THE BRIDGE SCHOOL

**Summer Institute: CVI/AAC**

This 2022 The Bridge School launched its first annual Summer Institute. The topic of this weeklong institute was CVI and AAC, so as part of our partnership with Dr. Christine Roman-Lantzy, internationally known expert on Cortical Visual Impairment (CVI), we put together a strong comprehensive program for professionals and families.

We believe in the importance of an Interprofessional Collaborative Practice Approach, which is of special importance when working with children who have CVI and use Augmentative and Alternative Communication (AAC), so for this institute we had 40 professionals ranging from Teachers of the Visually Impaired, Speech and Language Pathologist, Special Education Teachers, Psychologists, Occupational Therapists and Assistive Technologists who conformed interprofessional teams that worked with 10 students who have CVI and use AAC.

This interprofessional practice and collaborative work could be seen in the variety of areas of specialty of our speakers, while highlighting the high caliber, professionalism, dedication and expertise of each one of them. This year, we were honored to have the participation of the following speakers:

Aileen Arai has been a Special Educator for 27 years. She has been designing and supporting staff in implementing strategies that support students, parents, districts, and all members of a student's educational team in the development of curriculum within the Common Core State Standards for students with significant physical impairments who use AAC systems. Since 2012 she has been addressing intervention strategies and assessments as they relate to Cortical Visual Impairment protocols and tools developed by Dr. Christine Roman-Lantzy. She received The Perkins-Roman CVI Range Endorsement from The Perkins School for the Blind, an authorization that supports her evaluating a student's CVI for purposes of ongoing intervention.

Christine Roman-Lantzy is The former Director of Pediatric View in Pittsburgh Pennsylvania. She was the first CVI Project Leader for The American Printing House for the Blind. Christine provides workshops and consultations through CVI Resources and has had the honor to be invited to all parts of The United States and many countries outside The U.S. She is the author of *Cortical Visual Impairment: An Approach to Assessment and Intervention (2007, 2018)* which won The Bledsoe Award in 2008, and *Cortical Visual Impairment: Advanced Principles (2019).* She taught at The University of Pittsburgh and Marshall University Graduate College for a total of 17 years.

Christine Wright-Ott is an internationally known Occupational Therapist who specializes in research and development of assistive technology for children with complex communication needs and severe physical disabilities. She has been a consultant at The Bridge School for over 15 years where she integrated self-initiated mobility into the educational curriculum.

Christine was the principal investigator and designer of the KidWalk, Gobot and MiniBot Projects, while working at the former Rehabilitation Engineering Center at Stanford. She has worked at California Children's Service, Children's Hospital at Stanford and West Valley College High Tech Center. She is a frequent lecturer at international and national conferences and local universities. She has authored the chapter "Mobility" in previous and now the 7th Edition of the book, Occupational Therapy for Children.

Elisa Kingsbury is a Speech and language pathologist with over 25 years of experience providing school-based AAC services. Collaborated with and learned from children, families, and professionals at The Bridge School and in Berkeley, Alameda and Mt Diablo Unified School Districts. In her 19 years at Bridge School, she worked in the Elementary, Transition and Research programs and helped to develop the Preschool program adapting the Language-Focused Curriculum from the Language Acquisition Preschool at the University of Kansas.

Providing children with access to play, movement and language has been a joy for her. Working with a team to improve a child's communication outcomes and enhance their quality of life has been the most meaningful work she could imagine.

Gabriela Berlanga, is a Speech and Language Pathologist and is the founder and consultor for CATIC in Mexico city, current Associate Executive Director at the Bridge School and Vice-President for Conferences at ISAAC (The International Society for Augmentative and Alternative Communication).

Founder and member of the North American Alliance for Communication Access.

Consultant for the Special Education Technology Department @prende of the Ministry of Education in Mexico.

She has collaborated with Dr. Christine Roman-Lantzy since 2011 as part of CATIC's International Collaboration Program run by Dr. Sarah Blackstone.

The Enos family has a genuine love for the Bay Area. Anna and Joey proudly have deep family roots in the Bay Area that go back generations. After commuting for two years, the family recently moved from Oakland to San Mateo to be closer to the Bridge School. Anna majored in fine arts at UC Santa Cruz, and the year Sammy was born, Joey received his Masters of Fine Arts from UC Berkeley. With a background in art and music, Sammy's parents have always incorporated these modalities into all aspects of Sammy's life. His diagnosis of cerebral palsy and CVI made communication and education challenging. Yet, through his intense and early love for music and books, it was clear Sammy had an undeniable need to communicate and learn. At age 3, Sammy received an early intervention evaluation from AAC Specialist Judith Lunger-Bergh and reached out to the Bridge School. With the curriculum focus, specialization in AAC and CVI, the family knew that The Bridge School was the school Sammy needed to reach his full potential. Sammy has been at The Bridge School for three years. He is thriving in this fun, creative, and engaging environment.

Lynn Elko is first and foremost a Mom. Her daughter, Emma, 20, began to benefit from CVI adaptations and interventions at age 15. After learning how profoundly CVI impacts everything in a child's world and witnessing Emma's life change after implanting intentional, strategic CVI interventions, Lynn became a fierce advocate for children with CVI and supporting their needs.

In previous iterations of her life, she was a VP of Production for an educational professional development company, working with organizations such as NASSP, NAESP and the Joseph P. Kennedy Jr. Foundation**,** and a social entrepreneur for which she received her Chamber's Businessperson of the Year award. She, along with 2 other CVI Moms, was honored with the Hall of Fame award in 2019 from the Pediatric Cortical Visual Impairment Society for spearheading the development of the PCVIS.vision website.

When Emma's life and medical needs are not shifting their family's axis, Emma and Lynn's collaborative efforts to make learning, life and communication accessible to her through a CVI adapted, custom AAC system can be found at See CVI, Speak AAC (@seeCVIspeakAAC).

Matt Tietjen is a certified teacher of students with visual impairments and an education consultant for the Bureau of Education and Services for the Blind (BESB).

He is a CVI specialist who has completed the 2 year CVI Leadership Institute as well as the Perkins-Roman CVI Endorsement.

He is a nationally and internationally recognized speaker.

Rebecca Matthews is a Speech Language Pathologist at The Bridge School. Received her M.S. In Speech Language and Hearing Sciences from San Francisco State University where she was a member of the Project Building Bridges grant specializing in AAC.
Did her school internship at The Bridge School and continued as a Clinical Fellow and eventually fully licensed SLP.
She works in the elementary classroom where she is a member of an interdisciplinary team and co teach alongside the special educator.

Sarah Blackstone is a world recognized SLP and AAC specialist.
Past president and fellow of ISAAC (The International Society for Augmentative and Alternative Communication).
Member of the Board of Directors of The Bridge School.
Director, CVI/AAC Project at The Bridge School.
Author: *Social Networks: A Communication Inventory for Individuals with CCN and their Community Partners, Patient Provider Communication: Roles for SLPs and other Health-care professionals*. "Retired": Augmentative Communication Inc., AAC-RERC, Berkeley Unified School District, Kennedy Institute/Johns Hopkins Medical School, Pittsburgh Rehabilitation Center.

Tara McCarty is a licensed speech language pathologist who worked in school-based settings for 7 years before returning to Penn State University to pursue doctoral studies. Tara's current research focuses on augmentative and alternative communication (AAC) design and intervention solutions for children with communication needs and cortical visual impairment (CVI).

Dr. Vicki Casella has been involved in the education of children and adults with special needs for over 55years. Her professional experience includes classroom and clinical teaching, public and private school administration, and university teaching and administration. She has taught at the University of Alabama, the University of Nevada, Reno, and San Francisco State University. While a professor in the Special Education Department at San Francisco State University, Dr. Casella initiated the first adaptive technology academic courses in the United States. Her areas of expertise were focused in teacher preparation in deaf/hard of hearing, learning and multiple disabilities and she was the Director of the Deaf and Hearing-Impaired Program. For the past 18 years she has served as the Executive Director of The Bridge School, a special school dedicated to ensuring that children with severe physical impairments and complex communication needs develop the education and communication the skills they need to become active participants in their communities and that the effective strategies employed at The Bridge School are disseminated throughout the national and international community.

**TAKE AWAY PACKAGE**

**Name of student:** Lucy
**Parents:** Patricia Jaimes
**Interprofessional Collaborative Team:**


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**Dates:**
June 12th – 17th 2022

**Content**



**Disclaimer:**
*This document was created by the student's assigned interprofessional team at The Bridge School Summer Institute CVI/AAC. The team had access to the supervision of our Institute's presenters when requested, however as our staff was not part of the entire process, The Bridge School does not endorse the content of the information presented in this document.*

## Communication Forms and Functions:
## Interview & Observational Worksheet

Child's Name: Lucy  Informant: Sarah, Rickisha, Kristin, Jaqueline, Leeat  Date 6-13-22

| **Communicative Function** | **Sample Context** | **What Lucy says/does** | **How communication partners respond** |
|---|---|---|---|
| Request attention | Adult gives attention to another person | Tapped mother arm Vocalized "help" looked at person | Seeks desired item and give it to Lucy Positive affirmations and vocalizing |
| Request affection | Adult approaches child when hurt | Lucy kissed adult's arm while they were sitting close | Say "I think you're great too!" |
| Request assistance | Child needs help with task | "Help" to open the playdough. She looked directly at mom | Mom repeated her words and repeated her words to give meaning. "You need help? Ok, I will help you" |
| Request information | Introductions to team members<br><br>playdough | L said "name" and looked at mom and adult<br><br>"Grandma" (talking about visit) | Mom responded verbally |
| Request permission | Child wants to go outside | Says yes /no | Mom offered to go outside |
| Request peer interaction | Child sees another child using a favorite toy | Not observed | |

| | | | |
|---|---|---|---|
| Request adult interaction | Playdough | "Cookie" to have mom make a cookie.<br><br>Reach out toward person on computer and vocalize | Mom said, "you want me to make a cookie" and started to make a playdough cookie.<br><br>Looked at Lucy and said "Hi Lucy!" |
| Request food or object | Wants object out of reach | Reached toward choice (playdough vs book) and vocalized needed visual, tactile prompting to look at the object<br>Water she was able to access on her own | |
| Refusal | Offer something they do not like | Mom asks if she wants a book, Lucy shakes head "no" | Offer more choices |
| Protest | Mom gave book choices<br><br>When asked which song she wants between 2 choices<br><br>Home: on the weekend when Dad is home she prefers to do things with him | Signs "different" with verbal model from mom<br><br>Uses behaviors to show she doesn't want mom (reach, scratch) | Mom says "you want something different"<br><br>"You want to be with Daddy" "Sometimes you will be with Mommy too"<br>(Next Steps: Create social story about choosing partners; working with Mom *and* Dad on weekends) |
| Cessation | Wants to be finished with meal or task | Stopped playing with playdough and looked around<br>Child offered choices and she said yes | Mom offered choices and/or was able to move on when she saw Lucy was ready to move on. |

| | | | |
|---|---|---|---|
| Greetings | A familiar person arrives or is leaving | Asked mom “name” when meeting new person<br><br>Lucy says “hi” | Mom told Lucy to ask the adult what their name is.<br><br>Greet Lucy. Ask “How are you?” |
| Affirmation | Playdough | Said “cookie” when asked if she wanted to make cookie<br><br>She pointed to herself to say “mine” | Mom followed along with her |
| Comment: object | Sees an interesting person or object | | |
| Comment: action | Sees an interesting action | “Cookie” for mom to make cookie<br><br>“Achoo” when adult sneezed | |
| Comment: mistake | Blocks fell and mom said “oh no” | Lucy looked at blocks | |
| Express humor | Adult laughs at something funny | Lucy laughed when saying “achoo”<br><br>At lunch Lucy looked at people smiling/laughing and smiled and laughed. | Adult said, “she sneezed!”<br><br>Mom said, “Oh my” and adult said, “that’s so funny” |
| Express confusion | Child is given an unfamiliar task | Lucy kept looking at picture when she couldn’t find the object. | Described object features and provide visual accommodation. Model “I don’t know” |
| Express fear | Child hears something frightening | Not observed | |

| | | | |
|---|---|---|---|
| Express frustration | Child is having difficulty with a task. | Not observed | |
| Express anger | Child has to stop doing favorite activity. | Not observed | |
| Express happiness | Child is doing a favorite activity | | |
| Express sadness | Child experiences something sad. | | |
| Non-interactive comments | Utterances to direct own actions; echoed or routinized/habitual utterances to self | Grunt while pushing down cookie | |

SOCIAL STORIES Idea:

- Changing clothes
- Weekend routines with mom and dad
- Saying “stop” and “I don’t want that today” (braid idea)
- “It’s ok to say no”

## THE CVI RANGE

Student/child's name: _____ Age/Birthdate: _____

Evaluator(s): _____ Evaluation Date: _____

This assessment protocol is intended for multiple evaluations over a period of time. Suggested scoring (no less than three times per school year):

a. Initial assessment (red)
b. Second assessment (blue)
c. Third assessment (green)

Further assessments will require a new form.

| Totals: | Evaluation #1 (red) | Evaluation #2 (blue) | Evaluation #3 (green) |
|---|---|---|---|
| 1. Range for Rating 1 | 5++ | | |
| 2. Total for Rating 2 | 5.5 | | |

No functional Vision

Typical or near-typical visual functioning

0 1 2 3 4 5 6 7 8 9 10

| Phase I | Phase II | Phase III |
|---|---|---|
| Primarily dorsal stream visual function | Dorsal and beginning ventral stream visual function | Refinement of ventral stream visual function |

## The CVI Range: Across-CVI Characteristics Assessment Method

### *Rating I*

Rate the following statements as related to the student/child's visual behaviors by marking the appropriate column to indicate the methods used to support the scores:

***O*** = Information obtained through observation of the student/child
***I*** = Information obtained through interview regarding the student/child
***D*** = Information obtained through direct contact with the student/child

In the remaining columns, rate each statement with one of the following descriptors:

**R** = Represents a visual behavior that is resolving or approaching typical behavior
**+** = Describes current functioning of student/child
**+/–** = Partially describes the student/child emerging
**–** = Does not apply to student/child

**CVI Range 1-2: Student functions with minimal visual responses**

| O | I | D | R | + | +/- | - | |
|---|---|---|---|---|---|---|---|
| | | | R | | | | May localize, but no appropriate fixations on objects or faces |
| | | | R | | | | Consistently attentive to lights or perhaps ceiling fans |
| | | | R | | | | Prolonged periods of latency in visual tasks |
| | | | R | | | | Responds only in strictly controlled environments |
| | | | R | | | | Objects viewed are a single color |
| | | | R | | | | Objects viewed have movement and/or shiny or reflective properties |
| | | | R | | | | Visually attends in near space only |
| | | | R | | | | No blink in response to touch or visual threat |
| | | | R | | | | No regard of the human face |

**CVI Range 3-4: Student functions with more consistent visual response**

| O | I | D | R | + | +/- | - | |
|---|---|---|---|---|---|---|---|
| | | | | + | | | Visually fixates when the environment is controlled |
| | | | R | | | | Less attracted to lights: can be redirected |
| | | | | + | | | Latency slightly decreases after periods of consistent viewing |
| | | | | + | | | May look at novel objects if they share characteristics of familiar objects |
| | | | | + | | | Blinks in response to touch and/or visual threat, but the responses may be latent and/or inconsistent |
| | X | | | + | | | Has "favorite" color |
| | | | R | + | | | Shows strong visual field preferences |
| | | | R | | | | May notice moving objects at 2 to 3 feet |
| | | | | + | | | Look and touch completed as separate events |

**CVI Range 5-6: Student uses vision for functional tasks** 5+

| O | I | D | R | + | +/- | - | |
|---|---|---|---|---|---|---|---|
| | | | | + | | | Objects viewed may have two to three colors |
| | | | | + | | | Light is no longer a distractor |
| | | | | + | | | Latency present only when the student is tired, stressed, or overstimulated |
| | | | | + | | | Movement continues to be an important factor for visual attention |
| | | | | + | | | Student tolerates low levels of background noise |
| | | | | + | | | Blink response to touch is consistently present |
| | | | | | | - | Blink response to visual threat is intermittently present |
| | | | | | +/- | | Visual attention now extends beyond near space, up to 4 to 6 feet |
| | | | | + | | | May regard familiar faces when voices do not compete |

**CVI Range 7-8: Student demonstrates visual curiosity**

| O | I | D | R | + | +/- | - | |
|---|---|---|---|---|---|---|---|
| | | | | + | | | Selection of toys or objects is less restricted; requires one to two sessions of "warm up" |
| | | | | | +/- | | Competing auditory stimuli tolerated during periods of viewing; the student may now maintain visual attention on objects that produce music |
| | | | | | | - | Blink response to visual threat consistently present |
| | | | | | +/- | | Latency rarely present |
| | | | | | | | Visual attention extends to 10 feet with targets that produce movement |
| | | | | | | | Movement not required for attention at near distance |
| | | | | | | | Smiles at/regards familiar and new faces |
| | | | | | | | May enjoy regarding self in mirror |
| | | | | | | | Most high-contrast colors and/or familiar patterns regarded and interpreted |
| | | | | | | | Simple books, picture cards, or symbols regarded and interpreted |

FIGURE 5.3 CVI Range: Within-CVI Characteristics Assessment Method (Rating II) Form

## The CVI Range: Within-CVI Characteristics Assessment Method

Determine the level of CVI present in the 10 categories below and add to obtain total score. Rate the following CVI categories as related to the student/child's visual behaviors by circling the appropriate number (the CVI Progress Chart may be useful as a scoring guide):

**0** Full effect of the characteristic is present
**.25** Behavior on this characteristic has begun to change or improve
**.5** The characteristic is affecting visual functioning approximately half the time
**.75** Occasional effect of the characteristic; response is nearly like that of individuals the same age
**1** Resolving, approaching typical, or response is the same as others of the same age

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. **Color preference** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | She responds to bright colors needs objects highlighted especially in a more complex environment | | | | | |
| 2. **Need for movement** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | Lucy was aware of her surrounding. Not needing movement to look at items. She does need movement for complex background. As for environmental sometime it was distracting up to 20 ft | | | | | |
| 3. **Visual latency** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | Latency was presented when objects were presented on a black background. It doesn't occur all the time but it depends on the background, familiarity, complexity and visual field | | | | | |
| 4. **Visual field preferences** | | 0 | .25 | .5 → | .75 | 1 |
| Comments: | She has three visual fields but given a more complex background she is unable to see the objects on the right side. | | | | | |
| 5. **Difficulties with visual complexity** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | | | | | | |
| 6. **Need for light** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | Lucy asks for light | | | | | |
| 7. **Difficulty with distance viewing** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | | | | | | |
| 8. **Atypical visual reflexes** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | | | | | | |
| 9. **Difficulty with visual novelty** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | | | | | | |
| 10. **Absence of visually guided reach** | | 0 | .25 | .5 | .75 | 1 |
| Comments: | | | | | | |

**Complexity of object:**
.75
Elephants and horses. Matching 2D to 3D objects
She is familiar with salient features

**Complexity of array**
.5
Depending if Lucy wears her glasses she is able to identify objects better with her glasses on.

**Complexity of sensory**
.5
Played a role when we walked to the table to find her personal objects

**Complexity of faces**
.75
Lucy looks at others peoples faces

**FUNCTIONAL VISUAL ASSESSMENT**

**Student:** Laura Lucy **Date of Report: 6/17/2022**
**Date of Birth:** 04/29/2014 **School District:** Franklin Mckinley
**Eye Condition:** CVI, Exotropia and Amblyopia **Date of Assessment:** June 13-15, 2022
**Evaluators:** Kristin Gault, TVI
Jacqueline Knight, ATS/ Special Education Teacher
Rickisha Herron, M.S., School Psychologist
Sarah Kinsella, SLP/AT
Leeat Redlich, SLP Student

**Purpose of Assessment:** An assessment is completed to evaluate a student's functional vision for recommendation of eligibility and services as a student with a visual impairment and to qualify for services.

**Medical History:** Lucy has Cerebral palsy, hemiplegia, GMFCS level III, CFSC level IV, MACS level II, exotropia in the right eye, cortical visual impairment

Exotropia: the misalignment of the eyes. Lucy's right eye tends to turn outward, making her left eye her dominant eye.

**Interview:** Our team had the pleasure of talking with Patricia, Lucy's mother. She told us how Lucy has a lot of words that she says in her own way. She is very social and attends school going to a special needs classroom for most of the day, with one hour spent with the rest of her peers in a mainstream classroom. Patricia works for "Parents Helping Parents", an advocacy program, as well as taking care of Lucy.

Lucy acquired cerebral palsy due to a brain cyst, and had two surgeries when she was born. The cyst affected the left side of her brain, which resulted in the right side of Lucy's body being more impacted. Lucy was two years old when she was able to sit by herself, and started to walk independently between four and five years old. She has had physical therapy since she was three and learned to crawl during the pandemic.

Patricia told us that Lucy also has intermittent amlyopia, where she may use one eye at a time. Her doctor used to have her wear a patch to help strengthen her right eye, which is her weaker eye. Lucy has glasses to help correct her acuity and see things when they are presented up close.

Lucy's current favorite activity to do is to color/draw/scribble with markers. Patricia will draw a cake and Lucy will scribble around it and then not be able to see the cake. When Patricia covers up the scribbles, Lucy is again able to see the cake, or she will draw another cake for Lucy. This is a good example of how cortical visual impairment (CVI) affects Lucy. The rest of this report will go further into CVI.

## Cortical Visual Impairment:

Cortical visual impairment (CVI) is a neurological form of visual impairment which has unique implications for functional vision. This form of visual impairment requires a very different approach to instructional supports and environmental/material adaptations as compared with ocular visual impairments. CVI presents a unique

need for interventions to support the learner's use of vision across environments; Provided with appropriate interventions, children and youth with CVI can be **expected** to demonstrate measurable progress in visual functioning over time.

Learners with CVI have unique visual behaviors, with 10 Characteristics common to these individuals (described in detail below in assessment), each of which is expressed on a scale of visual functioning (**The CVI Range**). Visual functioning in CVI is measured across the Range (0-10), with three major phases describing level of impact of the CVI Characteristics on the individual's ability to use his vision functionally:

- 0-3 Phase I Most severe impact on visual functioning
- 3-7 Phase II Moderate impact on visual functioning
- 7-10 Phase III Closest to typical visual functioning

It is important to identify a child's specific visual functioning on the CVI Range with regard to each characteristic, as **the intervention approaches needed to support progress in visual functioning are unique to each Phase**.

**II. Results:** Lucy scored between 5.5 and 5.75 placing her in Phase II.

Results for each of the 10 Characteristics of CVI are taken from Rating II of the CVI Range Assessment. Recommendations are provided in the context of how each Characteristic impacts Lucy's ability to use her vision functionally in the context of her typical activities and routines.

**1. Color preferences: .5** - Children with CVI often express a favorite color or a color that they will look at more than other colors. As they advance along the CVI Range, improving use of functional vision, color can be used as a highlight or anchor for more challenging visual information.

Lucy's mother reports that she prefers the colors blue and yellow. This observation and assessment indicates that she does not prefer orange and red but responds to other colors. When asked what color she would like to outline words on her AAC communication device, Lucy said "blue". This being said, Lucy was able to identify blue, green, purple, yellow, black, red and white. When asked to look for certain objects in a book with many details, she relied on color to help her find the object asked for, as long as it stood out among the others. An example of this was finding a medium to big sized Elmo (and Grover) in the middle of a page in a book. Lucy responded most when the colors were bright and placed against a high contrast background. She was unable to see a black puff ball against a black background, but could easily find it against a yellow background.

**2. Need for movement**: **.5** - Children with CVI often require movement to elicit or sustain their visual attention. Further along the CVI Range, children with CVI may require movement to support their attention at a distance, or in order to shift visual attention or maintain fixation at a complex or novel visual target. Shiny objects have a movement quality as light reflects off of them.

Lucy's mother reports that Lucy can see objects that are stationary, as well as moving, but there are times Lucy is unable to see objects (stationary and moving) in her right field. Our assessment showed this as well. Lucy was able to see most stationary objects at near distance 2-4 feet in all visual fields, although she did miss some objects in her right field. Movement is a good support to use when she is not noticing an object being presented on her right side. Movement is also a good support when materials are being presented beyond 4 feet and against a complex background. Lucy was not particularly attracted to shiny objects nor spotlighted images.

**3. Visual latency: .5** - Latency is the time between when an object is presented and when a child looks. Children with CVI may experience visual latency all the time, or only with objects/environments that are complex, or when overstimulated/tired/stressed.

Lucy's mother reports that she will notice latency mostly when Lucy is tired. When she is having a hard day, Lucy has a hard time looking at her materials to make a choice. Some of her behaviors when her eyes are tired are eye rubbing and getting irritated easily. Lucy does not like activities that involve balls because she is not able to notice the ball with how fast it moves.
During the assessment latency was noted when the complexity of array increased (such as finding all the pom poms/goldfish/objects on more complex cloth) or when looking for familiar items on table with having Lucy walk around the table. When complexity was made less complex by removing objects, she was able to find the objects. In addition, it was noted by Mom and during assessment that Lucy displays latency when materials are presented in the lower fields.

**4. Visual field preferences: .5** - Children with CVI sometimes prefer or can look better at things presented in certain visual fields. A typical progression for visual field development is: one strong peripheral field (right or left), then both peripheral fields (right and left), then central field, then upper, then finally the lower visual field is typically the most difficult for children with CVI to integrate.

Lucy's mother reports that Lucy sometimes has trouble seeing materials presented in her right field. She also reported that Lucy does not notice objects in front of her in her lower visual field from about midchest height down to the ground. This is a concern as Lucy is ambulatory. Lucy will be receiving a white cane and will be taking Orientation & Mobility lessons to help compensate for this lower visual field neglect. Lucy has a stronger ability to use her left side of her body due to her cerebral palsy. This was seen in her vision. Lucy had more difficulty observing light on her right side until it moved closer to her center field. Lucy was able to see light in the lower field when given a light, blue plastic egg. In addition, Lucy noticed the blue one faster on both sides of the fields. Although she looked around when being shown the red light with a slightly delayed response. In addition, no matter the color of light, there was a delay on the right hand side. When she was given a book to look at, Lucy needed to be encouraged to look at the whole page of the book, not just at the lower field closer to her, but the upper part of the book as well. The book was shown on a slant board.

**5. Difficulty with visual complexity: .5** -Children with CVI often have difficulty with complexity. Complexity can be in the object (lots of visual detail, multiple colors and sounds); in the array (many objects on a table/floor at once, a visually cluttered background as in a very busy cluttered room, or a busy backdrop as in a table mat or rug); in the sensory environment (lots of background noise, trying to do difficult motor tasks while looking at the same time, unstable positioning [especially for children with low muscle tone], when feeling upset or hungry); and in the complexity of human faces themselves. Children with CVI may have difficulty making eye contact or regarding/shifting toward familiar or unfamiliar faces.

**Complexity:**

**Object-** Lucy was able to look at, and interpret, most of the materials presented to her during this assessment. These materials ranged from single colored pom poms to 3D small plastic animals to multi-colored pictures in books. She was able to match 3D animals (chicken, horse, cow) to 2D abstract color pictures. Lucy was also able to look at a picture of a part of an animal and match it to the corresponding 3D animal. Lucy was also able to match CVC bubble words to their corresponding shape, as well as identify several letters of the alphabet.

**Array-** Lucy was able to find objects with no latency when displayed against a solid colored

background. As the complexity of the background increased, latency was noted and it took longer for Lucy to find the objects. Several times she missed the objects altogether, mostly when placed in her right field. As soon as the background was changed back to a solid color, Lucy could find the objects. When looking at a page full of pictures, Lucy could find the object if it was big and a bright color. Otherwise she showed latency, and would start to turn away or laugh and turn to look at someone. When showing her the complexity cards, Lucy had difficulty finding the red toothbrush when more than four objects were in the picture with the toothbrush. She was a bit more successful with the yellow duck, but as the complexity of array increased, she tended to show latency and then get distracted easily and look away. It was noted that when the array of objects was presented in an organized way (such as in a line or as groups of different colored letters on a page), Lucy was able to pick out objects, such as letters.

**Sensory-** Lucy was able to focus when she could not see outside movement and noise was kept to a minimum. During our observation earlier, Lucy would notice every person walking by from 3-20 feet. When someone sneezed or coughed, she would laugh and stop looking at what was presented to her. Mom also says that this is a problem in class as Lucy has a hard time focusing where there is movement and noise in the classroom.

**Faces-** Lucy was able to look towards unfamiliar and familiar faces, and make eye contact. She looked towards her face in the mirror, although it was hard to see whether or not she made eye contact with herself. Lucy does not recognize details of faces, but looks at the bigger features, such as hair color and style. She mistook one of us for Grandma as both have similar colored hair. She could not differentiate between boys and girls when shown pictures of both.

**6. Need for/attraction to light: .75** - Children with CVI often stare compulsively into primary light sources or spend a lot of time not looking at anything in particular (non-purposeful gaze). This has recently come to be understood as part of a larger Characteristic of attention to light, or benefitting from light and backlighting in particular, to support visual attention and learning.

Lucy's mother reports that Lucy prefers a well lit room, and will request light when a room is too dark for her. During the assessment, Lucy did not show that she needed light as a support. When spotlighting was added to help her find an object in a book, it was more distracting than helpful. The lightbox was used for part of the assessment, but the light was too much. We turned it off and she did much better with the white background. Lucy did notice the lighted eggs quickly at the beginning of the assessment. Lucy does like to watch familiar videos, but is able to see materials presented without backlighting. Light could be useful when showing materials at a distance beyond 4 feet.

**7. Difficulty with distance viewing: .5 -** Children with CVI often have difficulty with viewing at a distance. Distance is a function of complexity, because the further away the eyes are from a target, the more other visual targets are in the array (when 6" away from an object, only the object is in view; when 6' from that object, many other items are likely to be in the array).

Lucy is better able to see detail when wearing her glasses when materials are presented within 1 - 2 feet (example would be when she uses her AAC device, or when she is doing deskwork in class). To assess for further distance viewing, objects were placed along a long table and Lucy was told to look for familiar items. The complexity of the objects on the table needed to be adjusted and decreased for her to be successful. At first Lucy was more interested in watching myself walk by the table, then look at the stationary objects on the table. Lucy was able to see familiar objects on a table that was adapted to be less complex (such as black tablecloth) and from 1 - 2 feet away. When she was further away from the objects, she needed verbal support and encouragement to keep looking. She was able to see her water bottle from 3 feet away, and her playdo 4 feet away. When she was shown what to look for, she had more success, but still needed to be within 1-3 to see

something, and then 1-2 feet to be able to identify it. Movement and light could be used as a support to further help with distance viewing, but the complexity of array really impacted Lucy with trying to find the objects asked for.

**8. Atypical visual reflexes: .5** - Children with CVI may have atypical visual reflexes, which can resolve as the child's functional vision improves. These reflexes are blink to touch, and blink to threat (usually resolved in this order); a child with CVI may have absent, latent, or inconsistent reflexes.

Lucy's visual reflexes were not delayed in the area of blink to touch but she demonstrated an inconsistent blink in the area of blink to threat.

**9. Difficulty with visual novelty: .75** - Children with CVI often look at familiar and favorite toys better than novel ones because they have learned to look at those things. As a child progresses in functional vision, it helps to introduce novel targets with a higher level of adaptation, and/or introduce novel objects that share characteristics of familiar objects.

Lucy's mother reports that Lucy loves to look at new things, and asks for new things. She is curious in new environments and will look around. Lucy was shown a variety of objects throughout the assessment, and was willing to look at them all. She was able to group elephants together and then match them to an abstract color picture of an elephant in a book. When shown a new word ("ach" and "Grandma"), Lucy was able to look and attach meaning to it and then choose it when wanting to communicate about that word. Lucy was also able to look at the numericon tool and count the various number representations presented. She is able to use previous knowledge of salient features and attach that to new objects that are shown to her.

**10. Difficulty with visually guided reach: .5** - Children with CVI often have trouble using their eyes and hands together, and may exhibit a variety of look—look away—touch/reach behaviors. This is an indication that the materials, presentation, or environment is too complex for the child to be able to look at and interact with tactilely at the same time.

Lucy demonstrated that looking while reaching was easier for her when the item was placed on a non-complex background. The more complex the background, the more she would look away when reaching. Lucy was observed using her tactile sense when objects were presented on a complex background. For example, Lucy was observed reaching and looking away at the goldfish crackers when they were placed on a complex/ orange and yellow background. Instead she would feel around with her hand for the cracker. However, when the background was black she was able to use visually guided reach to access the goldfish crackers. Lucy also demonstrated reaching and looking away when reaching for an object that was complex. When asked to pick a 2D picture of a face, she would look, and then look away while reaching.

**III. Summary of Results:** Lucy scored a range of 5.5 - 5.75 placing her in the upper middle of portion of Phase II. She showed definite areas of strength with her awareness of salient features and ability to compare and group similar objects. Lucy is learning to read CVC bubble words, as well as identify her letters and numbers. The area where she will need the most support is the area of complexity. Complexity of array and sensory complexity will be things to keep in mind. Lucy is a very social young lady who is motivated by the adults around her giving her attention. When introducing communication in her SGD, motivating activities should be presented in a way that she finds meaningful. More specific recommendations are included at the end of this report.

The goal of intervention in **Phase II** is to integrate vision and functioning, in other words, to support the student to use vision more functionally and for increased number and duration of activities throughout the day. The child is able to use vision in the context of activities and routines if the appropriate adaptations are in place. In this sense, intervention is geared toward adapting materials, presentation of materials, and the environment itself, to encourage the student to be able to visually attend to the important aspects and items in activities during the course of the day. Warm-up time and pre-teaching are required before more visually taxing activities and materials with which visual fixation is expected, and visual fatigue will occur when the environment or the task are complex or challenging. Children in Phase II often benefit especially from the creation of a CVI Schedule to plan visual adaptations and approaches.

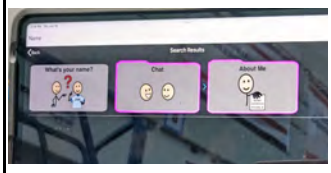
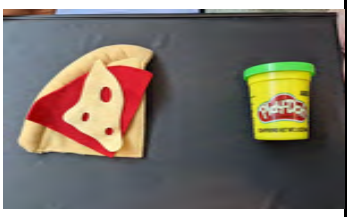
**V. Recommendations:**

- **Color** - Use highly saturated colors to promote/anchor visual attention, especially for more complex or more novel materials. Ideally use blue and/or yellow as Lucy prefers these colors. Use of color to outline ("bubble") words and shapes to focus on the unique or "salient" features.
    - The following website app can be used to create word bubbling for sight words: http://roman-word-bubbling.appspot.com/
    - The following website provides examples of salient features and adaptations to photos for salient feature instruction: https://cvicollaborative.wixsite.com/salientfeatures
- **Movement** - May need to include initial movement when presenting object on Lucy's right side. Movement is also a good support when objects are presented beyond 4 feet and when there is complexity in the background.
- **Latency** - Allow for extra visual processing time when Lucy is tired, stressed or overstimulated, and especially in novel/unfamiliar and complex/busy environments. Assume that if she is not shifting gaze to a visual target that fits her current levels of visual functioning as described in this report, she may need more time to process.
- **Visual Field Preferences** - Present materials in Lucy's left center field. Use a slant board to accommodate for her lower visual field neglect.
- **Visual Complexity** - Reduce complexity on working surfaces in more novel or busy environments. Use trifold boards and other adaptive environmental supports to occlude erroneous visual clutter, in particular in a very busy classroom. When Lucy is learning new material and needs to focus, have her work in a quiet environment where complexity of movement and noise is kept to a minimum.
- **Light** - Light may be used as a support when viewing materials beyond 4 feet. (Add lights to a target that is 4+ feet away to help her see it).
- **Distance Viewing** - When working at near distances (deskwork), it is important that Lucy wears her glasses. When she is asked to look at materials that are further away, use supports such as bright color, movement, and light.

- **Visual Novelty** - Use descriptive language! As a team, decide on what salient features to use when presenting new objects. Compare and contrast to objects already known to further build that visual library for Lucy.
- **Visually Guided Reach** - Present objects against a solid colored background to support Lucy being able to look at object while reaching for it.

It has been such a pleasure for all of us to meet both Lucy and Mom, and be able to work with both of you. We hope to keep in touch as we would love to hear the progress Lucy is making!

**CVI/AAC SCHEDULE**

| Name: Lucy | | | | Date: 6/16/22 |
|---|---|---|---|---|
| Activity | Student Goal Communication Forms and Functions | AAC Tools, Strategies and Accommodations | CVI Accommodation (from The CVI Range Assessment) | Other (mobility, Tactile, Auditory, AT) |
| Activity 1:<br><br>Morning meeting | Greet a peer and interact in turn-taking | Use speech, and AAC device<br>-If Lucy says "name" model on device "What's your name"<br><br>-The way to get to "what's your name" is to go to chat, about me.<br><br>  <br><br>Change and make sure the icons are CVI friendly. (field of 9 with 5 icons showing) | * Have teacher and materials presented against a black background<br><br>* Have the teacher present 1-3 items spaced apart to minimize complexity of array.<br><br>  <br><br>* Use of highly saturated colors should be incorporated<br><br>* Teacher should present materials in Lucy's left central field<br><br>* Use salient features and descriptive language systematic instruction strategies used by all staff when presenting items during morning meeting (ex. A cat has whiskers, triangle ears, and a tail)<br><br>* Reduce sensory | * Create sensory page in AAC device to enable her to make choices for her sensory needs:<br>1. Bean bag<br>2. Lights on<br>3. Use a fidget<br><br>  <br><br>* Have stand with AAC device accessible to Lucy<br><br>  |

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| | | | complexity to a minimum (keep extraneous movement and noise outside morning meeting to a minimum)<br><br>* Include visual break after 15 minutes to avoid visual fatigue | |

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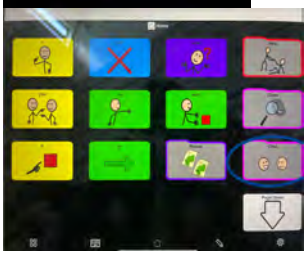
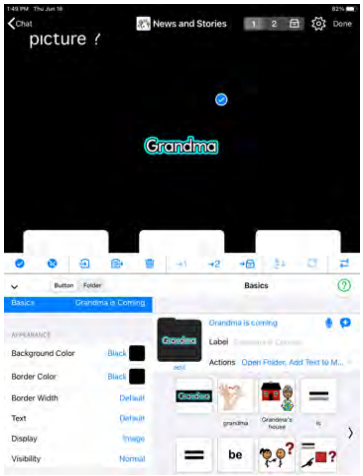
|---|---|---|---|---|
| Activity 2:<br><br>Morning meeting | Telling about her news | Use AAC device to navigate to “News and stories” page.<br>-Note: This page can be used for news from home (to share at school) and news from school (to share at home later)<br>-Ex: “Grandma came to visit me this summer!”<br>  <br><br>  <br>  <br>  | *Have Lucy’s news programmed in a CVI friendly way on her AAC.<br><br>Change and make sure the icons are CVI friendly. (field of 9 with 5 icons showing)<br>  <br><br><br>* Reduce sensory complexity to a minimum (keep extraneous movement and noise outside morning meeting to a minimum) as she is sharing her news. | Same as above |

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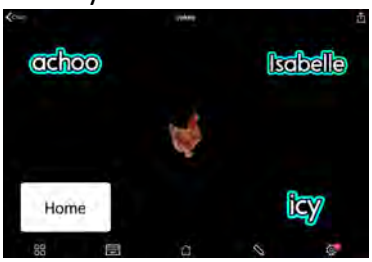
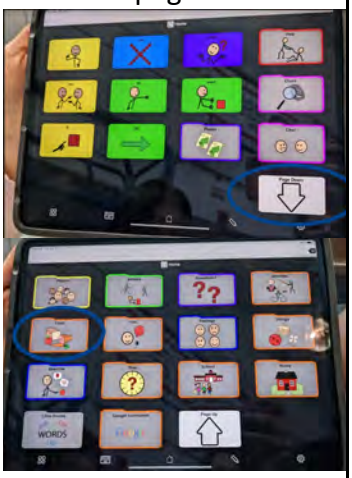
| Activity 3:<br><br>Checking her visual schedule | Request an activity (that isn't in the schedule)<br><br>Making choices about the order of events | Create a page with choices for free time options in her AAC device.<br><br>(and others) | Have Lucy's visual schedule CVI friendly<br>  <br><br>* Reduce sensory complexity to a minimum (keep extraneous movement and noise outside morning meeting to a minimum) | * Provide a hands on copy of Lucy's schedule (e.g. posted in the room or on her desk) in addition to on her AAC device.<br>-Lucy enjoys talking about her schedule and having access to it will be helpful. |
| Activity 4:<br><br>Lunch | Sharing information<br><br>Requesting information | Use AAC device to tell a peer or adult what she's eating.<br>- Ex. I'm eating pasta<br>To get to the food icon, tap page down and the food icon is located on the home page.<br>  <br><br>Change and make sure the icons are CVI friendly. (field of 9 with 5 icons showing) | * Solid color placemat to place her lunch on | Have AAC talker accessible |

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| Activity 5:<br><br>Academic Lesson | | • Use sensory strategies options with a choice board<br>  <br> | * Use of highly saturated colors should be incorporated<br><br>* Teacher should present materials in Lucy's left central field<br><br>* Use salient features and descriptive language, and systematic instruction strategies ( phrasing, routines, implementation) should be used by all staff when presenting items during morning meeting (ex. A cat has whiskers, triangle ears, and a tail)<br><br>* Reduce sensory complexity to a minimum (keep extraneous movement and noise outside morning meeting to a minimum)<br><br>* Include visual break after 15 minutes to avoid visual fatigue | |

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[1] Roman-Lantzy, C. (2019). Cortical Visual Impairment: Advanced Principles. New York: APH Press.
The CVI/AAC Summer Institute, (2022). The Bridge School.

# Activity VLLCP

## Adapted Vision, Language, Learning, Communication and Participation Framework

**General Student Information**

| | |
|---|---|
| **Child's Name: Lucy** | **Date:6/15/2022** |
| **Phase: I II III** | **The CVI Range Assessment Score: 5.5-5.75** |
| **Team Members:**Jacqueline, Leeat, Sarah, Rickisha, Kristin | |
| **Activity** | |

Pick 1 age appropriate communicative area of need that could be supported with increased vision strategies and accommodations.

Goal: Expand on social interactions (ex. directly asking a communication partner their name, responding to social greetings such as "how are you?" telling jokes to gain more opportunities to expand on her social strength)

- Activity:

Working on greetings (choosing a communication partner) and telling jokes.

- Phrases or language used to motivate or prompt child's participation:

Use a social script and jokes that she likes. "Hi Lucy!" "Who do you want to tell a joke to?" "This is so funny!"

- Knock knock, who's there, ach, ach who (achoo), bless you

*Other goal ideas:*

**Share about upcoming or past experiences.*

- *Use AAC and make a social story to use before an experience and also to talk about it after.*
- *Example: "My grandma is coming" page in News/Stories in her device.*
- *Write a story about her time with Grandma after. TAKE PICTURES!*

| Characteristics of the Child, Vision, Language & Communication | | |
|---|---|---|
| **Language and Communication** | **Vision** | **AAC-CVI Intervention** |
| **Communication functions to address for this activity:**<br><br>• **Function:**<br>Expand on requesting adult interaction and expand to peers.<br><br>• **Current form:**<br>Speaks "hi" and "name" (turns toward mom)<br><br>• **Form to be used:**<br>Lucy's high tech AAC system in addition to speech. | **CVI characteristics to be considered for this activity:**<br><br>•**Color:**<br>Black background, words outlined with bright color in Roman Bubbling<br>• **Movement:**<br>To maximize her attention face Lucy away from excess movement and minimize distractions in the environment.<br>• **Latency:**<br>Provide wait time for Lucy to respond without interruption or additional prompts.<br>• **Visual Field:**<br>Lucy's strongest visual field is her left center. Communicators should present themselves on the left center of her body.<br>• **Complexity of object:**<br>Limited array on AAC device with 5 choices with one in each corner and one in the middle.<br>• **Complexity of array:**<br>Limited complexity with 5 choices with spacing to start with for new words/icons.<br>• **Complexity of environment:**<br>Keep distractions to a minimum with noise and movement. | **Communication Partner Strategies:**<br>• **Quiet time-**<br>o provide wait time BEFORE and after initiating interaction with Lucy to allow her time to plan and initiate interaction (before) and to find response in her AAC (after)<br>o Quiet wait time while she looks at photos and language in AAC device<br><br>**Materials:**<br>• **Slant board**<br>• **Photographs**<br><br>**Materials related to activity:**<br>• **Other-** In AAC device add more photographs for nouns (peers if possible, favorite places), add bubble words or Geneva bold for others instead of symbols.<br>o Specifically for Thurs: add photos of group members, add bubble word "achoo" and add joke in device.<br><br>**Physical (access considerations):**<br>- How can we support her independent use of her AAC device as she walks around? |

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| | • **Complexity of faces:**<br>• **Light:**<br>Activity is backlit on iPad, however she could acces the icons with a print copy as well.<br>• **Distance:**<br>This activity was conducted within 2-3 feet of the ipad, but she was able to interact with people 2-4 feet away.<br>• **Visually guided reach:**<br>Icons/words were outlined with a bright color on black background with minimum complexity thus further supporting visually guided reach. | |

| **Communication Tools**<br>**Plan how child will express these functions?**<br><br>Lucy will use her AAC device (along with gestures, etc.) to initiate a joke by navigating to the chat/social | **Strategies and Accommodations to Support Communication using AAC Tools**<br>● Explore navigation of Proloquo2Go without keyguard<br>● Nine grid in the CVI pattern of five to provide decreased visual complexity and increase Lucy's navigation efficiency of her Proloquo2Go device<br>●  <br>● **Highlighted words in a student- selected color of blue to assist with visual accessibility and increase motivation for use** |
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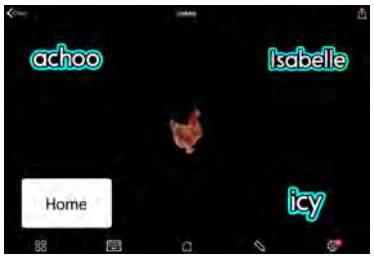
| | •  <br>• **Real photograph of people and familiar objects**<br>• **Model device use in all school, home and community settings to maximize communication opportunities**<br><br>**Accommodations:**<br>• **Use a slant board when presenting visual materials to Lucy to support**<br>• **Remind Lucy to take her communication device during all activities throughout the school day**<br>• **Explore the use of a strap for her device with consultation with OT/PT**<br>• **Develop a updated low-tech Communication Book with current P2G layout**<br>• **Lucy needs to wear her glasses when accessing her AAC device.**<br>• **Encourage vision breaks**<br>• **Create a sensory break page**<br>  ○ **I need an eye break**<br>  ○ **Can we turn the lights on?** |
| **No Tech (body-based): Other** | • **Lucy uses adaptive sign language such as “more”, “eat”, “all done”, “help”**<br>• **Lucy uses eye gaze with communication partners when greeting, seeking adult attention, and during social interactions**<br>• **Lucy taps and kisses communication partners**<br>• **Lucy leans toward communication partner for social closes**<br>• **Lucy gives high fives** |

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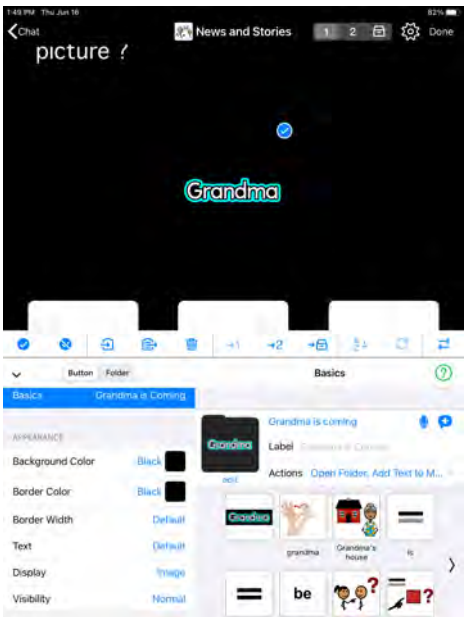
| **Low-tech(non-electronic):** | **Communication Book**<br>  |
| **High-tech (electronic):**<br>**iPad Pro with Proloquo2Go** | **Bubbled words** |
| **Supports for language comprehension: Use of words or images instead of symbolstix images** | **Social Narratives** |

| **Team Debrief and Reflect** |
|---|
| **What worked?**<br>● Modeling<br>● A grid of nine with CVI pattern of five<br>● Wait time<br>● Letting Lucy pick what color and be part of the decision making for her device**.** |
| **What did not work?**<br>● 16 cells<br>● symbols with multiple parts/images inside<br>● Bright background colors on each cell |
| **What questions came up?**<br>● Which layout is better for the jokes? The list view vs folder view? |

- How many cells are better for Lucy? Can she have more than 5?
    - As she becomes familiar with the choices on a page, explore whether adding more icons to the page is beneficial or whether they would have a negative impact contributing to visual fatigue.

- Is a key guard still needed with the new 5 cell layout?
    - Would swiping be better than the “more” cell.

**Look at the communication form and function worksheet, what functions of area are needed?**

- Refusal
- Protest

Roman-Lantzy, C. (2019). Cortical Visual Impairment: Advanced Principles. New York: APH Press
Forms and Functions Adapted by Mary Hunt-Berg from the work of Amy Weatherby (1995) and Kathleen Quill (1995) The Bridge School.
AAC/CVI Summer Institute. (2022). The Bridge School.

## FONT CONSIDERATIONS

It is hard for Lucy to read letters without space between each other, this is caused by her CVI condition.

In case you are using the Google editor like docs, presentation, etc, there is a font named “Spartan” that has more space between the letters.

If you are using a Microsoft or other kind of editor, you can install the font “Lucy-Spaced-1-2021.8.9.ttf” on Windows or Linux and reopen your document editor, then choose the “Lucy spaced” font.

If you are using https://roman-word-bubbling.appspot.com/ a web page that surrounds a phrase to make a salient feature (CVI people see more clearly the words in this way).
You need to download the font “Lucy-Spaced-1-2021.8.9.ttf” to your computer, then select “custom font” in the web page and choose the file.

If you need a font with more space, something special or you find an error on the font, please let us know.

**ACTION PLAN FOR LUCY**

By her mother Patricia Jaimes

SMART Plan of Action

**Specific:** the goals must be accurately defined. They are roadmaps that will walk you through the actions to be carried out. The more the goals are detailed and to-the-point, the more efficient your team will be. It will help you share out the tasks, and everyone will know exactly what they're doing and with which resources.

**Measurable:** this second criterion implies that each goal must be quantifiable and that some indicators can be monitored in real time. Only with quantifiable results in hand can you determine whether the goal has been met or not, or whether further resources are required for completion, for example.

**Achievable:** make sure that your goals are in line with the available financial, human resources and skills. If not, the team's motivation may drop off rapidly, making it difficult to track goal progress.

**Relevant:** the focus is on the goal's consistency with the organization's ongoing situation, which is not to be confused with the previous criterion. Ask yourself why you are setting this goal.

**Time-based:** determining deadlines will help you stay focused on the order of priorities and ramp up everyone's efforts. The success of your goal relies on deadlines being met. If it is achieved within the set deadlines, no further resource is engaged.

**Goals for Lucy's AAC device:**

- **Goal 1:** Making the design for Lucy's AAC device. Target date: September 2022
- **Goal 2:** Customize the AAC device content to be intuitive, easy to use and compliant with Lucy's CVI recommendations. Target date: June 2023
- **Goal 3:** Lucy will be able to express her needs, meet people, give her news and do different activities with her AAC device. Target date: June 2023.
- **Goal 4**: Develop some social stories for Lucy. Target date: June 2023

**Goals for my work at Parent Helping Parents:**

- **PHP Goal 1:** Expand awareness and facilitate information to PHP staff and parents about CVI and AAC. Target date: December 2022

| Lucy Goal 1: Making the design for Lucy's AAC device. Target date: September 2022 | | | | | | |
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| Objectives | How to measure | Resources needed | By when | Potential barriers | Impact | Next steps |
| Find out the best AAC page layout (icon quantity per page) | Lucy testing sample pages during different days. Measure her reaction time, ask her preference. Check visual and motor difficulty | Develop sample pages on her AAC device with Proloquo. | 8/22 | Finding the right icons for her to measure the right layout and not measuring her icon memory | Facilitate AAC use to Lucy | Choose 2 familiar topics-icons for her. Maybe try 6, 9, and 12 icons per page. Design between 6-9 pages. |
| Choose a language organization system, easy and clear for Lucy but robust to grow with her. Where to place pronouns, actions, adjectives | An AAC specialist measuring what is the best language organization system for Lucy | An AAC/CVI specialist that understands Lucy's needs. Baseline: Lucy's actual device has a mix of "Activity based organization" and "language based organization" | 9/22 | Wait list for an AAC consultant that knows about CVI. A new specialist will take time to understand Lucy's needs. | Make a logic and understand able AAC device for Lucy and the receptor | Asking contacts and research for an AAC specialist. |
| Find out Lucy's word bubbling preferences | Test Lucy reaction time and ask her preferences. | Word bubbling and find or make some fonts with more space between letters. | 8/22 | Getting confusing answers from Lucy | Reduce complexity and help literacy skills | Make some sets of words bubbling changing colors, outline width, gap width, letter size, space, fonts |
| Looking for the right icon set for her device. (We | Test Lucy picture abstraction comprehension | Some icons from Boardmaker, simbolsticks, | 8/22 | Icon incompatibilit y with Proloquo but | Reduce visual complexity and | Get icons from some familiar words from different icon |

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| will try to use real photos when possible but we also need icons) | from different icons set. | etc. | | possibly uploading images | eliminate confusing icons | sets, if possible compatible with Proloquo |
| Make the navigation layout. Find the best way “for the next page”, “home” and “back” location. | Make some tests to see where is the best position for the home button, next page, back (optional). Test swiping vs button. | Make some different pages on her AAC device with Proloquo | 8/22 | Not being able to clearly read Lucy’s responses. | Facilitate Lucy’s motor skills and avoid crowding | Make navigation samples |
| Find out if Lucy needs a keyguard or not | Measure her accuracy with and without a keyguard. Advantages and disadvantages from swiping vs keyguard. | Make a dummy keyguard with some plastic | 9/22 | Not being able to clearly read Lucy’s responses | Facilitate Lucy’s motor skills and improve navigation speed | Get or make a dummy keyguard |

## Track your goal progress

What are the action steps you need to take to achieve this goal? Order these by priority or by their due date.

- Action: Choose a language organization system. Look for an AAC specialist consultant. This is the first thing to do because there is probably a waiting list for the specialist.
- Action: find out the right navigation layout, icons quantity, word bubbling characteristics.
- Action: Make dummy keyguards

Am I on track to achieve this goal? What obstacles have come up and what support do you need?

- Obstacle: I don’t have an AAC specialist with CVI knowledge in Lucy’s private or school team that can help in choosing the right language organization system.
- Support:

Milestones achieved. down Note every time you hit one of your measurable milestones along the way.

- Milestone 1:
- Milestone 2:
- Milestone 3:

Target date. Have you achieved your goal?

| Lucy Goal 2: Customize Lucy's AAC device content to be intuitive, easy to use and compliant with Lucy's CVI recommendations. Target date: June 2023 | | | | | | |
|---|---|---|---|---|---|---|
| Objectives | How to measure | Resources needed | By when | Potential barriers | Impact | Next steps |
| Create the main home page | Try the most common communication scenarios for Lucy and check functionality and complexity. | Have a language organization system. Photos and icons | 10/22 | Doubts about vocabulary organization. Not choosing the right CVI friendly icons | Facilitate AAC use to Lucy. Simplify visual complexity | Make a list of the main home folders |
| Create content to have a basic conversation. Develop folders like people, chat, time, help, feelings | Quantity of folders, pages and icons developed. Compliant with Lucy's CVI phase recommendations | Photos, icons, Proloquo | 11/22 | Vocabulary organization doubts | Having a functional AAC device. | Taking pictures, making word bubbles, develop pages. |
| Create content for actions, pronouns and questions | Same as above | Same as above | 12/22 | Same as above | Increasing vocabulary | Make a list of the basic set and make a plan to grow |
| Create content for some basic activities like google speaker, play some games | Same as above | Same as above | 2/23 | Same as above | Lucy using her device in more scenarios | Look for the most motivating activities in the moment |
| Create content related to places and news | Same as above | Same as above | 3/23 | Same as above | Increasing vocabulary | Make a list of most common topics for news |
| Categories (food, things, etc), adjectives | Same as above | Same as above | 4/23 | Same as above | Increasing vocabulary | Make a list of topics |

## Track your goal progress

What are the action steps you need to take to achieve this goal?  Order these by priority or by their due date.

- Action: make a content map detailing the information inside folders and making some tests of phrases to check logic, functionality, etc.
- Action: Develop main page
- Action:

Am I on track to achieve this goal?  What obstacles have come up and what support do you need?

- Obstacle:
- Support:

Milestones achieved.  down Note every time you hit one of your measurable milestones along the way.

- Milestone 1:
- Milestone 2:
- Milestone 3:

Target date.  Have you achieved your goal?

| Lucy Goal 3: Lucy will be able to express her needs, meet people, give her news and do different activities with her AAC device. Target date: June 2023. | | | | | | |
|---|---|---|---|---|---|---|
| Objectives | How to measure | Resources needed | By when | Potential barriers | Impact | Next steps |
| Lucy getting familiar with the device navigation (home button, next page, back). Page swiping or keyguard | Measure her accuracy to find the navigation buttons when we request an specific feature | AAC navigation design on Proloquo and dummy pages | 9/22 | Not having a good navigation design | Introducing the AAC device to Lucy | Modeling using the device to Lucy |
| Lucy using her device for an interesting activity | Compare the time Lucy takes to find icons vs her paper book or old AAC system | Proloquo with Lucy's customized content | | Lucy not being interested | Communicating more clear with her device | Introducing activity |
| Lucy meeting people | Lucy having a little greeting conversation with someone | Customized "chat" content | | Not having clear icons | Having a conversation with people | Introducing icons for "what's your name", "how is your day", etc |
| Lucy using "places" folder | Lucy identifying "places" icons | Customized "places" content | | Same as above | Lucy increasing vocabulary | Modeling using "places" |
| Lucy giving "news" regarding "people" | People understanding the message from Lucy's "news" | Customized "news" and "people" content | | Same as above | Same as above | Modeling |

## Track your goal progress

What are the action steps you need to take to achieve this goal?  Order these by priority or by their due date.

- Action: Modeling the use of the navigation and home page
- Action:
- Action:

Am I on track to achieve this goal?  What obstacles have come up and what support do you need?

- Obstacle:
- Support:

Milestones achieved.  down Note every time you hit one of your measurable milestones along the way.

- Milestone 1:
- Milestone 2:
- Milestone 3:

Target date.  Have you achieved your goal?

| Lucy Goal 4: Develop some social stories for Lucy. Target date: June 2023 | | | | | | |
|---|---|---|---|---|---|---|
| Objectives | How to measure | Resources needed | By when | Potential barriers | Impact | Next steps |
| Find a nice software for social stories | Facility and options from the software | Software brand options | 8/22 | | Having the tools to make stories | Research |
| Make some social stories to help Lucy to understand some interactions or events | Lucy changes her behavior when an event from the social story happens. | Customized social stories developed | Make a social story each 1 or 2 months | | Lucy feeling less stressed, understanding a situation, changing behaviors | Make a social story |

List of social stories to make:

1. When Daddy is around I can also do activities with different people.
2. When meeting someone first I greet, listen and then I share my news.
3. If someone else is speaking I can wait and ask for a turn
4. Each person decides the way they are going to do their activity
5. Private vs public
6. Going to the doctor

## Track your goal progress

What are the action steps you need to take to achieve this goal? Order these by priority or by their due date.

- Action: Look for software for social stories
- Action: Make a draft of the message we plan to have in the social story
- Action:

Am I on track to achieve this goal? What obstacles have come up and what support do you need?

- Obstacle:
- Support:

Milestones achieved. down Note every time you hit one of your measurable milestones along the way.

- Milestone 1:
- Milestone 2:
- Milestone 3:

Target date. Have you achieved your goal?

| PHP Goal 1: Expand awareness and facilitate information to PHP staff and parents about CVI and AAC. Target date: December 2022 | | | | | | |
|---|---|---|---|---|---|---|
| Objectives | How to measure | Resources needed | By when | Potential barriers | Impact | Next steps |
| Make an e-packet about the basic and best links about CVI and AAC | Count the e-packet use and downloads | CVI websites | 08/22 | ? | Sharing information with parents in an easy way | Start doing the e-packet document |
| Make a plan or script about how to inform parents with children at risk of CVI | Make a little survey for some parents to see if it was the right way, moment or useful for them. | Manager approval | 09/22 | Parents not interested or overwhelmed | Parents looking for the right help for their children | Make the script |
| Make a presentation about CVI to PHP staff | Questions and survey at the end of the presentation to review | CVI websites | 11/22 | People interest | PHP staff ready to talk on the topic with parents | Talk to my manager |

## Track your goal progress

What are the action steps you need to take to achieve this goal? Order these by priority or by their due date.

- Action: Make the e-packet
- Action: Make a plan to inform parents
- Action: Schedule date and make a presentation

Am I on track to achieve this goal? What obstacles have come up and what support do you need?

- Obstacle:
- Support:

Milestones achieved. down Note every time you hit one of your measurable milestones along the way.

- Milestone 1:
- Milestone 2:
- Milestone 3

Target date. Have you achieved your goal?