
Texas School for the Blind & Visually Impaired Outreach Program



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CVI Series, Part 2: Using Christine Roman's CVI Assessment

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Developed by

Texas School for the Blind & Visually Impaired
Outreach Program

CVI ASSESSMENT THE CVI RANGE

(an assessment by Christine Roman-Lantzy)

ASSESSMENT FRAMEWORK

- Interview
- Observation
- Direct evaluation of student

CASE STUDY/CASSIE:

- 9 years old
- CVI secondary to anoxia from surgery during infancy
- Auditory processing disorder
- Deafblind label
- Developmental delays
- Speech Impaired
- Extremely social
- Uses object calendar

CVI RESOLUTION CHART 101

- Review Range of Characteristics.
- Number the boxes for next activity.

INTERVIEW

- See handouts:
- CVI Interview questions for parents/caregivers (Cassie)
- Appendix 4.A Answer Guide to CVI Parent Interview Questions
- Write notes on CVI Resolution Chart

OBSERVATION

- [Watch Movie](#) (We see a picture of Cassie playing the piano on the slide.)
- Make notes on CVI Resolution Chart in a new color

DIRECT ASSESSMENT

- [Watch video of direct assessment](#). (We see a picture of Cassie holding and visually examining an object on the slide.)
- Record results on CVI Resolution Chart.

REFINE RESULTS

- Record results on “Essential Forms” (Rating II) on Number Line
- See Appendix 5.A CVI Scoring Guide for help with filling out Rating I
- Record numbers and find CVI Range

INTERVENTION:

- Page 132: Tips for providing interventions by phase (BOOK)
- Page 138, table 6.1 Sample activities (BOOK)
- [Bulleled list for Cassie](#) (Handout)
- Report as addendum to functional vision assessment

CVI Interview questions for parents/caregivers: (Cassie)

1. Tell me what you do with a toy to get your child interested in it?

Parent: If it plays music or lights up I push the button to make it do it. If it is a toy without music or lights I hold it in front of her face to get her interested in it.

School: Make noise with it. Mostly she finds things on her own. Put it in her field.

2. When you show your child something, how do you know he or she sees it?

Parent: Cassie will grab it or reach for it.

School: She brings it to her face or moves it. Looks out window of van when moving for the whole trip.

3. Does your child have a favorite side or a favorite head position?

Parent: Haven't really seen a true preference but sometimes she'll tilt her head up.

School: Holds head back, like when looking at faces. Forward gait-eyelids partially closed. Blocking field?

4. Does your child usually find objects by look or by feeling for them?

Parent: ½ by look and ½ by feel.

School: Looking then touching.

5. Do you have concerns about the way your child sees?

Parent: Worry about lack of depth perception causing falls.

School: Nope, only curious.

6. Where do you usually hold objects for your child to look at?

Parent: I hold it about a foot to a foot and a half away from face directly in front of her eyes. Sometimes I wiggle it.

School: Right in front-central.

7. What are your child's favorite things in your house?

Parent: Her guitar, vacuum cleaner, closets.

School: Accordion, rolling chair, pots and pans, keyboard, toy car (for crashing), swing, trampoline, slide.

8. What, if anything, have doctors told you about your child's eyes?

Parent: physically they are fine except for a little astigmatism in one eye.

School: No problem.

9. When does your child usually like to look at things?

Parent: When they light up or glow if they vibrate or wiggle.

School: Varies.

10. What color are the things your child likes to look at most?

Parent: Haven't really seen a preference.

School: No major color preference.

11. What does your child do when he or she is near very shiny or mirrored objects?

Parent: If it's very shiny she will squint her eyes. She will be curious about them.

School: No large attraction to shiny stuff unless it's reflecting a lot of light.

12. Describe how your child behaves around lamps or ceiling fans.

Parent: Likes to see them turned on and off.

School: Lights, especially to turn off/on.

13. Are you usually able to identify what your child is looking at?

Parent: Majority of the time.

School: Yes, because she'll reach for it.

14. Does your child usually first notice things that move or things that don't move?

Parent: Notices things that move first.

School: Both-she moves. Can label when swinging.

15. How does your child position his or her head when you think he or she is looking at something?

Parent: Might slightly raise her head up.

School: Varies

16. Do you think your child has a "favorite" color?

Parent: Have not seen her make a preference for a specific color.

School: No.

17. Does your child seem to notice things more at home or more in new places?

Parent: I would say more in new places.

School: Doesn't search things out in new places. Runs through. Moves all the time in new environment with no attention to detail.

18. Describe how your child positions his or her head when swatting or reaching toward something.

Parent: Holds her head straight towards it for the most part but sometimes will turn head away.

School: Varies.

19. How does your child react when you give him or her new things to look at?

Parent: She will shake it and turn it over and around in her hands and then will look at it.

School: Varies.

20. Do you position your child in a certain way to help him or her see things?

Parent: No.

School: NA

21. Have you ever been concerned about the way your child's eyes move?

Parent: No.

School: NA

22. What does your child do when there are many objects in front of him or her to look at?

Parent: She'll just take each one at a time and check them out.

School: Looks less.

23. Tell me about the faces your child prefers to look at.

Parent: Her Mom's Dad's, and babysitter's because they are faces of the people she knows, trusts, and loves.

School: All. She likes faces but doesn't seem to differentiate.

24. If your child had his or her own object to look at and a new object, which object would he or she prefer?

Parent: For the most part she'll check out the new object but sometimes she'll choose the familiar object.

School: Depends.

25. Tell me what your child's favorite objects or toys look like.

Parent: Likes toys or objects that are musical or light up or have soft texture.

School: Varies

Parent Interview Questions/Answer Guide

The following answer guide provides samples of responses to the Parent Interview questions that would be scored positively or negatively for CVI. However, there is no exact number of items that must be marked positive to suggest that CVI is present; the entire picture, including medical information and information gathered from the functional CVI Range assessment described in the following chapters must be considered.

Substitute the child's name for "your child" in the questions.

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
Tell me what you do with a toy to get your child interested in it?	Movement Visual Field	I move it, or shake it back and forth, or activate it. I present it to my child's right or left side and move it or try to get it to make a motion.	I set it up in the center of where my child is positioned. I put it in his or her hand. I put it in front of him or her. He or she notices the toy and then I bring it to him or her.
When you show your child something, how do you know he or she sees it?	Visual attention/ nonpurposeful gaze	I'm not always sure he or she sees what I show to him or her. When I show him or her favorite or familiar objects, he or she stops doing other things. He or she smiles or moves toward the object. I don't think there are many things he or she likes to look at.	He or she likes to see most things as long as I move them close enough. He or she seems to like the same things other babies like. He or she looks right at the toy and gets "excited."

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
Does your child have a favorite side or a favorite head position?	Visual field preference Presence of additional disability	He or she seems to generally keep his or her head positioned to one side. He or she usually notices things when I place the object at the right/left side.	No, he or she uses both/right/left sides. I haven't noticed a favorite side. The physician told me he or she might have trouble seeing at right/left/center.
Does your child usually find objects by look or by feeling for them?	Visually guided reach or	He or she usually searches for toys without looking where his or her hand is aiming. If something touches his or her hand, he or she grasps it. He or she seems to look away before moving his or her hand in the direction of the toy.	If the toy is within view, he or she will look and reach for it. No, he or she seems to look and reach/swat/bat at toys.
Do you have concerns about the way your child sees?	Appearance of eyes/ normal eye exam	Yes. The physician told us that hs or her eyes are normal, but he or she may not understand what he or she sees. He or she seems to have better and worse times when he or she seems to see. I think he or she will outgrow the	No, the physician explained that eyeglasses/surgery/other will help him or her. I was concerned, but I'm not concerned about his or her vision now.

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
		problem with his or her eyes.	
Where do you usually hold objects for your child to look at?	Visual field preferences Visual complexities	I usually hold things at right/left/center. He or she seems to pay attention to objects when I hold the toy at right/left/center. I usually hold things close and/or at right/left/center.	I usually hold them up close (or far way) because the physician said he or she has trouble seeing far away (or near). I usually put them where he or she can reach the toys. In the playpen, crib, on the floor, etc.
What are your child's favorite things in your house?	Light gazing Nonpurposeful gaze Movement Visual Novelty	He or she likes the ceiling fan. He or she looks at overhead lights, lamps, windows. He or she seems to like to watch the television. He or she likes to look at mirrors/shiny, reflective objects.	He or she notices everything around him or her/ "never misses a trick." The physician said he or she will notice large or bright things. He or she reacts when someone new comes near.
What, if anything, have doctors told you about your child's eyes?	Appearance of eyes/normal eye exam	The physicians told me that his or her eyes are normal, but we can't be sure how well he or she understands what he or she sees. The physicians told me that we will	The physicians say he or she is diagnosed with _____.

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
		<p>know more about his or her vision as he or she gets older.</p> <p>The physicians say his or her eyes are fine.</p> <p>The physicians say he or she has optic nerve atrophy/hypoplasia/dysplasia.</p>	
When does your child usually like to look at things?	<p>Visual Novelty</p> <p>Visual array/visual complexity</p>	<p>He or she is most alert when the house is quiet (when other members of the household are at school or work).</p> <p>He or she seems to be more aware at night.</p> <p>He or she likes to look at things after he or she is rested/is fed.</p> <p>He or she likes to look at things when his or her favorite toys are presented.</p> <p>He or she seems to look at things in his or her crib (If the same set of toys is generally present in the crib).</p>	<p>He or she likes to look at things that are new or he or she is curious about.</p> <p>He or she likes to look at things any time of the day.</p> <p>He or she likes to look at things when the toys are close enough or bright enough (according to the early interventionist or medical suggestion).</p>
What color are the things your child likes to look at most?	<p>Color preference</p> <p>Visual novelty</p>	<p>He or she seems to like things that are yellow/red (or any consistent color).</p> <p>He or she likes black and white</p>	<p>I've never noticed that he or she likes a certain color.</p> <p>The physician told me that he or she</p>

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
		<p>objects.</p> <p>He or she likes toys that are shiny or mirrored.</p> <p>He or she only likes one or two toys.</p>	<p>will see bright colors best.</p>
<p>What does your child do when he or she is near very shiny objects?</p>	<p>Light gazing</p> <p>Movement</p> <p>Color preferences</p>	<p>He or she turns toward/looks at them.</p> <p>He or she swats at them.</p> <p>He or she smiles, quiets.</p> <p>He or she seems to like shiny things.</p>	<p>The physician told me that he or she might find those toys interesting.</p> <p>They seem to be too bright for him or her.</p> <p>Bright, shiny things seem to bother his or her eyes.</p> <p>He or she likes them about as much as other things.</p>
<p>Describe how your child behaves around lamps or ceiling fans.</p>	<p>Light gazing</p> <p>Nonpurposeful gaze/visual attention</p>	<p>He or she stares at them, looks at them, notices them often.</p> <p>He or she moves toward them or positions his or her body in the direction of the light.</p> <p>He or she will lie on his or her back and watch the light for long periods of time.</p>	<p>He or she squints or closes his or her eyes.</p> <p>I haven't noticed anything in particular.</p> <p>He or she turns away from the lights.</p> <p>The physician said that he or she might notice lighted things.</p>

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
Are you usually able to identify (be certain of) what your child is looking at?	Nonpurposeful gaze/visual attention	<p>I'm not sure what he or she looks at or is interested in.</p> <p>Sometimes it seems like he or she is looking "through" things and not "at" things.</p> <p>I can tell when he or she is looking at things some of the time or when the things are favorite objects.</p> <p>He or she seems to notice things when the house is quiet/when there isn't much activity.</p>	<p>Yes, I am usually able to identify what he or she is looking at.</p> <p>I can identify things if they are close enough to him or her to be able to see the object(s) clearly.</p> <p>He or she seems to be interested in most objects or activities going on around him or her.</p>
Does your child usually first notice things that move or things that don't move?	Movement Visual field preferences	<p>He or she likes toys or objects that move/spin/are activated.</p> <p>He or she seems to notice people/pets as they move around the room.</p> <p>He or she seems to like to watch the action/color/visual array on the television.</p>	<p>I never noticed either way.</p> <p>He or she seems to "lose" where I am in a room unless I stand still.</p> <p>He or she likes his or her stuffed animals that are (in the crib, on the dresser, etc.).</p> <p>The physician told us that he or she sees best using peripheral or movement vision.</p>
How does your child	Visual field	He or she seems to turn his or her	The physician told us that he or she

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
position his or her head when you think he or she is looking at something?	preferences	<p>head (slightly) even when the object is straight ahead of him or her.</p> <p>He or she favors his or her right/left side of his or her body.</p> <p>I usually put things at his or her right/left side.</p>	<p>might see better at his or her right/left/center.</p> <p>No particular position; I just show the toy to him or her as I would with any baby.</p> <p>It doesn't seem to matter where I place a toy; he or she notices things he or she is interested in.</p>
Do you think your child has a "favorite" color?	Color preferences	<p>Yes, yellow/red/blue/other.</p> <p>He or she prefers Big Bird (or any single toy that is a primary color).</p> <p>He or she likes black and white patterned toys.</p>	<p>No, I haven't noticed a favorite color.</p> <p>He or she seems to like toys with lots of colors.</p> <p>The physician told us that he or she might see bright colors best.</p>
Does your child seem to notice things more at home or more in new places?	<p>Visual array/visual complexity</p> <p>Nonpurposeful gaze/visual attention</p>	<p>He or she is more alert in the familiar surroundings of home.</p> <p>He or she seems to sleep a lot when we're out in new places.</p> <p>He or she doesn't seem to notice things as much in new places.</p> <p>He or she prefers to be at home.</p>	<p>He or she seems more alert in new places.</p> <p>He or she seems to get bored with the things he or she has at home.</p> <p>He or she smiles and seems excited when we're out.</p>

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
		He or she seems bored in new places.	
Describe how your child positions his or her head when swatting or reaching toward something.	Visual motor Visual field preferences	<p>He or she doesn't usually reach or swat at things.</p> <p>He or she doesn't look in the direction of his or her hand.</p> <p>It seems like he or she looks or swats/reaches but doesn't do them together.</p> <p>He or she turns his or her head when trying to reach for something.</p>	<p>He or she looks at the thing he or she swats/reaches toward.</p> <p>The physician told us that he or she might turn his or her head in order to see or reach for something.</p> <p>He or she positions his or her head in the center of his or her body.</p>
How does your child react when you give him or her new things to look at?	Visual complexity/visual array Visual novelty	<p>He or she doesn't seem to like new things at first.</p> <p>He or she seems to prefer his or her old, favorite toys more than new ones.</p> <p>He or she learns to like them after a while.</p>	<p>He or she loves new toys; he or she gets bored with the old ones quickly.</p> <p>He or she usually likes new toys.</p> <p>He or she smiles and/or gets excited when there are new toys to play with.</p>
Do you position your child in a certain way to help him or her see things?	Visual field preferences Visual complexity/visual	<p>Usually on the right/left side.</p> <p>I sometimes position him/her away from things that distract his or her</p>	<p>No, there isn't a usual or special position.</p> <p>The physician told us that we should move him or her closer to things, or</p>

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
	array	attention. I position him or her close to the things he or she is trying to look at.	that we should move the things closer to him or her.
Have you ever been concerned about the way your child's eyes move?	Normal eye exam/appearance of eyes	No, his or her eyes seem to move together. People tell us that his or her eyes are pretty. When he or she was younger, his or her eyes didn't always look straight and seemed to move in an irregular pattern, but he or she has outgrown that.	No, the physician didn't mention that. Yes, the physician didn't mention that. Yes, the physician said that it's part of his or her eye condition.
What does your child do when there are many objects in front of him or her to look at?	Visual complexity/visual array Visual novelty	He or she usually just plays with the one(s) we place in his or her hand. He or she seems to just look away. He or she can't choose which one to play with. We think he or she likes to play with one or two things at a time. He or she gets fussy when there's a lot going on around him or her.	He or she plays a little bit with each one. He or she picks out his or her favorite one(s) to play with. He or she smiles or gets excited.

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
Tell me about the faces your child prefers to look at.	Visual novelty Visual complexity/visual array	He or she doesn't usually look at faces. He or she only looks at familiar faces (mom, dad, or siblings). He or she likes his or her own face when I show it to him or her in a mirror.	He or she loves all kinds of faces. He or she enjoys other babies' or children's faces. He or she usually notices voices first because his or her eye condition makes his or her vision less helpful when recognizing people.
If your child had his or her own object to look at and a new object, which object do you think he or she would prefer?	Visual novelty Visual complexity/visual array	I think he or she would prefer his or her own toy. He or she has "strong opinions" about what he or she likes to look at, and he or she likes his or her favorite old toys. We have difficulty finding toys that he or she likes as much as the old ones.	He or she would prefer to look at the new toy. He or she plays with his or her toys for a brief time and then he or she seems to get bored, so we offer him or her something new. I'm not sure. It depends on the toys presented. The physician told us he or she may prefer bright or lighted toys.
Tell me what your child's favorite objects or toys look like.	Color preference Visual novelty Visual complexity/	He or she likes objects or toys that produce movement/ have a consistent/predominant color. He or she likes objects or toys that are	He or she likes a variety of objects/toys (with little similarity in features of color or pattern). The physician told us he or she would

Interview Question	Characteristics of CVI or Other Features	Positive for CVI: Sample Responses	Negative for CVI: Sample Responses
	visual array Movement	<p>simple in visual array with little pattern change.</p> <p>He or she likes objects or toys that have repetitive black and white patterns.</p> <p>He or she prefers one, two, or three favorite objects or toys with simple color, pattern, or movement features.</p>	<p>see lighted/moving/other objects or toys the best.</p> <p>He or she likes anything we give him or her to play with.</p>

CHEAT Sheet for the CVI TETN

INTERVIEW: (+positive for CVI, -negative for CVI, √inconclusive)

+ Asks about movement (2) and fields (4). Positive for CVI because of fields (4). Mark this on Resolution Chart.

√ Asks about visual attention/non-purposeful gaze (6). Answer refers to the need for movement (2) but not attention. Inconclusive.

+ Asks about field preference (4) and additional disabilities. Answer seems to be positive for fields (4). Mark this on resolution chart.

+ Asks about visually guided reach (10) or visual complexity (5). Answer positive for visually guided reach because of “look then touch”. Mark this on chart.

√ Is asking about appearance of the eye/eye exam. Reference to child who doesn't already have CVI diagnosis. Not applicable because this child has the diagnoses already.

+ Asks about visual field preferences (4) and visual complexity (5). Answers give positive answers for fields (4) and movement (2). Record this on resolution chart.

-This question targets light-gazing/non-purposeful gaze (6), movement (2), and visual novelty (9). The answer does not refer to any of these.

√ Asks about eye exam. Answer refers to astigmatism. Make note. Inconclusive for CVI.

+ Asks about visual novelty (9) and complexity (5). Answer is positive for movement (2). Make note on CVI Resolution chart.

Asks about color preference (1) and novelty (9). Answer is negative for color preference (1).

+ Asks about light gazing (6), movement (2), and color preference (1). Answer is positive for light (2), but not as in gazing. More as in abnormal reaction. Mark this on the chart.

+ Asks about non-purposeful gaze/light-gazing (6). Answer is positive for this. Record on chart.

Asks about non-purposeful gaze (6). Answer is negative for this.

+ Asks about movement (2) and fields (4). Answer is positive for movement (2). Record on chart.

+ Targets fields (4). Answer is positive. Record on chart.

Asks about color preference(1). Answer is negative.

√ Targets complexity of array (5) and nonpurposeful gaze (6) and novelty (9). Answer is inconclusive.

+ Targets visual motor (10) and field preferences (4). Answer is positive for visual motor (10). Record on chart.

Targets novelty (9) and complexity (5). Answer is negative for CVI.

Asks about fields (4) and complexity (5). Answer is negative.

√ Asks about eyes. Again, targets those who do not have diagnosis. NA.

+ Targets complexity (5) and novelty (9). Answer is positive for complexity (5). Record on chart.

Asks about novelty (9) and complexity. Answer is negative.

√ Asks about novelty (9) and complexity. Answer is inconclusive.

√ Asks about novelty (9) and complexity. Answer is inconclusive.

11 positives, 7 negative responses, 7 inconclusive responses.

OBSERVATION VIDEO:

Interacts with keyboard tactually NOT visually. *Complexity of environment (5). Mark on chart.

Looks closely at calendar picture but not nearsighted. Probably blocking out background.

*Complexity of background (5). Mark on chart.

Reaction to light at window-drawn to it but also photophobic. *light-gazing (6). Mark on chart.

Shakes toothpaste while looking. *Movement (2). Mark on chart.

Interest in stripes created by shadow of blinds. *Color preference (1). Mark on chart.

Looks and then stops looking when exploring comb (and then brush) tactually. *Complexity of environment (5). Mark on chart.

Interest in metal, shiny "finished" container. *Light gazing (6). Mark on chart.

Looks and then touches in rapid succession when picking up brush. *Visually guided reach (10). Mark on chart.

Note when she does look at teacher, the music has been turned off and the teacher is not talking. *Complexity of environment (5). Mark on chart.

Interesting looking at Lynne's arm. Make note.

Finds Sara's hand from around 10 feet. *Distance viewing (7). Mark on chart.

Stripes on paper: holds to face just like picture at calendar. Blocking out background? Complexity. Mark on chart.

Gets milk with cluttered background. Looks away when grabbing (in quick succession).

*Visually guided reach (10). Mark on chart.

Looks away from teacher's face when teacher makes noise. *Complexity of object/environment (5). Mark on chart!

DIRECT ASSESSMENT VIDEO:

Under reaches when going for accordion. Not on chart but FYI!

Light gazing while standing in front of table (probably taking a break). *Light-gazing (6). Mark on chart

Note accuracy of reach and use of visual/tactual search when there is an array of objects. Accuracy better with fewer objects/white on black. Maybe due to high contrast or decreased complexity. *Complexity of array (5). Mark on chart.

Note number of colors in objects examined. *Complexity of object (5). Mark on chart.

During testing of fields with shiny object, note strong response. *Movement (2). Mark on chart.

Finds familiar object on complex background. *Complexity (5). Mark on chart.

Seems to lose favored object when moved out of central field. *Visual field preferences (4). Mark on chart.

Note response to striped glove. Could be too many colors *color preference (1) and complexity (5), or unfamiliar object. *Visual novelty (9). Further testing needed.

Note response to mirror-multiple factors. Reflection of light draws her and makes her squint. *Light-gazing (6). Mark on chart. Movement draws her visual attention. *Movement (2). Mark on chart. (Recognition of object/routine?). Views mirror like she does pictures. *Complexity (5). Mark on chart.

Note response to fan/interest in *movement (2). Mark on chart.

Blink to threat intermittent and delayed. *Atypical visual reflexes (8). Mark on chart.

CVI Range (continued)

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 child/student

I = information obtained through interview regarding the child/student

D = information obtained through direct contact with the child/student

In the remaining columns, indicate the assessed degree of the CVI characteristic:

R = The statement represents a revised visual behavior

+ = Describes current functioning of student/child

+/- = Partially describes student/child

- = Does not apply to student/child

CVI Range 1-2: Student functions with minimal visual response

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 a "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 students is tired, stressed, or over-stimulated
							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

O	I	D	R	+	+/-	-	
							6 feet
							May regard familiar faces when voice does 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
							Smiles at/regards familiar and new faces
							May enjoy regarding self in mirror
							Most high-contrast colors and/or familiar patterns regarded
							May regard familiar faces when voice does not compete

CVI Range 9-10: Student spontaneously uses vision for most functional activities

O	I	D	R	+	+/-	-	
							Selection of toys or objects not restricted
							Only the most complex environments affect visual response
							Latency resolved
							No color or pattern preferences

O	I	D	R	+	+/-	-	
							Visual attention extends beyond 20 feet
							Views books or other two-dimensional materials, simple images
							Uses vision to imitate actions
							Demonstrates memory of visual events
							Displays typical visual-social responses
							Visual fields unrestricted
							Look and reach completed as a single action
							Attends to two-dimensional images against complex backgrounds

The CVI Range: Within - CVI Characteristics Assessment Method

Rating II

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 Resolution Chart may be useful as a scoring guide):

- 0 Not resolved; usually or always a factor affecting visual functioning
- .25 Resolving
- .5 Resolving; sometimes a factor affecting visual functioning
- .75 Resolving
- 1 Resolved; not a factor affecting visual functioning

Table below continues on the following page.

1. Color preference	0	.25	.5	.75	1
Comments:					

2. Need for movement	0	.25	.5	.75	1
Comments:					
3. Visual latency	0	.25	.5	.75	1
Comments:					
4. Visual field preferences	0	.25	.5	.75	1
Comments:					
5. Difficulties with visual complexity	0	.25	.5	.75	1
Comments:					
6. Light-gazing and nonpurposeful gaze	0	.25	.5	.75	1
Comments:					
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:					

Essential Forms

The CVI Range

Student/child's name: Cassie

Age: -----

Evaluator(s): Lynne and Sara

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):

Initial assessment (red)

Second assessment (blue)

Third assessment (green)

Further assessments will require a new form.

Totals:	Evaluation #1 (red)	Evaluation #2 (blue)	Evaluation #3 (green)
Total for Rating I	6		
Total for Rating II	4.75		
Combine both ratings to get overall CVI Range	4.75-6		

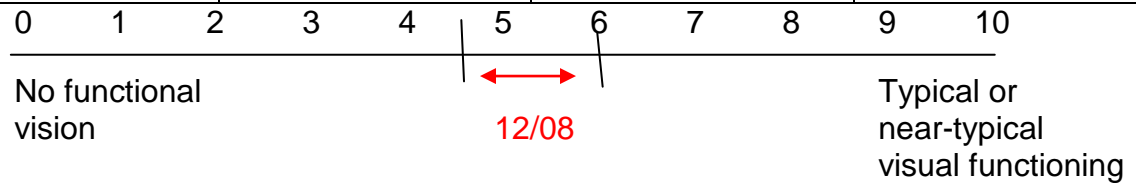


Figure 2 Line graph from 1 to 10 with 1 representing no functional vision and 10 representing typical or near-typical visual functioning.

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 child/student

I = information obtained through interview regarding the child/student

D = information obtained through direct contact with the child/student

In the remaining columns, indicate the assessed degree of the CVI characteristic:

R = The statement represents a revised visual behavior

+ = Describes current functioning of student/child

+/- = Partially describes student/child

- = Does not apply to student/child

CVI Range 1-2: Student functions with minimal visual response

O	I	D	R	+	+/-	-	
√	√		X				May localize, but no appropriate fixations on objects or faces
√	√	√	X				Consistently attentive to lights or perhaps ceiling fans
		√	X				Prolonged periods of latency in visual tasks
√	√		X				Responds only in strictly controlled environments
√	√		X				Objects viewed are a single color
√	√		X				Objects viewed have movement and/or shiny or reflective properties
√	√		X				Visually attends in near space only
		√	X				No blink in response to touch or visual threat
√	√		X				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
√	√			X			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 a “favorite” color
√	√	√		+			Shows strong visual field preferences
√	√			X			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 students is tired, stressed, or overstimulated
√	√	√			+/-		Movement continues to be an important factor for visual attention
√		√			+/-		Student tolerates low levels of background noise
		√	X				Blink response to touch is consistently present
		√		+			Blink response to visual threat is intermittently present
√	√		X				Visual attention now extends beyond near space, up to 4 to

O	I	D	R	+	+/-	-	
							6 feet
√	√			+			May regard familiar faces when voice does 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
√	√				+/-		May regard familiar faces when voice does not compete

CVI Range 9-10: Student spontaneously uses vision for most functional activities

O	I	D	R	+	+/-	-	
√		√				-	Selection of toys or objects not restricted
√	√	√				-	Only the most complex environments affect visual response
√		√				-	Latency resolved

O	I	D	R	+	+/-	-	
√	√	√				–	No color or pattern preferences
	√					–	Visual attention extends beyond 20 feet
√	√				+/-		Views books or other two-dimensional materials, simple images
√	√					–	Uses vision to imitate actions
√					+/-		Demonstrates memory of visual events
√						–	Displays typical visual-social responses
√	√	√				–	Visual fields unrestricted
√	√					–	Look and reach completed as a single action
√						–	Attends to two-dimensional images against complex backgrounds

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The CVI Range: Within - CVI Characteristics Assessment Method

Rating II

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 Resolution Chart may be useful as a scoring guide):

- 0 Not resolved; usually or always a factor affecting visual functioning
- .25 Resolving
- .5 Resolving; sometimes a factor affecting visual functioning
- .75 Resolving
- 1 Resolved; not a factor affecting visual functioning

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Comments:					
4. Visual field preferences	0	.25	.5	.75	1
Comments:					
5. Difficulties with visual complexity	0	.25	.5	.75	1
Comments:					
6. Light-gazing and nonpurposeful gaze	0	.25	.5	.75	1
Comments:					
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:					

4.75

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CVI Adaptations for Cassie:

Experiment with Cassie's response to stripes since she was attracted to several striped patterns, including a shadow of window blinds on the wall.

Cassie probably can't see a mirror reflection very well. Looking in the mirror and saying "Cassie" may be a trained response. Looking in a mirror may not be a good thing to target within routines currently.

Encourage games with objects that involve movement that Cassie does with others or by herself (like playing the accordion). Expand these types of games.

Experiment with adding reflective qualities to draw attention to visual targets.

Introduce objects that are visually similar to Cassie's favorite objects.

Provide unfamiliar, single-color objects for Cassie's exploration.

Present objects directly in front of Cassie.

Reduce visual clutter in environments where Cassie is required to use vision (when possible), such as at the calendar, at areas where routines are performed, etc.

Arrange items horizontally in relation to Cassie when giving a choice.

Reduce sensory input when Cassie is expected to look: encourage Cassie to look at your face longer by keeping quiet while she is looking.

Delay verbal labels when signing so that Cassie can attend to visual information instead of providing simultaneous input.

Experiment with photos that are of familiar, single color objects. Experiment with drawing as well, using only one color. Check for comprehension of picture.

Do not use light to draw Cassie's attention to objects.

Encourage Cassie to wear a visor when traveling outside.

Do not expect Cassie to be able to identify objects at a distance due to visual clutter.

Use consistent, familiar objects to represent activities.

Accentuate contrast when Cassie is expected to use visual motor skills to help her reach more accurately.

Student Name: Cassie

Assessor(s): Lynne McAlister & Sara Kitchen, CTVIs

Student Age: 00

Date: 00/00/00

Cassie was observed in her classroom at TSBVI on December 2nd and 4th, 0000, and then pulled out of her classroom for direct assessment on December 4th as well. The environment used for the direct assessment was unfamiliar to Cassie.

Information from interviews with her parents as well as her instructional staff was gathered before the observation. Information was also gleaned from a low vision evaluation dated 00/00/00. This assessment was done to determine potential characteristics of CVI that might be interfering with Cassie's visual performance.

Cassie carries the diagnoses of CVI as well as nystagmus. This was caused when Cassie was three months old from anoxia during neurosurgery. She also has microcephaly, right side weakness, mental retardation, and speech impairment.

During this evaluation, Cassie demonstrated many of the behaviors that are typically associated with the characteristics of CVI. This report addresses those characteristics as demonstrated by Cassie's behavior.

Color Preference: A color preference was noted neither during the observation period nor during direct assessment; however, Cassie was reported to have a preference for items that are fuchsia at one time. During observation and assessment, Cassie saw and picked up objects that were white, green, yellow, fuchsia, purple, pink, brown, red, and gray. She appeared to examine objects of any single color. Using a specific color may not be necessary to draw Cassie's visual attention. It was noticed that Cassie was drawn toward striped patterns including the folded part of an accordion toy, stripes caused by sunlight shining through a blind, a striped overlay for the light box, and a pattern of stripes drawn in black on a white piece of paper.

Materials may be adapted by adding stripes to draw visual attention, however, attention may not be immediate: Cassie was not able to look at a multicolored striped glove being worn by assessors for the duration of the direct assessment, and actually appeared to be blocking it out at times by placing her hands over the stripes.

Need for Movement: Many children with CVI respond best visually to targets that move or have reflective surfaces. Reflective or shiny materials are likely to be interpreted in the brain as movement. Cassie was able to respond by looking at shiny objects that were brought into her visual field. She was also able to visually track these objects by moving her head. Cassie was also interested in looking at a small fan when it was turned on. Cassie can be easily redirected from looking at objects that have movement or movement properties, and movement is not required for attention at near. Movement does, however, attract Cassie's visual attention and helps to maintain it. Materials can be adapted by adding reflective surfaces to draw attention.

She is more interested in looking at toys that move or games that require movement of objects. Games with objects that involve movement should continue to be expanded.

Visual Latency: This characteristic is one in which there is a delayed response between the time a target is presented and the time it is noticed. Cassie would notice a visual target immediately that was unfamiliar but not examine it, especially items that contained multiple colors. She glanced at these unfamiliar objects and found them with a combination of visual and tactual searching. She responded immediately by at least glancing when familiar or favored objects were presented. She exhibited a period of latency regarding maintaining visual attention when looking at unfamiliar or visually complex objects.

Cassie should continue to be exposed to a variety of familiar and unfamiliar objects. Objects that have similar qualities as her favorite familiar objects should be introduced to increase the variety of objects that Cassie will examine. Continue to provide single color familiar and unfamiliar objects for her exploration.

Visual Field Preferences: During direct assessment, Cassie did not notice the accordion, her favorite toy, when it was held in her lower peripheral left field until she turned her head, and then was surprised to find it. She did not notice a red ball in her lower right peripheral field while being assessed as well, but noticed all objects that were in the range of her central field. In Cassie's low vision evaluation it was noted that Cassie's visual fields were restricted to 40 degrees in all quadrants. This means that Cassie will notice objects within her central field. Objects should be presented directly in front of Cassie.

Difficulties with Visual Complexity: This area addresses the problems viewing items with complex, patterned surfaces, items within an array (items presented together instead of singularly), items on a visually complex background, and simultaneously attaining or maintaining visual attention while there is input from other sensory modalities.

Cassie was able to visually notice objects that had complex patterned surfaces, but did not examine them unless they were familiar and moving. She was more likely to visually examine objects of a single color and move them by turning them over or shaking them. She was able to visually locate and pick up familiar objects out of an array of other objects. She was able to locate her accordion on a multicolored piece of cloth, but did not look at her cup on the same piece of cloth. She seemed to have trouble using her vision while coordinating her own movement. For example: She played with her accordion and held her head to the side, not looking at it, but looked directly at the accordion while someone else played it. She very occasionally looked at the accordion while she was manipulating it, causing tactual and auditory input. Activities such as this should be encouraged. She was observed playing the keyboard without looking at it but tactually finding a variety of sounds to make. She also found several items during her hygiene routine visually, reached for them and looked at them, then began to tactually explore them. While she was receiving tactual information, Cassie stopped looking at the items she was exploring. Cassie was able to focus on eating in the noisy cafeteria. She first used her visual sense to locate food and then used only her tactual sense while scooping food from her plate.

While looking at unfamiliar items in a complex environment, Cassie tended to reach toward the area in front of the item and then locate the item tactually. This is called under-reaching. When

presenting items to Cassie for her to make a choice, items should be arranged horizontally in relation to Cassie as opposed to vertically so that her choice will not be misinterpreted due to an incorrect reach.

Cassie is able to handle a complex visual environment. When other senses are involved, Cassie generally stops looking or looks only when necessary, for example; she would look at the face of her caregiver but immediately squint or look away when that person spoke to her. Care should be taken when there is an expectation that Cassie use her vision, such as at Cassie's calendar, to reduce other sensory input. This could be done by pointing to or tapping an object and only verbally labeling it after Cassie has looked. Cassie might not be able to process the simultaneous verbal and sign labels. It might be helpful to stagger this information. Cassie was interested in drawings and photos but mostly did not seem to understand what they were. She labeled one photo of a single color item similarly to how she labeled the actual object. Photos of items that are a single color can be paired with the object initially. Staff might experiment with drawing objects that are a single color as well. Experimentation could also occur with Cassie's response to photos/drawings that are laminated vs. those that are not.

Light-gazing and Non-purposeful Gaze: Cassie is attracted to looking at lights. This was seen multiple times during observation and direct assessment. This behavior is not interruptive. She can be easily redirected towards other items/activities. Cassie was also noticed squinting after looking at lights. She had trouble adjusting her vision after coming indoors from outside, and performed tasks mostly tactually until her eyes adjusted to the change. She demonstrated both attraction to light and difficulty with light, also known as photophobia. Light should not be used to draw Cassie's attention to objects due to her photophobia.

Difficulty with Distance Viewing: Cassie was able to find a person to help her and again visually locate the swing in the classroom from approximately 10 feet. The background was visually cluttered, but familiar. While outside, Cassie was able to visually locate a ramp at 12 feet during a familiar route and turn toward it. Cassie has not been observed locating high contrast items, such as a white van, at 20 feet or less. Cassie will need to be within 10-15 feet to see large familiar objects. Staff should continue to encourage her to look for large objects within her daily routine, such as the van, particularly on cloudy days if she has time to adapt to the outdoor light. On days where the sun is bright or the glare is high, expectations should be lowered.

Atypical Visual Reflexes: Lack of responses in the blink reflexes when the face near the eyes is touched or when an object is brought toward the face are associated with CVI. Cassie blinked when an object was brought toward her face, but her response was a bit delayed as well as intermittent. There is no direct programming that can teach a visual reflex. This is expected to resolve as other characteristics of CVI resolve.

Difficulty with Visual Novelty: Cassie is able to attend for short amounts of time to complex, unfamiliar objects, and for longer amounts of time to single-color unfamiliar and familiar objects. Cassie should not be expected to examine objects that contain more than one color. Items that are presented to Cassie that hold meaning, such as calendar symbols, should be consistent and single-colored, when possible.

Absence of Visually Guided Reach: Cassie can locate items visually and reach for them. She occasionally looks at an object and then looks away before reaching it. Motor planning seems to take a great deal of concentration. Cassie seemed to be able to more accurately reach toward objects presented on a black background that contrasted with it. She was able to visually notice the approximate location of a 3" black toy with white spots on a black background and then used her tactual search to find it. She visually located a similar white toy with black spots and reached accurately for it. Contrast should be accentuated when Cassie is expected to pick up objects, such as while indicating a choice, to help her reach more accurately.

Based on the CVI Range Assessment done on December 2nd and 4th, 0000, Cassie scored in the range of 4.75-6 out of possible 10 (10 represents typical or near typical visual functioning, with little or no effect of CVI). This puts her in phase II, in which the goal is integrating vision with function. In this phase, activities should be designed to encourage using vision to make things happen. Turning things off and on is something Cassie is already greatly interested in. Combining vision with touch, such as reaching toward an object to make a choice, could be another objective for someone at phase II. Cassie will most likely begin to maintain visual contact with people and objects when increasing amounts of sensory input is involved. Activities such as playing the accordion should be continued, as well as other turn-taking opportunities with toys that move and make noise. Cassie experiments with looking at her accordion while playing it just for a short time. This is exactly the kind of thing she needs to be doing!

Cassie is a lovely young lady and a joy to spend time with. It was a pleasure to have the opportunity to assess her vision.

Sara Kitchen, CTVI

Lynne McAlister, CTVI

Texas School for the Blind & Visually Impaired

Outreach Program

www.tsbvi.edu



Figure 3 Office of Special Education Logo

"This project is supported by the U.S. Department of Education, Office of Special Education Programs (OSEP). Opinions expressed herein are those of the authors and do not necessarily represent the position of the U.S. Department of Education."