

### Switch Access, Vision Challenges, Complex Communication Needs and Literacy Learning - Electronic Tools



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### Financial Disclosures Linda J. Burkhardt

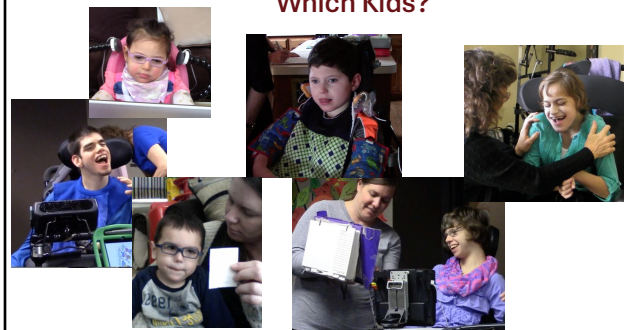
- Self-Employed
- Paid Consultant and Trainer
- Small Home Business (books and software activities for Mind Express by Jabbla)
  - Steps Before Step Scanning
  - Switch On Literacy
- Work with children, families and teams privately
- Volunteer consulting to AT Vendors and product developers



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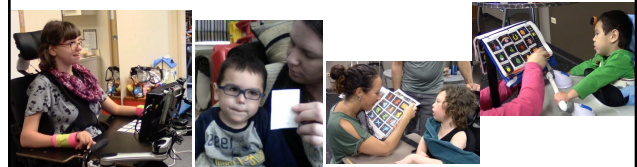
### Which Kids?



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### Complex Communication Needs

- Access often limited to **auditory-plus-visual scanning** or **auditory-only scanning**
- May or may not have access to learning a robust aided-language system - **So this becomes a priority!!!**
- Literacy depends upon language as the foundation



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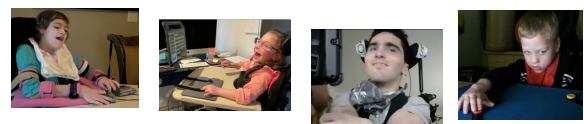
### Significant Physical Challenges



- **Limited ability to use direct selection with hands**
- **Hand use limits ability to actively explore tactile symbols (Such as Braille)**

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### Vision Challenges that Significantly Impact Ability to Discriminate and Read Text



- **Ocular disabilities**
- **Cortical/Cerebral Visual Impairment (CVI)**
  - Range of visual abilities: Currently Phase 1 and early Phase 2 on CVI Range (Roman-Lantzy)
  - Visual **complexity** may remain a big challenge throughout the Range

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### CVI Range (Roman-Lantzy)

- Designed to be a functional vision assessment specifically for children with CVI
- Quantifies 10 characteristics of CVI
- Scores severity from 1-10
- Describes 3 Phases of visual functioning
  - Phase I (levels 1-3) Building visual function
  - Phase II (levels 3+ to 7) Integrating vision with function
  - Phase III (levels 7+ to 10) Refinement of remaining CVI characteristics
- Suggests appropriate interventions for vision and visual development based upon score

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### CVI: Development of Use of Vision for Literacy

- Each individual with CVI is different with different challenges
- Vision may grow over time, however, vision must not hold back literacy learning
- Use of visual supports should match the individual's current visual abilities



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### CVI: Development of Use of Vision for Literacy

- Acknowledge, that vision may **fatigue** throughout the day
- Complexity of the **multi-sensory environment** will impact how much vision may be used at a given time and place
- Other modalities: **auditory** and **tactile** may take the lead, when vision fatigues, is complicated by ocular issues, or is not yet developed enough
- Do **not** limit **access** to literacy just because of **visual** and **physical** limitations

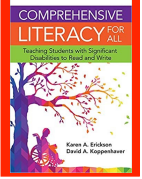


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### Underlying Philosophy on Current Best Practices for

#### Comprehensive Emergent Literacy Instruction:

- Alphabet Knowledge & Phonological Awareness
- Shared Reading
- Independent Reading
- Writing



Karen Erickson and David Koppenhaver  
 Center for Literacy and Disability Studies  
<https://www.med.unc.edu/ahs/clds>  
[Jane Farrall Consulting](http://www.janefarrall.com)  
[www.janefarrall.com](http://www.janefarrall.com)

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### Strong Emphasis on Alphabet Knowledge & Phonological Awareness plus Explicit Phonics Instruction

- With limited reliability on visual discrimination of letter shapes, these individuals need:
  - More emphasis on **auditory discriminations** of phonemes
  - More emphasis on auditory **associations** of letter names and sounds
  - More practice with developing an **inner voice**
  - More models of **blending** and **segmenting** words into sounds in conjunction with frequent practice saying them in their heads

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### Emergent Literacy Learning Shared Beliefs and Shared Understandings

- Active engagement** and exploration of literacy concepts, with **feedback** is critical
- No prerequisites** - All children deserve comprehensive literacy instruction
- Concepts develop over time (learning in different areas is **concurrent** and **recursive**)
- Engaging in literacy rich **experiences** is prioritized **over testing or drilling**
- Literacy instruction must be comprehensive

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### Good comprehensive literacy instruction includes:

- knowledgeable and **observant** teachers
- explicit teaching
- embedded exploration **problem-solving** and instruction
- practice for **real purposes**
- less focus on mastery
- focus on targeted, but **student driven curiosity** and active exploration of concepts, with strategic feedback

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### Active Learning

- Listening is often passive and is often insufficient for learning
- Active engagement is critical
- Correct level of challenge - Needs to be familiar enough, but somewhat new to hold interest
- motivation / interests / natural contexts



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### Who Likes to be Told What to Do?



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### Who Likes to be Told What to Do?

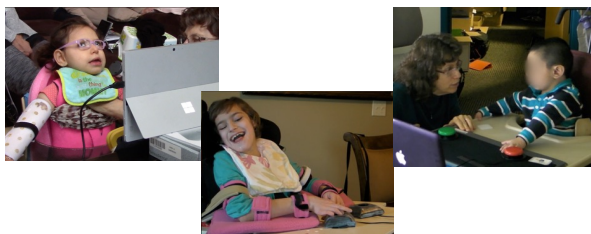


What do we do frequently with kids?

**Limit telling the individual what to do**

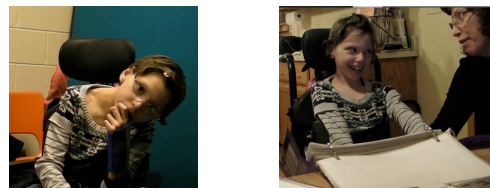
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### Provide Strategic Feedback instead of Direct Prompts



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### Active Learning is not Just Answering Questions - Need to put Child in Control



**Limit asking questions**

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### Prioritize Quality over Quantity

- There will rarely be time to complete the same quantity of work as the other students, so strategically do the most important items first and assume that some similar, or practice items will need to be skipped.



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### Tools do not Teach Literacy!!! People do!

- Literacy is learned through rich, varied, interactive experiences with people
- Strategies such as shared reading, shared writing, predictable chart writing, etc. require interacting with a person, not just a device
- Knowledgeable teachers plan and conduct appropriate emergent literacy experiences for each student



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### Tools to Enhance Participation and Practice Concepts for Emerging Literacy

- Not worksheets, but opportunities to explore concepts
- Not testing/mastery, but providing providing a variety of experiences with feedback
- Student directed exploration of literacy concepts

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### Prioritize Quality over Quantity

- The amount of time any individual task or assessment should take is the same amount of time the other students take for that assessment.
- That way, the student who takes more time to respond, won't miss instructional class time where the learning actually happens. Teachers select which items to assess, and strategically test key points over time and across assessments to get a sense of what the student is learning, instead of testing everything, every time.

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### Prioritize Quality over Quantity

- The general education teacher will select a few of the most important concepts to work on during independent work time
  - focus on the content being learned but not necessarily the form in which it is done.
- For example: when teaching about beginning sounds, other students may be handwriting the letters, and the student with physical challenges may use an alternative alphabet flip chart "alternative pencil" to locate and select the letters for someone else to write down.


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### 5 to 1 Rule of thumb in Natural Contexts:

- **5 inputs:** teaching, commenting, explaining, demonstrating, modeling (may need to be 5 or 6 to 1 at first)
- **1 integrated test question** related to that teaching (stated indirectly if possible)
- **Repeat** (data collected over time not in one sitting)

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### 5 to 1 Example:

- 1.This is the word cat (sounding out phonetically: cuh ah t).
- 2.It starts with the letter c - c (sound not letter name) - like in cup and can
- 3.I can spell it with your alphabet flip chart (demonstrate by auditorily and visually scanning to the letters c - a - t in their flip chart as a model of how the flip chart works and write each letter down as it is selected, showing the student, considering visual accommodations)
- 4.Repeat some or all of the above steps with a second word such as box.
- 5.Here is a third word bat (b ah t)
- 6.One integrated test question related to that teaching (stated indirectly if possible) For example: I wonder if you can you find the first letter of bat on your alphabet flip chart?

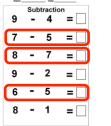
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### Many Times, Non-Electronic Academic Modifications can be More Effective and Interactive




Used in parallel with electronic supports

Testing adaptations



Reduced quantity of work


Writing with the Alphabet "adapted pencil"



Customized presentation of text

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### Focus on input, sounding out words using the student's arm with permission



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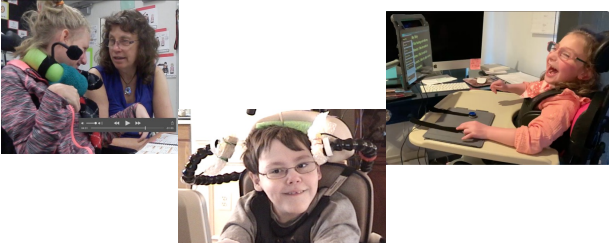
### Electronic tools can enhance good comprehensive literacy instruction

- Provide a means to actively / independently explore concepts
  - Alphabetic Knowledge
  - Phonemic awareness
  - Writing for a purpose
  - Reading/Listening to digital books independently
  - Videos and sound feedback can enhance learning
- Scribble with the alphabet with auditory feedback
- Student-specific customization of activities based upon the child's interest and concepts being learned
- Co-planning with student when creating electronic activities



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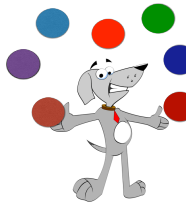
### Cognitive, Motor and Visual Load are all high for children who have severe physical challenges plus vision challenges



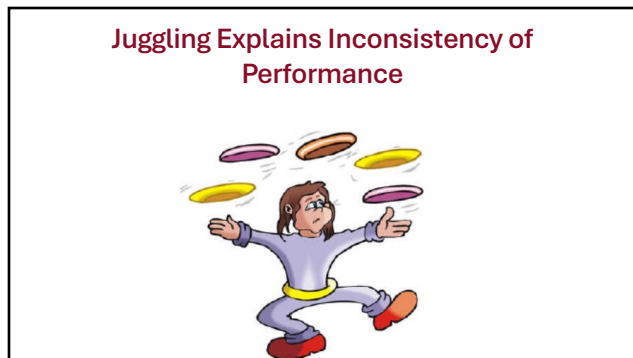
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### Juggling Act

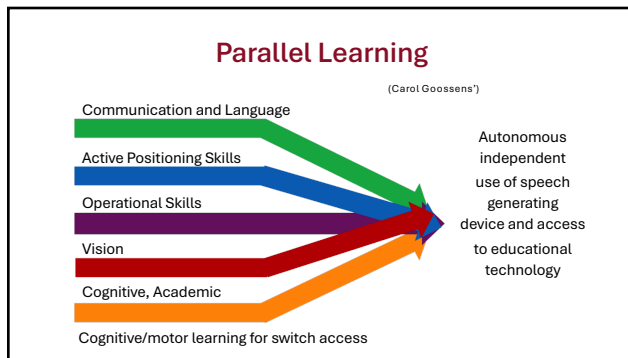
- Many things to juggle for both the student and team working with the student
  - motor
  - vision
  - communication
  - interaction
  - academic learning



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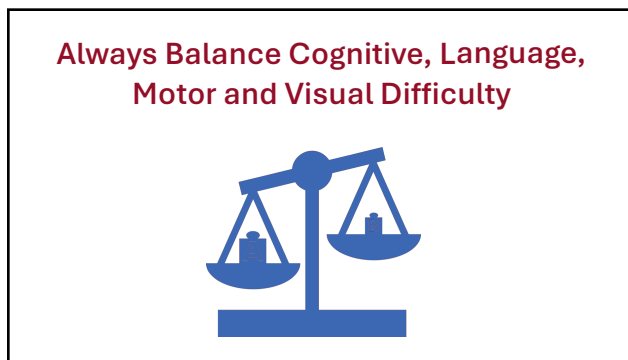
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**Team** Planning and coordination is Critical Everyone needs to be moving in the same direction - long term

Everyone needs to know enough from other team members to:

- Understand and use the child's means of communication
- Know how the child is learning to move and recognize helpful vs harmful positions and movements
- Understand what factors influence best use and development of vision
- Recognize and address dysregulation- know how to address sensory needs on the spot
- Recognize and address visual fatigue - know what works for each individual
- Incorporate what best facilitates learning for each child (processing differences, learning needs)

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Only one "hard" at a time

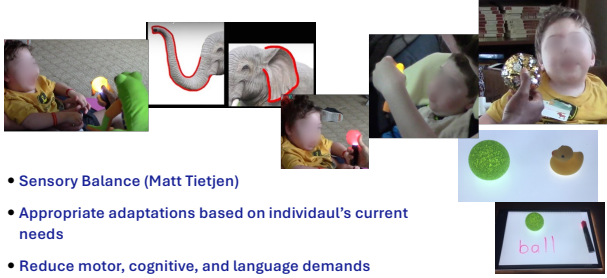
	Hard	academic
	Easy	language motor vision

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- Focus on one component or skill within each activity, or part of activity**
- Reduce motor load for difficult cognitive or language tasks
  - Reduce cognitive load for motor learning tasks
  - Reduce motor and cognitive load for vision tasks
  - Teach access as a separate but parallel skill to language learning
  - Only one "hard" at a time

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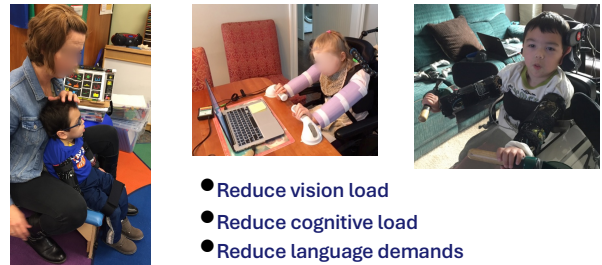
### Vision Development



- Sensory Balance (Matt Tietjen)
- Appropriate adaptations based on individual's current needs
- Reduce motor, cognitive, and language demands

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### Developing Motor Control and Active Stability



- Reduce vision load
- Reduce cognitive load
- Reduce language demands

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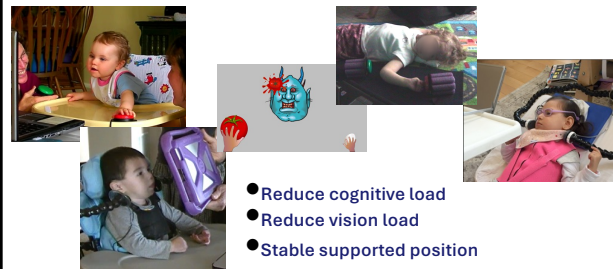
### "Non-Electronic" Communication Book for Language Development



- Reduce motor load
- Reduce vision load
- Keep cognitive demands low

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### Switch Play to Develop Motor Skills for Switch Access



- Reduce cognitive load
- Reduce vision load
- Stable supported position

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Technology should never be used for testing until the individual has become completely automatic with the motor operation

(Stepping Stone 8 :automaticity - so that full attention may be focused on the content)

- Even then, fatigue, increased time factor, environmental conditions, bodily state, comfort, etc. will likely also impact performance
- These individuals will frequently require more input than output for learning and more teaching than performing directed tasks independently
- The aim should be to provide opportunities for exploration of concepts with feedback, that enhances and extends classroom instruction, but never takes the place of it.

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Developing Automaticity for  
switch access takes practice:  
Thousands of Repetitions with  
Intent, Purpose, and Variation

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## Stepping Stones to Switch Access - Strategies to Provide Children with Developmental Problem Solving Experiences



(Burkhart)

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## Stepping Stones to Switch Access

(Burkhart)



- Step 1: Single Switch: Cause and Effect
- Step 2: Single Switch: Multiple Locations, Multiple Functions
- Step 3: Two Switches / Two Functions
- Step 4: Learning to Two Switch Step Scan (move, move, get)
- Step 5: Two Switch Step Scan (Failure free with feedback)
- Step 6: Two Switch Step for Desired Targets
- Step 7: Practice for Increasing Accuracy
- Step 8: Switch Automaticity may now be used for access for a variety of functions

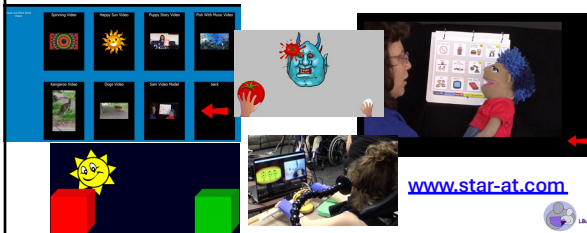
[http://www.lburkhart.com/handouts/stepping\\_stones\\_chart\\_10\\_12.pdf](http://www.lburkhart.com/handouts/stepping_stones_chart_10_12.pdf)

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## Jabbla, Mind Express: Steps Before Step Scanning

(Burkhart)

<https://lindaburkhart.com/steps-before-step-scanning/>



[www.star-at.com](http://www.star-at.com)

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## Eventually: Combine Motor, Language, and Vision Skills to Independently Operate a Robust Communication Device and Access Academic Software



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## This presentation will assume basic knowledge of CVI

- ★ Vision impairment caused by brain damage or difference - not problems at the eye (however the child may have both)
- ★ Children's vision may improve with appropriate intervention in terms of materials used, how they are presented and environmental conditions
- ★ Individual Assessment is critical, because characteristics vary for each child and change over time resulting in different intervention needs

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## CVI Resources:

- Dr. Christine Roman-Lantzy's CVI Range; Roman-Lantzy, C. A. (2007, 2018). Cortical Visual Impairment: An Approach to Assessment and Intervention. New York: AFB Press) [www.afb.org/store](http://www.afb.org/store)
- Numerous online webinars and videos by Dr. Christine Roman-Lantzy related to the CVI Range (both free and paid)
- Sensory Balance, Christine Roman-Lantzy and Matt Tietjen
- What's the Complexity? (Matt Tietjen)



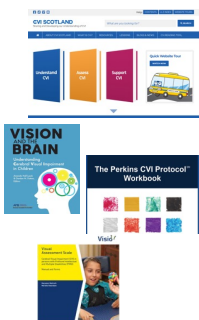
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### More Resources:

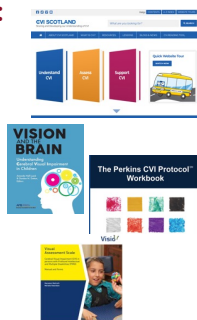
- Gordon Dutton: CVI Scotland [cviscotland.org](http://cviscotland.org) - extensive website explaining CVI and appropriate strategies.
- Amanda Hall Lueck and Gordon Dutton, Vision and the brain: understanding cerebral visual impairment in children, New York, NY: AFB Press, American Foundation for the Blind, 2015)
- The Perkins CVI Protocol <https://www.perkins.org/our-work/cvi/the-perkins-cvi-protocol/>
- Visual Assessment Scale (Marjolein Wallroth and Marieke Steendam)
- The CVI Perspective: Understanding Cerebral Visual Impairment from the Inside Out [https://thecviperspective.wordpress.com/home/\(first-person+accounts+of+CVI\)/](https://thecviperspective.wordpress.com/home/(first-person+accounts+of+CVI)/) <https://thecviperspective.wordpress.com/?s=cvi>



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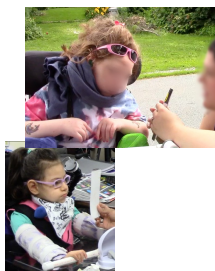
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### Effective Intervention Strategies

- Not "vision therapy"
- Strategically customized environmental adaptations to the child's natural routine and materials
- New connections are formed when the individual uses her eyes and meaning can be attached to what and where she is looking



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### Adapt both:

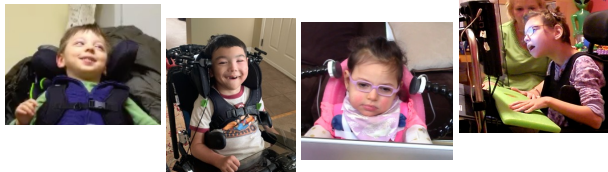
- Physical Environment will include adaptations to the environment to increase access - physical access - position, adapted equipment, visual and auditory complexity, competing sensory stimuli: noise, vestibular, tactile, and postural security
- Cognitive and Social Environment will include speed of presentation, wait time, observation of attention, familiarity of activity / balanced with moderate differences to increase curiosity, affect of partner, relationship to partner, context, internal communicative drive and learning state



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### Characteristics of Cortical Vision Impairment and Possible Accommodations –

Figure out for each individual with Dynamic Assessment



Gathered from work by Christine Roman-Lantzy, Gordon Dutton and others

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### CVI Characteristics and Electronic Access

- How can the individual's CVI characteristics be supported through electronic presentation of Literacy Skills?
- For this presentation, examples of supports are mostly taken from: [Switch On Literacy](#) (Jabbla's Mind Express / Burkhardt) (see disclosure)



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### Light gazing or need for light (also light sensitivity)

- Manually adjust **screen brightness** - brighter or dimmer
- Consider a **gray background** or other soft color behind objects or text instead of bright white
- Pay attention to **glare** on the screen and other lighting sources in the environment
- Use light if it helps with attention and focus
- Always consult with the individual about their experience while using light
- Some individuals find **looking at light obligatory**, and also **painful!**




text  
text  
text  
text

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### Visual field differences & Difficulty with distance viewing

- Physical position of screen
- Mounting options for optimal placement
- Splashtop, Team Viewer, Join Me - mirror computer screen on iPad/tablet to bring closer to child and position for best viewing



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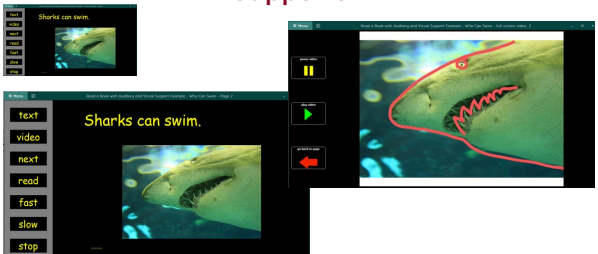
### Color Preference

- In CVI phase 1: **color encourages looking**
- In CVI phase 2: **color** may indicate where to look and begin **helping with discrimination**
- In CVI phase 3: **color** may help to **call attention to salient features** and details
- Use **color based upon individual needs**

(Phases from CVI Range: Christine Roman-Lantzy)

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### Read a Book with Auditor plus Visual Supports\



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt)

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### Need for movement (with the understanding and exceptions that some individuals do not see movement)

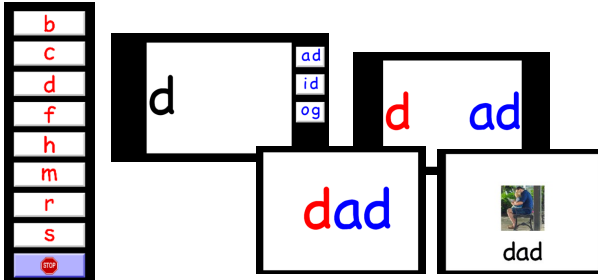
- Simple graphics
- Simple movement across screen
- Highlighting text being read



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) - Write a Note

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### Movement across the screen



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) - Make 3 Letter Words

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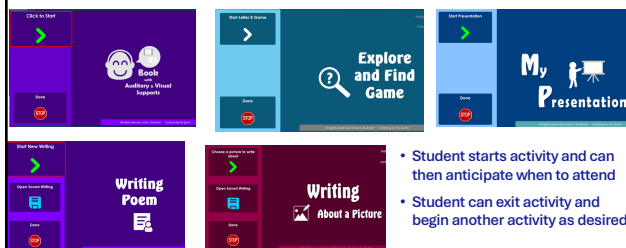
## Latency of visual gaze

(child may see better when expecting to see something)

- Give child the **control to start activity / action** - when they select to start the activity, they are more likely to anticipate when to use vision
- **Short sound to signal visual screen change** to alert child to look (for example: page turn)
- **Two switch step scanning access** to allow for processing time
- Create **Launchers** for student to select activity

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## Nothing starts immediately, individual decides to start and stop activities with consistent format



- Student starts activity and can then anticipate when to attend
- Student can exit activity and begin another activity as desired

Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Templates

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## Individuals Need an Electronic Launcher!



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## What is a Launcher?

- Launcher is a **generic term** for an electronic file that enables an individual to **open activities and then close them to select a different one** (using their access method such as two switch step scanning)

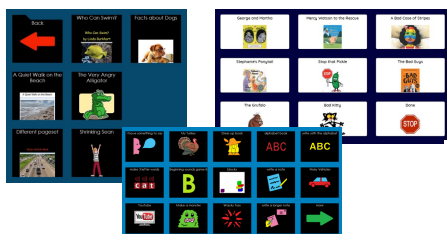


Create launchers using: Mind Express, Clicker, Boardmaker, Clicker, Communicator, GoTalk Now, Grid 3, TD Snap, Whatever software/app you might have access to, etc.

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## Launchers and Book Shelves



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt)

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## YouTube kid books - start and stop



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Choose Youtube start and stop

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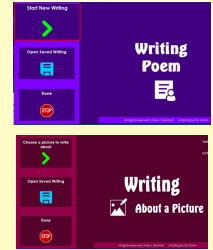
### Use a launcher to choose a video



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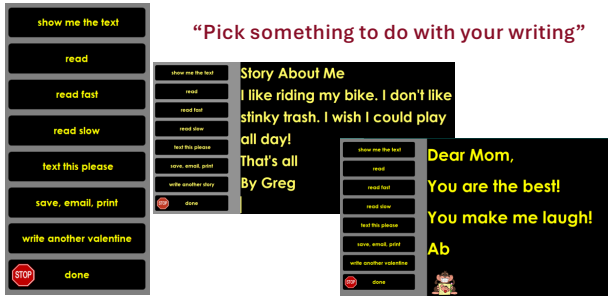
### Difficulty with Visual Novelty

- Use templates that operate in the same or similar predictable manner when introducing new activities
- When the child is presented with a new activity, they will already be familiar with the user interface: Layout, interaction procedure, etc. They will then be able to focus on the content



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### "Pick something to do with your writing"



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Writing Templates

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## Complexity

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### Environmental Complexity

- Competition with other senses
- Student control of starting and continuing activity and actions within activities
- Position of screen in relation to distractions in the environment



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### Provided a button to request an auditory caption for pictures



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Book or Study Guide Template

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### Complexity of auditory plus visual input

- **Looking and listening** at the same time may be challenging
- Try short sound to **alert attention** and then provide visual movement without sound
- **Build expectation** that something will happen and then provide visual response without sound
- Turn off computer sound if helpful
- Allow for **student led repetition** of auditory and/or visual content (read it again) (I don't know, read it again)

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### Complexity of Visual Array

- Number of items
- Number of colors
- Number of unfamiliar items in an array
- Font (non serif vs. serif)
- Space between items

The weather is windy.  
 The weather is windy.  
 The weather is windy.

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### Complexity of Faces

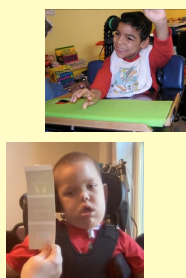
- Use **simple graphics** (talking heads may be too complex)
- Understand the **individual's ability to recognize faces** when selecting graphics. Use graphics that elicit attention and interest (customize face pictures to the individual child)
- Provide **audio descriptions** and audio captioning. (Individuals may not be able to discern facial expressions that often give clues to text and assist comprehension in books)



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### Complexity of visual motor

- Consider environmental placement around the switch to reduce complexity
- When using switches is still being learned, try Partner-Assisted Scanning as a no-tech strategy



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### Contrast Sensitivity (Dutton)

- Acuity may be affected by specific brain damage
- Consider thickness of lines and size and boldness of text based upon individual needs
- Simplicity of images
- Contrast text on background

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### Don't Overload the Visual Channel

- CVI Range (Roman-Lantzy) - determine how materials should be presented
- Reduce complexity (visual and auditory)
- Observe for visual fatigue
- Use auditory channel if vision requires too much effort or if it is not at a sufficient level on the range to introduce text

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### For Some Individuals: Auditory Channel - May be the best possible option left for input and discrimination

- May be a strength
- May or may not have additional auditory processing challenges
- May be able to get some input visually, but not as reliable as auditory
- Vision may actually add complexity for some children

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### Issues when the Main Gateway to the brain is Auditory:

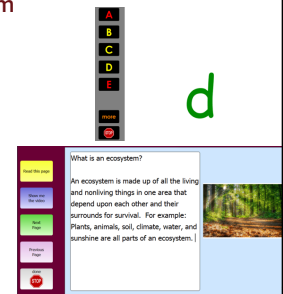
- Bottleneck of input to the brain's working memory
  - monitoring safety in the environment (fight or flight)
  - Input needs to be auditory
  - Communication system: auditory scan
  - Switch access auditory-scan
  - Thinking is probably auditory
  - Holding a thought is challenging when needing to attend to everything through the same channel



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### Some Children will be Learning via a Dual Literacy Program

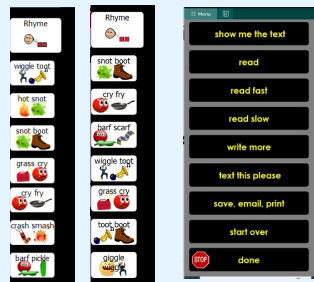
- Visual reading and listening comprehension skills may be at very different levels
- Can work on both at appropriate levels - in separate activities. For example: Letter identification visually and listening comprehension auditorally
- One should not hold back the other - some children can progress in both



83

### Repetition with Moderate Differences (Variety)

- To keep interest and engagement
- Randomize lists of options
- Read with different voices

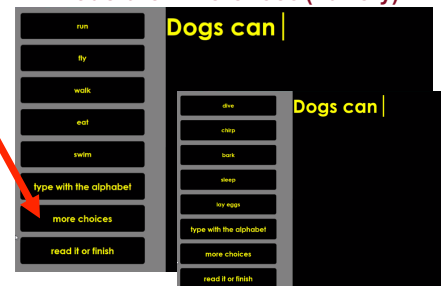


Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) - Find Words that Rhyme

84

### Repetition with Moderate Differences (Variety)

- 'More Choices' options
- Leaving some operational buttons the same



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) - 2 Sentence Starters Template

85

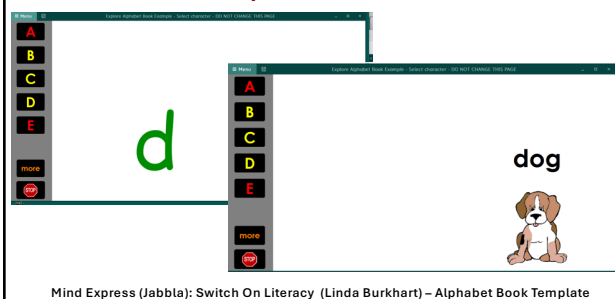


## Alphabet Knowledge & Phonological Awareness

- Activities can be created to enable the student to experiment and play with letters and sounds
- Alphabet books or activities can emphasize beginning sounds
- Rhyming games can emphasize endings
- Activities can be created to focus on letters sounds and other phonemic concepts being worked upon systematically within the curriculum

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## Alphabet Book



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Alphabet Book Template

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## Auditory Hook Words

### Hook Words

(Select one hook word for each letter)

**Apple**, ask  
**Bye**, boy, bus, bed, bad, back, ball, bug, bat, bath, bell,  
**Cold**, Cut, Cat, Cup, Calm, Come, car, cart, cover, carry,  
**Dance**, Dog, Dad, day, dance, dark, done, doctor, door, do  
**End**, elephant, elevator, empty.  
**Fun**, Fish, fast, feet, fix, fan, feel, fist, finger, family, full, farm  
**Good**, gas, get, give, go, girl, game, gone, goofy,  
**Hug**, hat, hand, hi, happy, hard, head, hello, help, hot, hair, hit, head,  
 house, hungry, hurt  
**Itch**, in, ill, instruments, it  
**Joke**, Jump, job, jar, jelly, jacket, jeans, jewelry, jingle, joy, juice  
**Kiss**, kick, kid, key, kitchen,  
**Love**, laugh, leg, lip, lick, lift, like, list, look, last, lazy, lap, loud  
**Mad**, mom, mat, math, me, mess, miss, more, move, music, mud, mouth,  
 money, milk  
**No**, not, name, nap, need, new, nice, night, nose, nut, nurse, noisy, neck, nag



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## Alex's Hook Words

Alex	Hi	Off	Video
Bye	Itch	PODD	Wait
Car	Jedi	Quiet	Xray
Dad	Kick	Read	Yes
Elevator	Loud	Song	Zoom
Fast	Mom		
Go	No	Talia	
		Up	

89

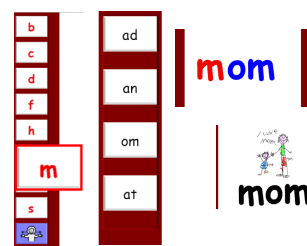
## When selecting hook words for an individual:

- Use words with the short vowel sound in the beginning of the word. For example itch rather than Ice.
- Stay away from food items for kids who don't eat much by mouth
- Stay away from things that are mostly visual for kids who have vision challenges
- Stay away from objects that don't have meaning for children who are not able to manipulate objects themselves
- Stay away from blends and double consonants at the beginning of words.

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## Alphabet Knowledge & Phonological Awareness

- Activities can be created to enable the student to experiment and play with letters and sounds
- Alphabet books or activities can emphasize beginning sounds
- Rhyming games can emphasize endings



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Make 3 Letter Words

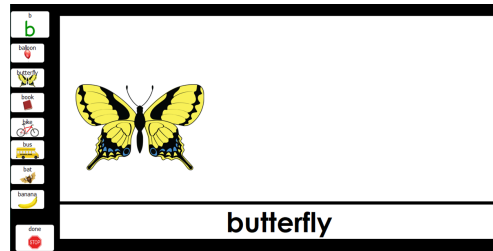
91

### Ear Print

- When children with CVI have unreliable access to their vision, they may need more opportunities to develop an auditory “Ear Print” that can be stored and retrieved more easily than just the visual look of a letter or word
- The sound letter associations
- Words spelled in an rhythm
- Stretching and blending of letters in words

92

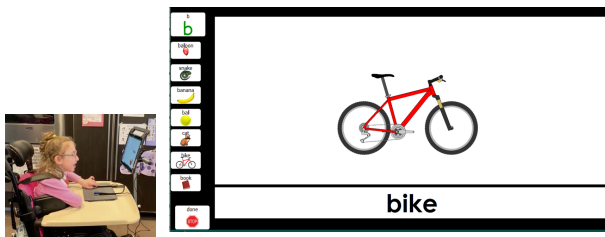
### Just Explore (Everything starts with B)



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) –  
 Template Example: Explore things that begin with the letter B

93

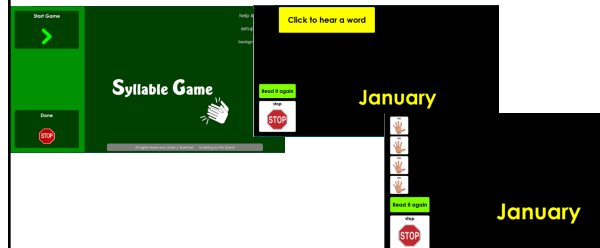
### Find Game (Some things start with B, some don't)



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) –  
 Template: Find things that begin with the letter B

94

### Play with Syllables



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Syllables template

95

### Shared Reading

- This needs to be done with a live person, not independently
- Typically the student interacts using their non-electronic communication system and/or their electronic communication system.
- You can use digital books and give the individual control for turning the page, but if the child has an electronic communication pageset, then that is what the switches should be connected to, so he can comment, ask questions, and talk about a paper book more independently

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### Independent Reading

- Independent reading must be set up electronically so that the student can choose a book they want to read and when finished with that book, go back and select another one. Launchers are great for giving the individual options.
- Electronic books may be:
  - digital
  - audio recordings
  - video recordings (Read by peers, family members, teachers, or by someone on Youtube,)
  - interactive for individual to explore or create

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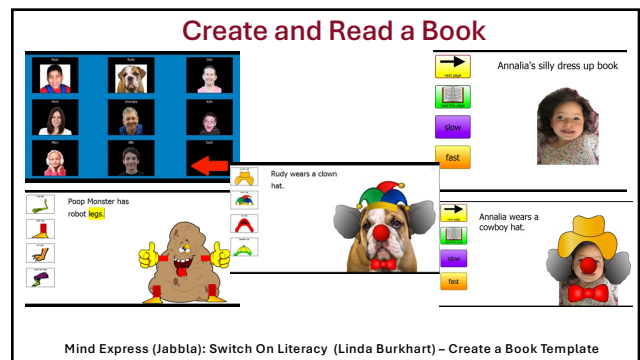
98



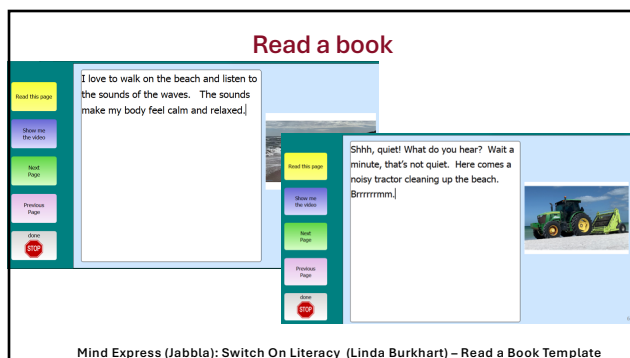
99



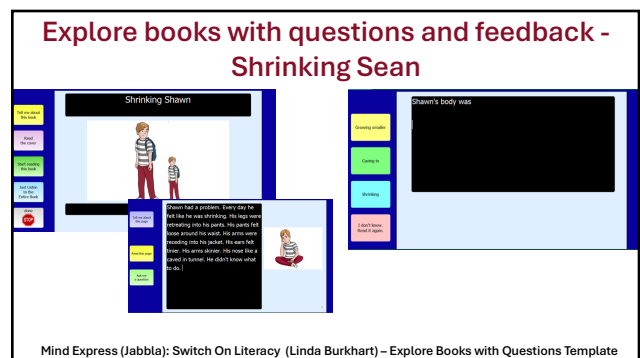
100



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## Writing

- Writing is one of the most appropriate blocks in which to utilize electronic tools
- Use **co-planning** to set up writing activities with the student's input
- Write for purposes that make sense and feel powerful
  - Write emails and texts
  - Write cards
  - Write poetry
  - Write lists

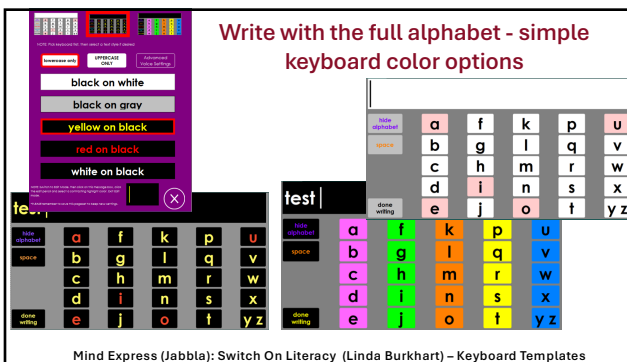
104

## Forms of Writing

- Write with the full alphabet
- Write with AAC for someone to scribe using a non-electronic or electronic communication system
- Co-planned a limited set of words or phrases and then compose some writing those
- Use a combination of alphabet, AAC and co-planned sets

105

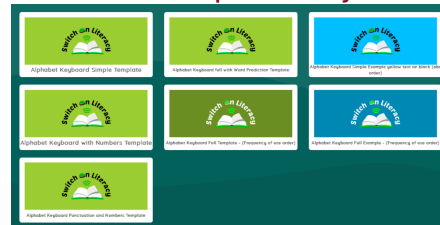
### Write with the full alphabet - simple keyboard color options



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Keyboard Templates

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### Write with the full alphabet - keyboard options

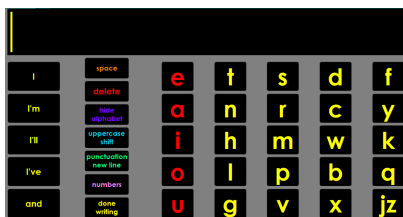


Auditory Scanners can not skip over things that they aren't yet ready for, so consider a more grade introduction of functions available on the keyboard

Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Keyboard Templates

107

### Write with the full alphabet - Frequency of Use order



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Keyboard Templates

108

### Write with the full alphabet about a picture



Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Write about a Picture

109





### Write with co-planned words/phrases A Cinquain Poem

Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Write a Cinquain Poem

116

### Combination of alphabet and co-planning

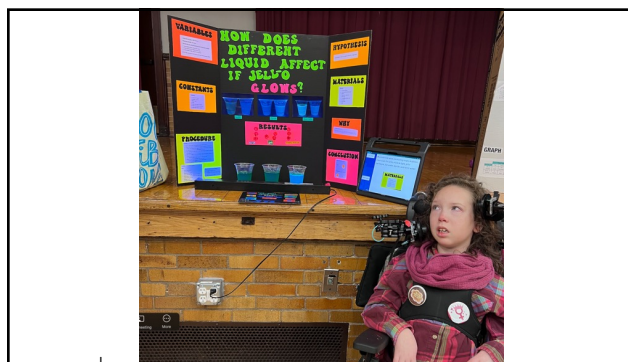
Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – 2 Sentence Starters

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### Co-Plan to Create a Presentation

Mind Express (Jabbla): Switch On Literacy (Linda Burkhardt) – Create a presentation

118



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### Write with AAC (whole words)

Use of Robust AAC system to write and talk about writing

121

I'm asking a question,  
 Tell me yes or no, meet  
 buddy?

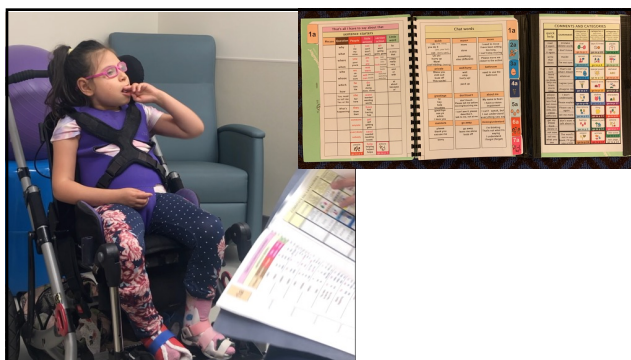
Writing email to Ian (friend) Using his PODD  
 Communication book (auditory plus visual  
 partner-assisted scanning)  
 Sean age 7

122

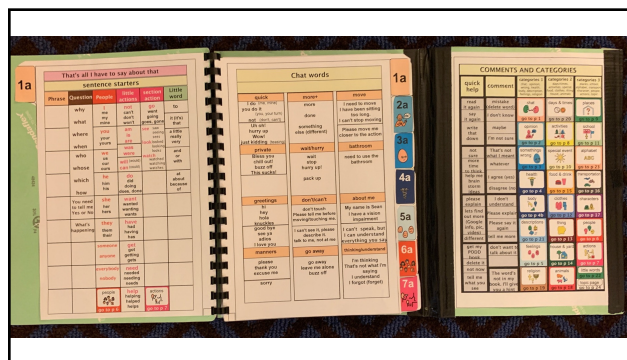
Why I think you good, great, excellent,  
 fantastic and cool is because I feel horrible,  
 strange trying hard when not here with me.

Letter to Lauren (previous assistant)  
 Using PODD Communication book  
 (auditory plus visual partner-assisted scanning)  
 Tom age 8

123

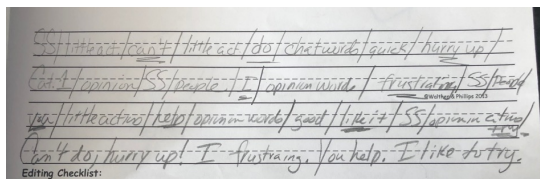


124



125

Can't do hurry up, I frustrating. You  
 help. I like to try.



- Annalia journal writing about topic: Write about something you are frustrated about and what you can do about it.

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## Revising, Editing, Publishing

- Writing may span days or weeks instead of all in one session
- Have others read and comment for revisions
- Edit with assistance of a scribe at first
- Publish/send and share with intended audience
- General education students may have one writing prompt a day, but individual using AAC may learn more from doing one of those across the week

127

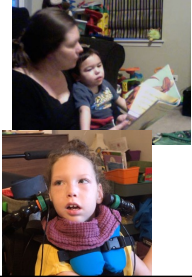
**Additional Features Needed for High Tech**  
**Wouldn't it be Great if:**

- The child could listen to what is in his message window in a private ear speaker before speaking it out loud? (SGD)
  - This would allow for editing and keeping track of creating longer generative messages for speaking and writing
- All high tech Speech Generating Devices could send text to another computer for writing with the child's full language system as the full screen keyboard (A feature that is disappearing from many SGDs)

128

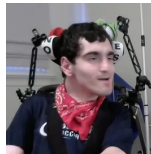
**Remember Tools do not Teach Literacy!!!**  
**People do!**

- Electronic tools can enhance a Comprehensive Literacy Program
  - Provide a means to actively / independently explore concepts
  - Include strategic feedback to enhance learning
  - Write for real purposes!
  - Customize for specific students
  - Co-planning with the student when creating electronic activities



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**Switch Access, Vision Challenges, Complex**  
**Communication Needs and Literacy Learning -**  
**Electronic Tools**



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