



My Hands Can Write, My Fingers Can Tie!

Children and adults with Fragile X (FXS) often struggle to learn basic fine motor skills due to the joint laxity/low tone issues common to FXS as well as the difficulties these individuals can have with learning motor plans. To enhance fine motor skills, an OT can be consulted, since they are knowledgeable about hand development. However, they must know how to keep a person with FXS engaged in learning by utilizing high-interest materials and then they must know how to teach to the fragile X learning style. Most importantly, they must know how to modify their treatment into non-sequential, visually based method of instruction. Most functional, hand skills are taught in a sequential manner and most canned curriculum also teach sequentially. Modifying this to a simultaneous method is critical for individuals with FXS.

Fragile X Learning Style (modified with thanks from the work of: Marcia Braden, Vicki Sudhalter, Gail Spiridigliozzi and Becki O'Conner): When designing or adapting curriculum or therapy goals, it is integral to take into account the learning style of individuals with FXS. Remember that, in general, individuals with FXS demonstrate:

- *Simultaneous, not sequential learning.* This is counterintuitive! Remember to teach by showing the finished product first, rather than through a sequential, step by step process. If you start an activity or event, remember to indicate when it is done. It is important for a *beginning* and *end* to be designated.
- *Visual, not auditory learning.* Augment teaching with picture schedules, visual cues and visual modeling.
- Excellent verbal and social *imitation* skills. Individuals will easily imitate behaviors or mannerisms of others.
- *Incidental learning.* This is learning by passive observation of activities or events. You may think a child with FXS, sitting on the outside of a group being instructed, is not paying attention, however, it is highly likely that he IS attending and learning the task, even though he is on the periphery.
- *Strong memory* for routines, videos, TV shows. Integrate *interest areas* into learning materials.
- *Developed sense of humor.* Use this strength to develop therapy materials and adapt curriculum.

**Make it visual, have an end product, model the whole process and keep it interesting!
These are words to live by!!!**

Hand Development Programs and Ideas

Available from THERAPRO – (they have a lot of wonderful products and ideas!!)

www.theraproducts.com

- Fingermania by Laura Sena, OTR
- Fine Motor Olympics by Marcia Bridgeman, OTR

Ipad Applications to Enhance Fine Motor and Handwriting Skills

- Dexterity
- iWrite Words
- Alphabet Tracing
- Whizzy Kids
- Sky Writer
- Doodle Buddy
- Letter School
- Ready To Print
- Write My Name

Hand Writing Recommendations

We have found a fabulous method of handwriting instruction and practice is to combine two programs, and then modify them for each individual:

- “The TV TEACHER”
www.tvteachervideos.com
by Susan Ellis and Marnie Danielson, OTR
- “Handwriting Without Tears”
<http://www.hwtears.com/>
by Jan Olsen

Handwriting Alternatives

- Use of Templates and Stamps
- Use of Technology:
Co-Writer and Write Out Loud – www.donjohnston.com
Rapidkeys – and other free software - http://www.aidis.org/support/life_skill.php
Kidspiration - <http://www.inspiration.com/>
ZAC Browser - <http://www.zacbrower.com/>

Shoe Tying Recommendations

- A visually based method modified to be non-sequential, or backward chaining is the best way to teach shoe tying.
- We have adapted some methods into our own with a video model.
- Shoe resources:
“Red Lace, Yellow Lace” by Casey, Herbst and Stanley available from Therapro
“Shoe Tying Made Simple” by Kelly Wilk, OTR
- In the mean time, try elastic or curly shoe laces that don’t need to be tied

Self Care Skills Washing hands, meal preparation, utensil use, dressing/fasteners, etc.

- Use video modeling and imitation to teach the task. Using youtube.com or your own homemade videos can work well.
- Create songs out of the steps to the task and sing it to bring rhythm to the task. This can really help improve motor abilities.
- Adapt clothing if necessary. For example, add a piece of fabric to the end of a zipper or choose clothing with larger fasteners while learning.
- Make teaching the skill visual, show the end product, and model the whole process to take advantage of strong imitation skills.

The following activities to promote fine motor skills and hand development were compiled by Tracy Stackhouse, April Barnes and Kristen Clarke (all occupational therapists) and re-worded into more parent friendly language from a variety of sources including:

Mary Benbow's Activities to Develop Hand Skills in Young Children

Fine Motor Olympics

Variety of Internet Sources

Personal Experience of what children enjoy!

Lock It Up

Materials Needed:

Locks and Keys of varying sizes

Practice fitting the key into the hole and locking and unlocking. Make it a game by having the child unlock the door/container etc. to find the "treasure".

Vibrating Pen Activity

Materials Needed:

Vibrating Pen

Paper

Make designs and shapes on the paper with the "magic pen"! Make sure you hold the pen near the tip (like you would hold other writing tools) and try to control its movement.

To increase difficulty of this task, have the child trace shapes/designs already drawn on the paper.

Cotton Balls and Clothespins

Materials Needed:

Clothespins

Cotton balls

Wide mouth container

Sitting with long legs, put container on the floor on one side of the child's body and the cotton balls on the other side. Use a clothespin to pick up a cotton ball and place it in a container on the other side of the body.

Be sure the child uses thumb, index and middle fingers to squeeze the clothespin.

Increase or decrease the difficulty by varying the placement of the containers.

Rolling, Rolling, Rolling

Materials Needed:

Rolling pin or hard plastic bottle

Handful of dough, clay or silly putty

Have the child use their open hands to roll the tool to flatten the material, as if rolling out dough for pie. Encourage the child to keep her hands open on the rolling pin rather than using the handles.

Etch-a-Sketch or Magna Doodle Toys

Materials Needed:

Etch-A-Sketch, magna doodle, or similar toy

Attach the toy to the wall or a on a slant board easel. Positioning these kinds of toys upside down requires the child to reach higher to turn the knobs or to use the eraser bar. This helps them to better control their wrist and finger movements.

Wind Up Toys

Materials Needed:

Variety of wind up toys

Wind up the toy and watch it go! You can make it a competition by having two people wind up the toys and seeing which one goes the longest.

Lacing Activity

Materials Needed:

Lacing Board

Shoe Lace

Thread the string/lace through the design.

Sphere On a Spoon

Materials Needed:

Long handled wooden spoon

Small light round ball

Small heavy round ball

Have the child carry a ball at arm's length on the long-handled spoon. At first, allow the child to hold the handle at a point close to the bowl of the spoon. As the child's ability to do the activity improves, increase the difficulty by gradually moving the hand grasp farther back along the handle of the spoon. To further challenge the child, increase the weight of the ball and lengthen the distance the object is carried. A final goal would be for the child to carry a heavy ball to a target with their eyes closed!

Stencils

Materials Needed:

Stencil

Crayon, marker, chalk

Paper

Vertical Surface

Have the child use his non-dominant hand to hold the stencil firmly against the paper. Tell him to hold the crayon in his dominant hand and to draw within each shape in the stencil several times

Hand Strengthening

Materials Needed:

Hole punches

Paper

Make a unique picture by punching holes and a variety of designs/shapes onto paper.

It's Magnetic

Materials Needed:

Magnet stick/wand

Magnet

Maze Card

Put the magnet on top of the maze card and hold the magnet wand under the maze card. Hold the maze card in one hand while using the other hand to hold the wand and guide the magnet through the mazes. Be careful not to come off the path

You're the Tops

Materials Needed:

Small Tops

Using just your thumb, index and middle fingers, spin the top. Try it ten times and see how long you can keep it spinning.

To increase the level of difficulty make sure child is spinning top without leaning on a surface.

To increase development of the skilled side of the hand, make sure the last two fingers are curled into the palm. If not, have the child hold a pom pom with the last two fingers.

Putty Find

Materials Needed:

Putty

10-15 small objects

Hide all the small objects in the putty and the child will have to pull apart and remove all the hidden objects and put into a separate container. This can be a race if more than one child is participating! A "treasure hunt"!

Hand Strengthening

Materials Needed:

Clay Tray

Writing tool

Practice drawing shapes/designs and letters in the clay tray. Use your thumb and fingers to "erase" the work and try some more!

Basketball

Materials Needed:

Paper (newspaper, notebook paper, construction paper etc)

Using one hand, crumple the paper into a small ball and throw it into the wastebasket. (or at a target) Change hands and try it again!

To increase the difficulty of this activity, have larger, heavier pieces of paper to crumple into the one hand.

Paper Fold

Materials Needed:

Variety of paper (notebook, construction, cardstock etc)

Make paper airplanes or fold "letters" written to friends and family. Practice lining up the paper as much as possible and pushing with your fingers to make a crease.

To increase the difficulty of this task, use paper that is heavier in weight (ex. progression as listed above)

Domino Game

Materials Needed:

20-25 Dominos

Using your thumb and index finger to pick up the dominos, place them ¼ inch apart in a straight or curved line. Once you have 20-25 dominos lined up on their narrow end, tip the first domino to set off the reaction! Watch them go!

Piercing the Design Board

Materials Needed:

Corkboard

Pushpins

Letter templates

Black construction Paper

Place and tape one of the design templates over a piece of black construction paper and affix to the corkboard. Mount the corkboard onto a vertical surface. Direct the child to hold the pushpin device in their writing hand and push through the dots to make the letter.

Hand Races

Materials Needed:

Variety of small objects (buttons, paperclips etc)

Using pennies, paper clips, buttons etc. line items up and have the child gather them using only thumb, index and middle fingers. Once the first object is in the palm, they should shift it over to the ring and little finger side of her hand and hold it there. Race against the clock, your previous record or a friend.

Then keeping pennies or paperclips in your hand, try to place them one at a time into a slotted container such as a cutout yogurt container or piggy bank

Making Play Dough (hand strengthening)

Materials Needed:

4 C. flour

4 C. Water

1 C. Salt

1/3 C. Vegetable Oil

2 Tbsp. Cream of Tarter

Mix dry ingredients

Add oil, 1 C. Water (add 1 Cup at a time)

Mix well. Repeat until all 4 Cups of water have been added. In the last cup of water add food coloring/liquid watercolor etc. to make desired color.

Heat over low/medium heat in a non-stick pan. Stir until dry.

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