

- Hokee-Pokee!
- Horses
- Write your own book with the student! Use those crazy internet pictures!

Try It Offline!

Reading a PowerPoint Book

- Plug switch interface in to:
 - Click OR
 - Right and left arrow to work on concepts about print
- Questions to consider:
 - What would have made this easier?
 - What was it like to wait?
 - How much brain energy was focused on the letters and how much on the act of partner assisted scanning?

In Summary...

- Identify where your student is on the emergent literacy-conventional literacy continuum
- Give them opportunities to experiment and to develop problem solving skills.
- Accept approximations & attribute meaning to all their communication and literacy attempts.
- Include regular writing!!!
- Building cognitive understandings occurs over time

Nobody Is TOO Anything...!!!