



Writing with Alternative Pencils

Guide to Using The Alphabet Eye Gaze Frames

Who Should Use the Color Coded Eye Gaze Frame?

The Color Coded Eye Gaze frame (adapted by Erickson, 2000) is intended for students with multiple significant physical and hearing impairments, including those with unknown cognitive skills. The eye gaze frame is often used by students that are unable to hold a pencil or unable to physically manipulate a standard or an enlarged keyboard. For students who have such challenges, using their eyes can be the easiest. Students need to have some degree of vision, but it does not need to be completely intact in order to use the eye gaze frame. In fact, this pencil has been used by students with a variety of visual impairments, such as cortical vision impairment and even unknown and difficult to assess visual skills. Hearing is not required to use the eye gaze frame.

Students with significant disabilities have writing abilities that greatly vary. Some students may know how to express their ideas in writing and other students may have little, if any, understanding about print. These alternative pencils are ideal to use with ALL students, including those who have very little experience with print. Typically developing children spend hundreds of hours scribbling, drawing, writing and experimenting with crayons, markers and pencils. From these experiences, they gain basic literacy concepts such as, what print is, what it is used for and why, and how it is made. Since our students have been unable to do this because they can't hold a regular pencil...they need to have the same opportunities, except with using some kind of alternative pencil. No prerequisites are needed for beginning students to be able to scribble, explore and experiment with writing. When getting started with writing with students who have limited experiences with print, it is important to remember that:

- Students do not need to know how to use an alternative pencil.
- Students do not need to have cause/effect.
- Students do not need to have reliable motor skills or good switch use.
- Students do not need to know their letters.
- Students do not need to be able to spell or read words.

Similar to typically developing children, our students learn about writing and pencils by using them to write.

Coded Eye Gaze Frame Cards and Symbols

A range of eye gaze cards have been included on the CD, these include upper case and lower case cards. For very beginning writers, upper case letters are often used due to their



visual simplicity. The different cards are coded for students to use color and/or position to make a selection.

- Color coded cards with the colored card edges
- Color coded cards with colored letters
- Black and white cards

Student communication is a necessary part of any literacy activity. To support communication during writing, a variety of supplemental communication symbols have been included on the CD. The symbols have been made in different colors to support students' different visual needs.

Add a space, Erase, Finished Symbols

Can be velcroed onto the base of the eye gaze frame for the student to use during writing.

Talk About It Symbol

These supplemental symbols can be used on a single message device or a choice board so that the student can initiate an interaction about their writing or a change in their writing, during writing.

Go to Numbers Symbol/Go to Letters Symbols

These symbols have been added so that during writing, students can go back and forth between writing with the eye gaze frame and a another pencil with numbers.

In the Print Flip Chart Pencil folder,

there are additional supplemental flip systems that can be used during writing with the Eye Gaze Frame.

Crayon Flip Chart

This is great for use with younger kids. The crayon flip chart allows kids to go into their crayon box and select the crayon color that will be used for writing with an alternative pencil.

Writing Tools/Color Flip Chart

This allows students to select the writing tool that will be used for writing with an alternative pencil, as well as the writing tool color.

Number Flip Chart

This has been included to integrate literacy and math. This is used in the same manner as the print alphabet flip chart. The only difference is that "add a sign" is used instead of "add a space."



Getting Started With the Eye Gaze Frame

When beginning with the eye gaze frame, it is important to recognize that the eye gaze frame is simply a pencil. It is essential to use this pencil for a wide variety of purposeful and motivating writing activities.

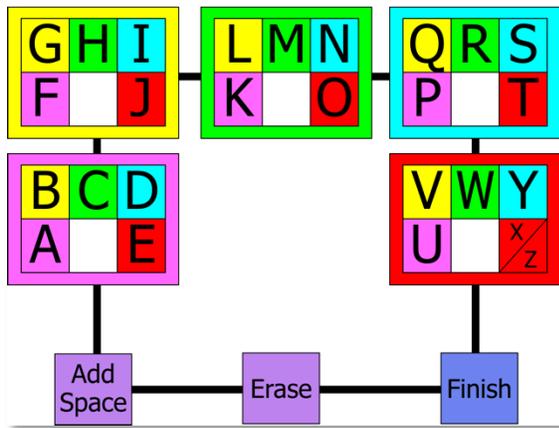
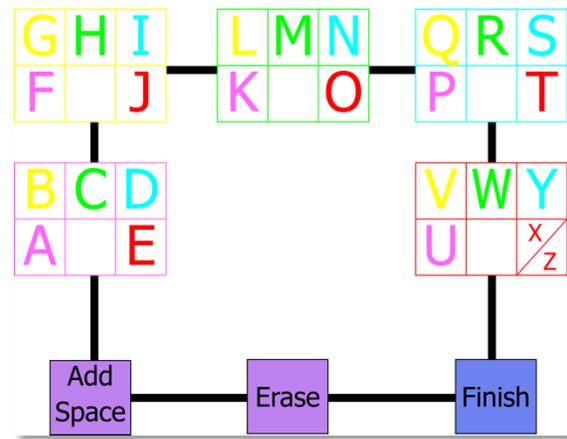
To use the eye gaze frame, students should be positioned with as much support as possible to promote their most optimal head/eye control. For some, this may mean being seated in the wheelchair. For others, this may mean being curled up in a caregiver's lap.

The eye gaze frame is used with a partner who interprets the student's eye gazes. The student faces the eye gaze frame, placed where the student can easily see all the letters. The partner sits on the other side of the eye gaze frame, directly across from the student. This allows the partner to see where the student is looking on the frame. Writing with the eye gaze frame is done using a special coding system where the student make 2 eye gazes to select 1 letter. The system is based on the color or position of the letters and letter cards. The partner records student's writing.

The letters are grouped and color-coded to support the communication partner in interpreting the student's gaze. Individually arranging 26 separate letters on an eye gaze would pose great challenges to students and to partners. When presenting students with 26 separate letters, partners would have a difficult time interpreting exactly which letter students are looking at. Thus, the letters have been organized into 5 groups, each distinguished by a different colored border. The letters within each group are also organized by location/position that duplicate the positions of the 5 groups.

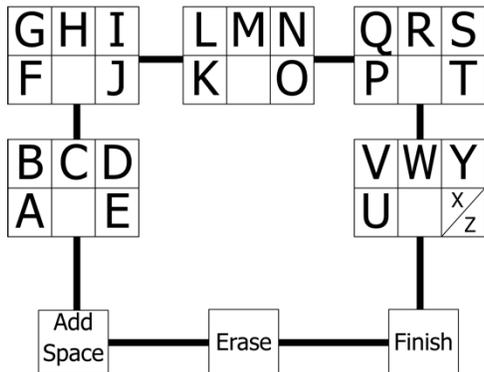
Writing with the eye gaze frame requires 2 eye gazes. The student begins by gazing at a group that has the desired letter in it. The partner sees what group the student is looking at, and tells the student, "I see you want one of these letters, what color (or position) is the letter you want?" The student gazes a second time at the border color or position (lower and upper left or right, top center) to indicate which of the letters in the group selected is desired. We write down their selection in a place that is easy for them to see as they continue writing. It is essential to keep a copy of the student's writing.

Below is an example of two complete color-coded alphabet displays. The two displays work the same way using color as an indicator. One display has cards with colored edges and the second display has colored letters. A gaze to the bottom left group of letters (A-E with a pink border) followed by a gaze to the bottom right (with a red border) would have selected the letter E – the red letter or the letter with the red background that appears in the bottom right corner of the A-E group. Examples of the two gazes required for other letters are listed below.

*Cards with Colored Edges**Cards with Colored Letters*

Letter	First Gaze	Second Gaze
A	= bottom left group (A-E)	+ pink (bottom left)
B	= bottom left group (A-E)	+ yellow (top left)
C	= bottom left group (A-E)	+ green (top center)
D	= bottom left group (A-E)	+ blue (top right)
E	= bottom left group (A-E)	+ red (bottom right)
F	= bottom left group (F-J)	+ pink (bottom left)
G	= bottom left group (F-J)	+ yellow (top left)
H	= bottom left group (F-J)	+ green (top center)
I	= bottom left group (F-J)	+ blue (top right)
J	= bottom left group (F-J)	+ red (bottom right)

Below is an example of black and white alphabet display. Instead of using color as a way to select a letter, position is used. Each card is a mini-representation of the entire eye gaze display. There are five letters in each card and five cards on the display. A gaze to the bottom left group of letters (A-E) followed by a gaze to the bottom right would have selected the letter E –the letter in the bottom right corner of the A-E group.



Letter	First Gaze	Second Gaze
A	= bottom left group (A-E)	+ bottom left
B	= bottom left group (A-E)	+ top left
C	= bottom left group (A-E)	+ top center
D	= bottom left group (A-E)	+ top right
E	= bottom left group (A-E)	+ bottom right
F	= bottom left group (F-J)	+ bottom left
G	= bottom left group (F-J)	+ top left
H	= bottom left group (F-J)	+ top center
I	= bottom left group (F-J)	+ top right
J	= bottom left group (F-J)	+ bottom right

For all of the eye gaze setups, the symbols for “add a space,” “erase,” and “finished,” “space” have also been included. These could be placed at the base of the frame or on single message devices depending on the needs of the student.

General Teaching Strategies

Model, Model, Model

Watching peers and adults engaged in an activity or completing a skill is a primary means by which children learn. Language and communication in particular require modeling. Children who are learning to use an alternative pencil need to see the people in their family/classroom model its use.

Attribute Meaning

When typical children begin scribbling and writing, their attempts are random and their intentions and writing are unclear to adults. However, based on the context, the adult attributes meaning to the child's attempts. A random mark made by a young child might be interpreted (and celebrated!) as helping mom write the grocery list or paying a bill. This happens repeatedly over time, and this helps the child begin to understand what they are doing and what their writing means. This strategy is equally important to use with students with significant disabilities.

Pause

When presenting choices, seeking a communication, or asking a question, wait at least 10 seconds (or more!) and keep the talk to a minimum. While the social interaction is critical, it is important to pause and give the student ample time to look at the letter/touch the Braille. Students need time to process the activity, process the print/Braille, think about



their choices, and the time to make their body respond. Many students do this best when there is little or no auditory distraction, especially students with cortical vision impairment.

Do “Think Outlouds”

As experienced readers/writers, there are a lot of basic things we have learned about literacy that are unspoken and assumed. Things such as: what writing is for; the functions of writings (lists, letters); and the relationship between letters, sounds, and words; are not obvious to children who are just getting started accessing the alphabet. Given vision, hearing, and motor issues, many students with significant disabilities have even more difficulty understanding this hidden information. Therefore, talking/signing about what you're doing and why will provide an important learning support.

Provide DAILY Opportunities

Skills can't be learned without regular, successful practice. Children without disabilities write every day from the time they enter school, and many write every day beginning when they are very young and begin using crayons, markers, and chalk at home. Students with significant disabilities rarely have this level of opportunity – a fact that greatly influences their literacy learning progress. Daily opportunities to use the alphabet display in the way a very beginning writer might scribble or otherwise explore writing tools is important.

AVOID Testing and Known-Answer Questions

Examples of testing or known-answer questions are: “Find the letter __”, “Show me the letter __.” These should be avoided as students are just beginning to learn how to manipulate the alphabet. Instead, ask them to write; work with them to interpret their selections; and write down the letters they select on a piece of paper, white board, computer, or something the child can see.

Connect The Print to Things the Student Knows About

Writing is about constructing meaning with print. When connecting the print to things the student already knows, it helps them make sense of the print. For example, Jake writes: “mmh ymp.” His mom comments/signs: “Wow, you've written a lot of Ms—that's the first letter of your brother's name—Max!”

Keep Copies of Students' Written Work and Celebrate!

Start accumulating a pile of student writings to share and revisit. Date them and put them up in places for all to see - especially the student. Don't forget the refrigerator door! Change occurs over time so keep everything!

Sample Goals for Emergent Writers

These are examples of goals that are appropriate for very beginning students who may be “scribbling” and just starting to learn about the alphabet and the purpose of print and writing.



Given daily opportunities to write about self-selected, personally meaningful topics using the appropriate assistive technologies, student will choose a topic from his home/school log, photo journal, or other source, with <insert level of support>, 4 out of 5 days.

Given daily opportunities to write about self-selected, personally meaningful topics using the appropriate assistive technologies, the student will demonstrate increased complexity in writing as indicated by changes in letter combinations and spaces, 2 out of 5 days.

Given daily opportunities to write about self-selected, personally meaningful topics using the appropriate assistive technologies, the student will demonstrate increased complexity in writing as indicated by X or more word-like groupings, 2 out of 5 days.

During writing with the full alphabet, student will independently activate a single message device programmed with "that's it," X or more times, on 3 out of 5 days.

During writing with the full alphabet, student will independently activate two single message devices with "that's it," and "not that one," with <insert level of support>, on X or more times, on 3 out of 5 days.

Given daily opportunities to write about self-selected, personally meaningful topics, the student will demonstrate increased engagement with the Braille as demonstrated by participating with hand under hand facilitator support for 50% of the letter entries <insert level of support>, 2 out of 5 days.

Given daily opportunities to write about self-selected, personally meaningful topics, the student will demonstrate increased engagement with the visual print as demonstrated by visual attention to 50% of the letter entries with <insert level of support>, 2 out of 5 days.

Given daily opportunities to write about self-selected, personally meaningful topics, the student will demonstrate increased engagement with the Braille by reaching out with an open hand to reread their Braille writing for 50% of the letter entries <insert level of support>, 2 out of 5 days.

Fun Activities

Alphabet Activities

Alphabet Scavenger Hunt: Student picks a letter and then you have to find something in that room that begins with that letter. Write down things as you find them and talk about them.

Write Letter Books: Students picks letter for pages of letter book. The helper writes the letter on the book page. Together the student(s) work with the helper to find an appropriate picture for that particular letter page.

Words About Things I Know: Student picks a letter and then together you make a list of words that begin with that letter - that are related to things the student knows. Write them down and talk about them. It can be especially motivating to select actions, pictures and



foods that the student is familiar with. Can later create a short letter/object book with the things you talk about.

Tongue Twisters: Student picks a letter and then you make up a short tongue twister using that letter. Write it down and talk about it. These can also be typed into a talking word processor for the student to reread later (using a switch as needed).

Wheel of Fortune/Hangman: You think of a short word or phrase that the student is familiar with and draw the lines for the letters. Give student the category that it is in (person, place, animal). As the student picks letters, you either write them on the correct line or in a separate space where un-needed letters are collected. As the letters are selected, you could cover them on the alternative pencil with small sticky-notes – this will help the child know which letter it is not. Make it fun by recording a game show buzzer on a single message device, and ask the student to indicate when they are ready to pick another letter (Free sound effects available on web). Some teachers have done this activity with students' names, favorite people's names, new word wall words, favorite books and the daily lunch menu.

Writing Activities

Write Picture Captions: Offer the student things such as favorite photos from a family photo album or pictures from a magazine or wordless book. Ask the student to pick one and then write about it. Don't expect students who are just getting started to write words or correct sentences. As students get started, they are likely to select random letters that are quite difficult to relate to the photo or picture selected.

Start a Journal: Most typical early writers experience writing in a journal. They often draw a picture and write about it – beginning well before they can actually spell any words or even write letters correctly. The same activity can be modified for students with significant disabilities. Ask the student to write by selecting letters from their alternative pencil, record the exact selections in a journal, and keep adding to it over time.

Create a Remnant/Scrap Book: Collect remnants (food labels, movie tickets, receipts, napkin from McDonald's), pictures, or objects that reflect the activities, experiences, and events that occur in the student's every day life. Have the student choose a remnant to write about. Glue their choice into a journal, or slip them into plastic page protectors, and have the student use their alternative pencil to write about it. Record exactly what the student chooses. Talk about it and add the date. For more information, see the CD handout: Creating Remnant Books.

Sign Name for a Real Purpose: It can be motivating to have students sign their name for a purpose, such as on artwork, reminder notes to family members, and holiday/special occasion cards. Record exactly what they choose on their alternative pencil. DO NOT provide a model for the student to copy while name writing, but make sure there are lots of models of name writing and use throughout the day. The helper can model name writing with the student's pencil after the student has made an attempt. Other sample



purposes for signing name: morning sign in, sign up for lunch choice, signing a library card to checkout a book, signing in for a therapy session, signing up for a classroom station.

Student Writing Samples

Student: Darryl

17 year old with cerebral palsy and deaf-blindness

Environment: School

Task: Free Writing (first explorations with the full alphabet on an eye gaze frame)

Tools: Color Coded Eye Gaze Frame

5/04 Free Writing

B X Z K U

Student: Molly

16 year old with cerebral palsy

Environment: Home

Task: Journal Writing

Tools: Color Coded Eye Gaze Frame

5/08 Chris...her favorite guy

FTS

KTS