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: Adam
Parents: Lara and Todd Kapoyan
Interprofessional Collaborative Team:

Chris Toomey, Special Education Teacher, CVI Endorsed
Elizabeth Vasquez, SLP
Kate Jackson, SLP
Madalena McAllen, AT, SLP
Hannah Miller, student

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

Child's Name: Adam **Informant:** Lara (Mom) **Date:** 6/13/22

Context: Sitting in a wheelchair at a desk with a colorful piano placed on top. Mom on his left side is interacting with him. Observation and interview from 9:40am to 11:40am.

Communicative Function	Sample Context	What child says/does	How communication partners respond
Request attention	Adult gives attention to another person	Reaching out He says "Mama" (mom), "Dada" (dad), and "Nana" (sister) to get attention "More" Says "Yes" and "No" Vocalizations Banging on the table Says "Hi"	Mom will respond or get closer to him
Request affection	Adult approaches child when hurt	Initiates by putting arms up for hug Says "you" and wants adult to fill it in and say Ilove you. He also fills it in and says I love… "you" Makes kissing sound	Mom leans in and hugs him back Mom asks him if he is finished
Request assistance	Child needs help with task	He will bang on a table if near one	Mum explained in advance that she was going away and also would remind him when he requested again. Mum feels that he understands the explanation

Request information	Child sees something or someone new	He will ask where familiar people are by naming them and requesting where they are. (E.g. when sister away on soccer camp, he would say her name repeatedly to ask where she is) Says "hi" when hears someone and wants to know who they are. Sometimes he will look at the face of someone new	
Request permission	Child wants to go outside	[Not observed by Mom or team]	
Request peer interaction	Child sees another child using a favorite toy	Says "nana" for sister's name If someone is talking to him and he wants more, he will say or sign "More" (head remains down) Will say hi back to other kids	
Request adult interaction	Tickle child and then pause	Reaches toward people, says "hi" and "more" (can also sign it) Reached forward with right hand Will say "More" when he hears you talk, because he wants to hear you talk more	Mom moved closer and then A pulled her in for a hug. He appeared pleased to be back with Mom, and greeted her.

Request food or object	Wants object out of reach	To request food, he will say "Eat" – he will do this at the correct time, e.g. lunchtime. (knows the time for eating). Reach towards food/object while looking down Using CVI friendly songs/books on ipad, if Mum pauses, he will ask for more by looking at it	Mom moved it closer. Mom reports that he is okay when he is told "no" or if something is not possible at that time
Refusal	Offer him something he doesn't like	Moves his face away Says "Bye" Throws items His sister likes to hug for too long, and he will push her away when he is done Groan Says "No"	

Protest	Needs to participate in task & doesn't want to	Rubs eyes/takes glasses off Throws/drops item Says "No" or "Bye" When he wants to get out of the chair, he will rock in his chair Mom stopped him from putting his hand in his mouth, so he slammed hand on desk/object	Mom attributed this as "I don't want to do this"
Cessation	Wants to be finished with meal or task	Rubs eyes/takes glasses off Throws/drops item Says "No" or "Bye" Looks down/away	
Greetings	a familiar person arrives or is leaving	Says "Hi" If the person is quiet when they arrive he will not notice/acknowledge their presence Greeted Mom (when returning from play session) by reaching out hand and making some vocalizations in response to Mom verbally greeting him Will respond "Bye"	Mom moved closer and A pulled her in for a hug.

Affirmation	Ask him if he wants a favorite food.	Says "Yes" or repeats choice that he wants through partner assisted scanning	Mom gives a choice of 2-3 options.
Comment: object	Sees an interesting person or object	Says "Yay"	
Comment: action	Sees an interesting action	Says "yay" If he wants to get out of a chair, he will rock	
Comment: mistake	Child accidentally spills or drops something	No acknowledgement if he spills something on himself	
Express humor	Adult laughs at something funny	Laughs when he hears other people laughing Smiles when asked "Oh you think you're funny?"	Mom will comment on him laughing.
Express confusion	Child is given an unfamiliar task	Lowers head	
Express fear	Child hears something frightening	Mom doesn't feel he expresses this: "don't think so". He may lower his head	

Express frustration	Child is having difficulty with a task.	Will throw food when frustrated, e.g. if food is late or he doesn't want it Pushes sister away when he is done He will bang something in front of him, e.g. table.	Mom says this probably doesn't happen a lot because she always predicts his needs. Mom uses count up from 10 which helps. "most of the time if you start counting he will just sit down". He will sometimes fill in 2 and 3. He understands this strategy. Not very often that they get past 3.
Express anger	Child has to stop doing favorite activity.	Banging tray, kick feet	
Express happiness	Child is doing a favorite activity	Smiles Positive affirmation: "Yay, Yes, More, Hi" When watching the CVI friendly songs/stories, he will visually attend Laughed when interacting with mom and when mom giggled	Mom will pause intermittently to get him to spontaneously request more
Express sadness	Child experiences something sad.	Uses facial expressions when he hears someone else crying Will verbalize "Aww" when he hears someone else crying	

Conclusions:

Adam communicates mainly through unaided means of communication like word approximations, sounds, body movements and gestures. However, these only allow him to communicate a restricted range of communication functions and the number of partners he can communicate with is also limited to those who know his current forms. This is the reason why as a next step it would be ideal to find communication supports that would be visually accessible and/or provide auditory or tactile supports that would enable him to communicate more functions, a wider range of vocabulary and with more communication partners.
In this document we describe some options that were trialed during the week.

CVI RANGE SCORE

THE CVI RANGE

Student/child's name: Adam Age/Birthdate: 11y. 7/5/11

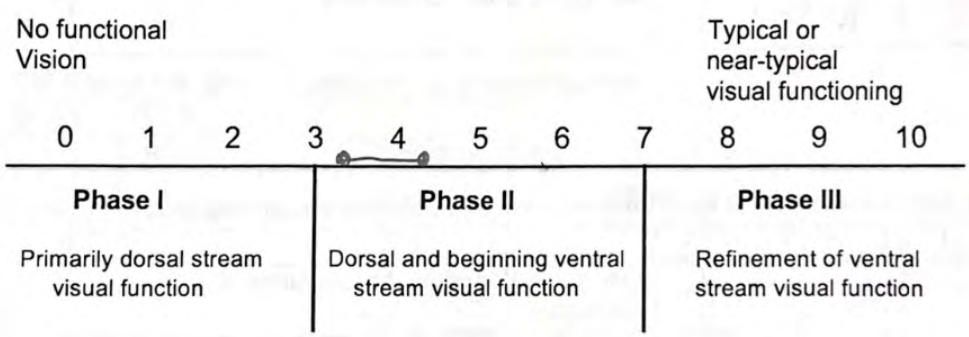
Evaluator(s): Kate, Maddy, Eli, Hannah, Christine, Chris, Eileen Evaluation Date: 5/14 & 5/15

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	4.0		
2. Total for Rating 2	3.0		



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	+	+/-	-	
			✓				May localize, but no appropriate fixations on objects or faces
			✓				Consistently attentive to lights or perhaps ceiling fans
			✓				Prolonged periods of latency in visual tasks
			✓				Responds only in strictly controlled environments
			✓				Objects viewed are a single color
			✓				Objects viewed have movement and/or shiny or reflective properties
			✓				Visually attends in near space only
			✓				No blink in response to touch or visual threat
			✓				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
				✓			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
			✓				Has "favorite" color
				✓			Shows strong visual field preferences
				✓			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

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

The CVI Range: Within-CVI Characteristics Assessment Method

Determine the level of CVI present or resolved 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 Comments:	0	.25	.5	.75	1
2. Need for movement Comments:	0	.25	.5	.75	1
3. Visual latency Comments:	0	.25	.5	.75	1
4. Visual field preferences Comments:	0	.25	.5	.75	1
5. Difficulties with visual complexity- Comments:					
object	0	.25	.5	.75	1
array	0	.25	.5	.75	1
sensory	0	.25	.5	.75	1
faces	0	.25	.5	.75	1
	0	.25	.5	.75	1
6. Need for light Comments:	0	.25	.5	.75	1
7. Difficulty with distance viewing Comments:	0	.25	.5	.75	1
8. Atypical visual reflexes Comments:	0	.25	.5	.75	1
9. Difficulty with visual novelty Comments:	0	.25	.5	.75	1
10. Absence of visually guided reach Comments:	0	.25	.5	.75	1

CVI CHARACTERISTICS OBSERVATION NOTES

CVI Characteristics – Observation Notes

COLOR PREFERENCE: - favorite/highly preferred colors - multiple colors on a visual target - need for bright/saturated colors to anchor visual attention	Has been tolerating more colors/multicolored items more and more. Favorite color is red/orange but doesn't need all the time. Light appears to be more important to gain attention than bright color. Looked at red and yellow football as well as multicolored novel toy (piano). Mom presented back of the novel toy first, since there were more solid colors
NEED FOR MOVEMENT: - movement at near - movement at far - movement for complex or novel	Can help gain and sustain attention of item. He likes to move constantly but seems to be more sensory based. Rocks back and forth in his wheelchair, but still when he listens or sees something interesting
VISUAL LATENCY: - specific length of time - latency with novel or complex targets or environments - when tired, stressed, overstimulated	7 second delay on auditory/visual scanning on AAC device. When presented with new toy, 15 second delay with reach. Familiar toy was also delayed for look/reach. Looked at item quicker when it was placed against black background
VISUAL FIELD PREFERENCES: - left - right - center - upper - lower	Preference is right of center. Mom reported that he has minimal lower field. Looked at new toy out of right eye first then with both. Football toy was introduced in center field first
VISUAL COMPLEXITY: - array - target - sensory environment - faces	Reducing visual complexity is very important. Needs black background and only one item. School working on field of 2 pictures. Auditory environment is very important as he is highly distracted by noises. Mom reports he does not look at faces. Glimpsed briefly at mom's face. Mom reports does not look at faces usually but prefers people with glasses Clutter is the biggest challenge for him
NEED FOR LIGHT - attraction to light, light gazing, "nonpurposeful gaze" - light to illuminate targets - backlighting e.g. on a screen/tablet	Flashlight on object is necessary to gain attention. Picture backlit on iPad or lightbox is necessary to process picture.

DISTANCE VIEWING: - near: up to 18” - 2 to 3 feet - 4-6, 6-8, 10, 10-20’	Mom reported minimal distance viewing. Item placed 2 -3 feet away from him. Wears glasses to see far away
ATYPICAL VISUAL REFLEXIVES - blink to touch - blink to threat	Yes to touch, delayed/inconsistent to threat None to light shined across face
VISUAL NOVELTY: - only able to view familiar objects - novel objects that share [specific] characteristics with familiar - need for warm-up time - difficulty with novel environments	Did interact with new toy - did not look at it at first, then right eye only then both eyes.
VISUALLY GUIDED REACH: - Look-look away-reach - Look-reach-look away - Touch first, then look - Specific examples	For new item touched first then look. Sometimes looked first - like book.

Chris Russell, New York Deaf-Blind Collaborative 2018 (based on The CVI Range [Roman, 2018])

CVI/AAC SCHEDULE

Name: Adam				Date: 6/17/22
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: Food, song and movement choices	Make a choice between 4 foods/songs/movements through eye gaze or direct selection	With 4 pictures on a lightbox (corners) On a large iPad with keyguard On an eye gaze device	Highly motivating foods/songs/movement Backlighting from iPad Light shining on pictures Size/color/complexity of picture adjusted for his range ● Highlight salient features ● Pre-teach pictures ● Remove background Hide/remove 1-2 pictures if needed Provide wait time Provide concise verbal cues on expectations	Head position and Posture significantly improved with self propelled wheelchair (feet on ground) Engagement with vision and activity increased out of wheelchair on mat on floor

				Provide quiet environment
Activity 2: Finding/directing partners to familiar items in environment	Adam will look for items/places in his environment to direct people	When adult asks "What do you want to do next?" "It's time for you to go" "Oh are you going to go to your desk? Where is your desk?"	Start with highly motivating locations like swing or book corner Use sounds to direct gaze Shine light Bring him closer to location • Start at 1-2 ft • Increase as vision improves Use environmental targets that are highly saturated with color or use mylar tape Provide wait time	Look at seating and positioning to improve posture/head position Provide quiet environment
Activity 3: Eye Gaze games	Engage for 20 minutes a day with highly preferred eye gaze game		Backlighting Real colored pictures Use a darkened room Provide wait time Provide verbal cues	Provide quiet environment