Using Visual Cues to Improve Classroom Instruction for Young Children with Developmental Delays

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How many of you:

• Use a calendar or day planner?
• Point to a picture in an ad or menu to show someone what you want?
• Follow recipes?
• Have looked at a sign to tell where you should stand in line or where to enter/exit?
• Have followed “some assembly required” instructions?
What is Visually Cued Instruction?

- Body Language
- Location
- Arrangement of Environment
- Printed Materials and/or Multimedia
  - Text
  - Pictures
  - Objects or Parts of Objects
  - PowerPoint
Visually Cued Instruction...

- Involves the use of pictures, symbols, photographs and written language as *instructional supports* in both structured and natural environments.

- Enhances children's
  - Organizational skills
  - General skill development
  - Academic learning
  - Communication
  - Socialization
  - Self-Control
Why use Visually Cued Instruction (VCI)?

• Teaches students to become independent rather than prompt-dependent
• Increases communication skills, reducing negative behaviors
• Allows students access to their environment
• Develops school and life skill sets
Verbal directions are **TEMPORARY**. We present them and they are gone.

**VISUALS** can be there as long as we need them.
Who needs VCI?

EVERYONE
Teaching Students to Read Symbols

work

first

after

shop

???
Read the symbols below and follow the directions:
<table>
<thead>
<tr>
<th>Put</th>
<th>your</th>
<th>hand</th>
<th>on</th>
<th>head.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn</td>
<td>your</td>
<td>head</td>
<td>left</td>
<td>smile.</td>
</tr>
</tbody>
</table>
Try this one:
Is this what you read?

1. What color is the carpet?
2. How many people are here?
How do you Teach what Symbols Mean?

- Simon Says
- Consistency
- Matching Objects with Symbols
What to Consider with Visuals

- Can students can reach materials, see labels, manipulate visuals, etc.?
- What type of visual will allow a student the most independence (photo, line drawing, color, black & white)?
- What level or amount of support does the student need (what level of facilitation to allow for errorless learning, independence and generalization)?
- Are appropriate visuals present in all environments a student will access throughout a day?
Areas of VCI to discuss today:

- Environment
- Organizational Tools
- Behavior
- Communication/Language/Academics
Setting Up the Classroom Environment

- **Label the classroom**
  - Areas: bathroom, sink, cleaning supplies, toys
  - Home living supplies: cups, toothbrush, etc.
  - Post a schedule in room/in student notebook/in folders

- **Setting up areas**
  - Center Areas: kitchen, art, blocks, reading, etc.

- **Accessible areas**
  - Ensure students can reach materials, see labels, etc.
Environmental Visual Cues

• Help students gain a better understanding of the environment
• Encourage independence
  – Labeling where supplies and items belong
  – Putting instructions in pictures (example, task analyses)
  – Breaking tasks into pictures labeled in area (example, clean-up routine is in pictures for each area)
  – PowerPoint “books” can be made to visually provide a task analysis
<table>
<thead>
<tr>
<th>Activity Cards 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>pattern frame blocks</strong></td>
</tr>
<tr>
<td><strong>chalkboard</strong></td>
</tr>
<tr>
<td><strong>music center</strong></td>
</tr>
</tbody>
</table>
## Task Analysis for Sink

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>Image</th>
<th>Checkbox</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water on</td>
<td><img src="image" alt="Water on" /></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Wet hands</td>
<td><img src="image" alt="Wet hands" /></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Get soap</td>
<td><img src="image" alt="Get soap" /></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Rub hands</td>
<td><img src="image" alt="Rub hands" /></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Rinse hands</td>
<td><img src="image" alt="Rinse hands" /></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Water off</td>
<td><img src="image" alt="Water off" /></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Get 1 paper towel</td>
<td><img src="image" alt="Get paper towel" /></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Dry hands</td>
<td><img src="image" alt="Dry hands" /></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Put in trash</td>
<td><img src="image" alt="Put in trash" /></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Finished</td>
<td><img src="image" alt="Finished" /></td>
<td></td>
</tr>
</tbody>
</table>
Classroom Arrangement

The layout of your room should

• Be clearly labeled
• Facilitate communication
• Promote independence
• Align individual students’ IEP goals with the curriculum
Areas Should Include:

- Book bag/cubby area
- Circle Area
- Centers
- Bathroom
- Snack and work areas
- Computer area
- Listening Center
Individual Work Areas

- Individual work areas - Individual workstations should be set up for students when needed and should be clearly defined (with visuals) allowing students to start work. Using visual prompts (icons, colors and/or words) can allow students independence while working.

- A group can be with chairs at a table or desk, in a circle on floor or in chairs around an area rug. Each student should have a clearly marked box or place with their name/picture.

- In a work area supplies should be clearly labeled so that students can access them independently.
Visual for Circle – Where to Sit

Leah

blue

Blue chair
Small Group Work Areas

- Work Areas (embed IEP goals into curriculum)
- Examples of subject areas to be covered:
  - Math: Snack/Cooking
    - Correlating goals
      » measurement , counting, shapes, size, matching, more/less, safety words/symbols, etc.
  - Community, Leisure, Fine Motor
    - Correlating goals
      » Community helpers, cutting, drawing a person, identify people, making choices, social communication exchange
  - Literacy (Reading, Writing)
    - Correlating goals
      » Match pictures/symbols, identify letters, sequencing, write/type letters, cutting, gluing, retell a story, identify picture/object, phonemic awareness.
Bulletin Boards/Display for Student

Utilize bulletin boards to:

– highlight student work
– display student expectations or class rules
– display stories/writing/art related to class themes and the curriculum
– post calendar and schedules (if students can access the boards)
Class Rules

1. Keep your hands to yourself.
2. Listen to the teacher.
3. Walk with clips in the hallway.
4. Be kind to others.
Examples of Bulletin Boards:
Teacher Schedule

Tuesday

7:20 - 8:00  Arrival
8:00 - 8:30  Breakfast / Morning Work
             Done O/T
             Angelo Speech
8:30 - 9:00  Goal Work
9:00 - 9:45  Circle
             Abraham Speech
             Vocational
10:00 - 10:30  Angelo O/T
10:15 - 10:45  Bathroom / Snack
10:45 - 11:00  Freetime
11:00 - 11:30  Goal Work
11:30 - 12:00  Quiet Time
12:00 - 12:20  Recess
12:20 - 1:10  Bathroom / Lunch
1:10 - 1:40  Music
1:40 - 2:00  Behavior Charts
             Dismissal

Friday

7:20 - 8:00  Arrival
8:00 - 8:30  Breakfast / Morning Work
             Angelo Speech
             Abraham Speech
8:30 - 9:00  Goal Work
             Mohammed Speech
             Jose Speech
9:00 - 9:45  Circle
9:40 - 10:25  Jose, Abraham, Angelo Music
9:45 - 10:15  Bathroom, Golawork
10:15 - 11:00  Snack/Walk
11:00 - 11:30  Goal Work
11:30 - 12:00  Quiet Time
12:00 - 12:20  Recess
12:20 - 1:10  Bathroom / Lunch
12:10 - 1:20  Jose P.E / Abraham ART
1:10 - 1:40  Class activity
1:40 - 2:00  Behavior Charts
             Dismissal
Organizational Tools: Establish Temporal Structure with VCI

- Activity Length
- Variation of Activities
- Teaching Starting and Stopping
- Transitions
Activity Length

• Type of activity, age, and abilities dictate how long an activity should last
• Some students don’t care if they’ve finished an activity when time ends; others will insist on finishing one
• Activities should end on a positive note

Heflin & Alaimo, 2007
Visuals for Activity Length

Time Timer
- Big and small, can be purchased with auditory cues as well
Visual Puzzles

Earn pieces as time progresses until puzzle is complete
First... Then...
Reward System
Variation of Activities

• Premack Principle – “Eat your vegetables before you get dessert!”

• Motivation for low-preference task – pair it with a highly rewarding task to follow

• Schedule can be modified over time so that more work must be finished before the reward arrives

Heflin & Alaimo, 2007
Variation of Activities continued

- Tasks that require high levels of energy and effort should be followed by tasks that require less energy and effort.
- Behavioral Momentum – “the student completes several quick and easy tasks prior to the introduction of more difficult or less preferred tasks” (Heflin & Alaimo, 2007, p. 124)
Variation of Activities Visuals

- First then
- Time Timer
- Schedule alternating easier/harder tasks
- Stars (rewards)
- Giving 2 choices (peas vs. carrots) instead of yes/no to “Do you want vegetables?”
Teaching Starting and Stopping

• As much as possible, add a visual to verbal comments such as “It’s time for math”
• Repetition of routines helps
• Using songs (example: Clean Up Song)

Heflin & Alaimo, 2007
Visuals for Starting and Stopping

- Visual Timer
- “Finished” or “All Done” – sign language, large sign on stick, behavior lanyard
- Calendar or schedule
Transitions

• Transitions can be especially problematic for some students, especially students with Autism Spectrum Disorder (ASD)

• Warn students verbally AND visually

• Research shows students with ASD are “not bothered as much by changes in routine as they are by the lack of prior notice that a transition is about to occur” (Flannery & Horner [2004] referenced in Heflin & Alaimo, 2007, p. 125).
Transitions

- Visual schedules can teach change and flexibility in routines (even highly verbal students benefit greatly from a visual schedule)
- Try to allow students as much choice as possible in visual schedule (order of activities)
- Time Timer
- Visual picture symbol or card (example, “5” for 5 minutes left)
Schedules

- Help us predict what is going to happen in the future
- Help us understand when there is a change in the routine so we can adapt
- Promote independence
- Encourage generalization of skills
Visual Schedules

Schedules should be presented at eye level. Student should know:

– What I'm supposed to do?
– How much I'm supposed to do?
– When am I finished?
– What activity/choice can I make next?
Visual Schedules

• Schedules need to be portable and easy to access and use. They should **not** be faded out as the student “learns” their schedule.
  – Posted in room/in student notebook/in folders

• First model the manipulation of the schedule. This allows your child to learn how to use the schedule by first watching you.
  – As soon as possible your child needs to actively participate in the process.
    • first you may need to put the schedule together yourself but soon your child might take part by placing each picture on the board as you hand it to them or ask them what comes after.....
Types of Schedules

- Daily
  - Individual
  - Class
- Mini Schedules
- First/Then
Class Schedule
• **Class Daily Schedule:**
  – It is important for the flow of the class for all members to know what to expect. The class schedule should be put up and gone over together, not just displayed as an art project.

• **Individual Student Schedules:**
  – Schedules are not just for children or students with negative behaviors. They allow students to grow into more independent individuals and eventually adults. If a child learns to read a schedule they may be more employable and have better independent living skills as they transition into adulthood.
Desk Schedule

Get breakfast
Hang backpack
eat
reading
computer

first finish
Then Gameboy
Mini Schedule:
Breaks a larger task down into smaller steps which are easier for a child to handle.

http://card.ufl.edu/supports/minischedules.htm
Individual Schedule with Objects
Individual Student Schedule – File Folder

Jose's Schedule

all done
Individual Schedule - Tactile
Calendar

- A natural progression from simple daily schedules.

- Teaches your student to understand what is happening on a larger scale.
Behavior Management

Social Stories:
- can be used to help students achieve desired behaviors and understand body language
  - Social conversation
  - Behaviors appropriate for environment(s)
- can be presented in a PowerPoint and printed to make a book for the reading center
- can be sent home to assist with carry over and acquisition of social skills or appropriate behaviors
When I Feel Angry

Written by the Flemington-Raritan Autism Program, NJ
http://www.frsd.k12.nj.us/autistic/Social%20Stories/social_stories.htm
Behavior Management: Using Visuals

- Provide visual supports to encourage appropriate behaviors (Time Timer, reward puzzles, etc.)
- Body Language: (teach students to read social cues)
  - Eye gaze/avert eyes
  - Smile/flat affect
  - Thumbs up/shrug shoulders
How to walk in line.

Mouth Closed
Look to front

Hands & feet to self!
NOT too close!

STOP at doors!
Quiet Behavior Management = A Happy Classroom

Stop yelling/get quiet and watch appropriate behaviors increase

- Behavior Lanyard speaks louder than words
- Use visuals in a game of Simon Says
- Use visuals with the other adults in the room
- Use praise with each other and students
  - Students want your attention (negative or positive)
  - Make positive = a party and negative = nothing
- Label the appropriate behavior
- Avoid giving attention to a negative behavior
  - It only reinforces the inappropriate behavior
This student was a compulsive toilet flusher. To decrease flushing behaviors we allowed him a certain number of flushes. We decreased the number as he achieved his goal.
Temporal Organization - Schedules

- Remember that negative behaviors will decrease when students know what to expect
- Prepare for transitions
- Teach the concepts of starting and stopping
Teaching Communication: An Integral Part of All Classroom Activities
Mode(s) of Communication

- Multi-modal approach for students who are non-verbal or have limited verbal output

- Remember, if a student displays echolalia, they may be verbal, but if they can’t make requests, comments, etc. independently, then they need AAC!
Mode(s) of Communication

AAC includes low-tech stuff like picture symbols – not just fancy devices

- High-tech device = dynamic display AAC device
- Determine what other methods of communication are acceptable
  - Verbal communication
  - Universally known gestures or signs
  - Low-tech communications system
    - back-up system like a communication book
    - other AAC equipment and tools in classroom
AAC Reminder:

- Have a backup plan: Devices will go in for repair and students MUST have a means to communicate (low tech)

- A student does not stop working towards goals because their device is in the shop.
Things to remember to encourage communication:

• Assess student needs:
  – How will the access communication (verbally, word cues, picture exchange, sign, etc.)?

• Motivate:
  – What’s fun to talk about?
  – Pick up props from the community to pull out during the afternoon wrap up to prompt comments/ communication, etc.

• Provide appropriate visual supports:
  – Do the students’ visual supports correspond to things they need/want to communicate? Do they have enough or too many visual supports?
Assess what a Student Needs to Communicate

- Picture cues
- Communication sheet(s)
- Pictures
- Objects
- Communication device, etc.
What is your favorite cartoon?

- Flintstones
- Spongebob Squarepants
- Dragon Ball Z
- Bugs Bunny
- Dexter's Laboratory
- Pokemon
- Powerpuff girls

My favorite isn't here.
Activities Need to be Motivating

• Begin teaching in natural settings with natural events and activities

• Choose activities that are highly motivating such as snack or leisure time

• What is motivating to your student may not seem interesting to you. You may need to spend some time figuring out what is motivating
Encourage communication

• What is motivating?
  – Motivating
    • I went to the pool yesterday!
    • I gave my dog a bath.
    • What did you watch on TV last night?
    • My mom bought me a new Spider Man toy!

  – Not so Motivating:
    • The block is red.
    • I have 2 eyes.
    • What number is this?
Students Need to be Taught how to use Communication Systems

• Typically a student is handed a communication device or book and they are expected to start using it

• Users need time to learn their new device/communication book:
  • Where vocabulary is
  • How to access and work the device
  • How to speak to others with it

• When students are not successful with their system it is often because they have had little to no instruction or modeling learning to communicate.
Setting up communication models

- Use your support staff, students and yourself as communication models
- Set up situations for modeling
  - At snack have your paraprofessional ask for what she/he would like. He/She can model a response with a student’s device
  - During a lesson, model the use of the device to describe things that you are studying (e.g., descriptors for animals – soft, furry, small, etc.)
Ideas for Teaching **New** Concepts when working with Students who are Non-Verbal

- Real objects
- Photographs or digital images
- Picture Symbols (Boardmaker, line drawings, etc.)
- PowerPoint
- Pointing to pictures in a book
- Sticky notes/index cards with answers
- Homework (e.g., story to be read in class)
  - Have student (with parent) read assignment or preview activity and come up with a question. He/she can practice finding the answer and the parent can send the question and answer to you. Then, when you call on the student in class they are **prepared** to find the answer on their device.
- Eye gaze, alphabet board, etc.
Morning Snack

• Use snack folders to:
  – Encourage sentence structure
  – Facilitate AAC use
  – Make choices

• Student using PECS:
  – Use PECS book/board and symbol(s), at the corresponding level, to request preference throughout snack activity

  • At level 4 and up can give descriptors such as orange cracker, square cracker, etc.
Today at school:

Name: ______________________

The day is: ______________________

Today I participated in: ______________________

Today I had a ____________ day.

Do I have homework? ______________________

For lunch I had ______________________.
School to Home Communication

Today at School....

Today

I went to art class

The therapist

I saw music class

For lunch I had pizza

Today was a good day.

My favorite thing was recess.

I am out of snack foods.
Home to School Communication

Last Night At Home

For dinner I had spaghetti, vegetables, water, computer, walk, cat, brother, outside, grocery store, early, good.

We went to bed.

Last night was late.
Language and Academic Activities
Center Boxes/Folders

- For each area of your classroom, language opportunities should be planned.
- Create a box with the activity inside. The vocabulary can be velcroed on the inside of the lid or in a folder in the box.
- The outside of the box can hold the visual symbols for the corresponding vocabulary (nouns, verbs, descriptors, etc.).
Game Box: Jacks and Bubbles
Writing Box

- Inside lid: all possible choices and communication symbols for teacher.
- Outer lid: all choices student needs for that day/activity.
- Inside box: all writing needs, such as pencils, markers, chalk, chalk board, white boards, rubber stamps, crayons, paper, etc.
Example Writing Activity:

Write the word “Me”

- for student who is unable to write, they might glue a picture of self next to word me or use rubber stamps
- sequence the letters in me or call names out for students to say, “that’s me”
- symbol choices: pen, pencil, marker, paper, eraser, colors, help, look, watch me, glue, I need, scissors
Visual Task Analysis: Moving Towards Independence

• Visual Task Analysis
  – Allows a child to see all the steps to complete a task and learn to follow along independently
  – Reduces dependence
  – Promotes generalization

• Types
  – Picture recipes
  – Work task/ Instructions
  – Personal Care task/ Hygiene
Recipe

What You Need to Make Dirt Pudding

1 packet chocolate pudding
1 pack of oreos
thawed cool whip
Gummy Worms
milk & measuring cup
baggy & rolling pin
whisk
mixing bowl & spoon
plastic cups & spoons

Dirt Pudding p. 2

7. Pour 1/2 crushed cookies in bowl.
8. Stir.
9. Spoon mixture into cups.
10. Put crushed cookies on top.
11. Refrigerate 1 hour.
12. Decorate with Gummy worms.

Dirt Pudding

1. Wash hands.
2. Pour pudding in bowl.
3. Pour 2 cups milk in bowl.
4. Whisk and let stand for 5 minutes.
5. Stir in Cool Whip.
6. Crush cookies in bag.

www.tinsnips.org
Task Analysis

- sponge
- wipe
- table

www.autismclassroom.ning.com
Supported Reading

• Students learn to use pictures to derive meaning from books, magazines, menus, and the world around them.

• Students who may not have otherwise become readers may begin to recognize words because they have been paired with picture cues.
Los niños juegan afuera en tierra del juego. Juegan la bola y saltan la cuerda.
De los niños  jugan  afuera  tierra del juego

Juegan  la bola  y  saltan la cuerda
It Says

The children play outside on the playground.
They play ball and jump rope.

Were the pictures helpful? Did you need to know all the pictures to get the point?
Adapted Symbols Added to Book
Objects Added to Book

My Mom Ate One Quarter

Created by Griffin

My mom ate one quarter. We thought she would throw up then and there. But she didn't.
Matching Words to Pictures:

- Bat
- Milk
- Hug
- Pin
Matching Words to Pictures
Matching Letters/Spelling

apple
apple

apple

L p e a p
Categorizing by First Letter

A

Angel Soft
Arby's
ACE

B

Bounty
Butterfinger
Phonemic Awareness/Rhyming
Sentence Building
Jukebox: Money, Math, and Music
Weather: Math, Science, and Vocabulary

What's the Temperature?

100
75
65
55
50
45
35
0
Take a survey, count, graph...
Individual Work Book

- Junior's Book
- Color Chart:
  - Red
  - Blue
  - Pink
  - Purple
  - Orange
  - Green
  - Brown
  - Grey
  - Black
  - White

- Date and Days:
  - The date is:
  - Yesterday was:
  - Today is:
  - Tomorrow will be:
    - May 6, 7, 4, 5, 10
    - Wednesday
    - Thursday
    - Friday
Preplanning Thoughts

- Preplanning is **NOT** Pre-Decorating!!
- Pretty is nice, but a successful student is beautiful
- Make a plan for planning
We are what we repeatedly do. Excellence then is not an action but a habit.

~Aristotle
Websites: Picture Symbols using Boardmaker Software

- [http://www.adaptedlearning.com](http://www.adaptedlearning.com) – Mayer Johnson website that allows users to upload and download free Boardmaker materials (activity exchange). Must have Boardmaker software.
- [http://groups.yahoo.com/group/boardmaker/?v=1&t=search&ch=web&pub=groups&sec=group&slk=1](http://groups.yahoo.com/group/boardmaker/?v=1&t=search&ch=web&pub=groups&sec=group&slk=1) - free Boardmaker activity exchange (must have Boardmaker software).
- [http://www.baltimorecityschools.org/Boardmaker/adapted_library.asp](http://www.baltimorecityschools.org/Boardmaker/adapted_library.asp) - free adapted Boardmaker books (must have Boardmaker software).
- [https://www.ocps.net/cs/ese/support/at/Pages/VisualSupports-ThematicVisualSupports.aspx](https://www.ocps.net/cs/ese/support/at/Pages/VisualSupports-ThematicVisualSupports.aspx) - provides free pre-made Boardmaker files (must have Boardmaker software).
- [http://fdlrsregion3thematicvisuals.wikispaces.com/](http://fdlrsregion3thematicvisuals.wikispaces.com/) - thematic Boardmaker visuals and links to other Boardmaker visuals (must have Boardmaker software).
- [http://prekese.dadeschools.net/BMD/interactivestorybooks.html](http://prekese.dadeschools.net/BMD/interactivestorybooks.html) - Interactive Boardmaker storyboards for pre-k (must have Boardmaker software).
Websites: Picture Symbols requiring no Software

- [http://www.askability.org.uk/Default.aspx](http://www.askability.org.uk/Default.aspx) - free British website that posts symbolized text jokes, stories, current events, etc. (similar to Writing With Symbols but no software is required)
- [http://www.slatersoftware.com/document.html](http://www.slatersoftware.com/document.html) - free visuals provided by Slater Software. Items for purchase are also available on the website. Adobe Acrobat reader is required to open visual files.
Websites: General Resources

- http://www.polyxo.com/visualsupport/ - website about teaching students with autism, including information about visual cues, social stories, etc.
- http://card.ufl.edu/visual.htm - University of Florida Center for Autism and Related Disabilities pages that provide ideas and information on using Visual Supports
- http://www.tinsnips.org/ - special education website that provides lots of information and examples of visual supports
Reference