



# Environmental Structure *and Routine*

18th in a series of "Coffee Talk" articles by Occupational Therapist Tracy Stackhouse and Speech Therapist Sarah "Mouse" Scharfenaker

We recently had a family send an e-mail asking us about how to organize their child's bedroom. Was "Use a bulldozer" too strong a response? This question or similar questions about environmental structure are common in our work with families with fragile X syndrome (FXS).

The answer to these questions involves two concepts that guide much intervention: structure and routine. We find that in our work with families, schools and community organizations, the discussion often comes down to increasing or enhancing structure and routine, which are key elements in managing hyperarousal and anxiety as well as promoting both acquisition and independence in self-regulation.

One of the places we often extend the notions of structure and routine is to the organization of the child's environment, which we believe helps improve functioning across domains—especially self-regulation. Environment may include the physical setting of anywhere you are—from the treatment clinic or school to home settings such as the playroom or bedroom, or to the work site, grocery store or park. Designing environments to promote the skill at hand can be a significant and helpful intervention. For individuals with FXS, such design can foster a sense of comfort, familiarity and predictability, all of which help to minimize anxiety and hyperarousal and lead to ease in learning and engagement.

## CHANGING THE ENVIRONMENT

When we work with families, we often go into the home and school environments and improve the child's access to skills through changes in the environment. Our philosophy of structure and routine applied to environmental design has been influenced by a couple of key sources. First, in the early 1990s the American Occupational Therapy Association published a book entitled, *Environment: Implications for Occupational Therapy Practice* (Merrill, S. Editor, 1990). A chapter by Richter and Oetter, "Environmental Matrices for

Sensory Integrative Treatment," suggested a matrix model that has proven useful all these years. Their matrix model was adapted from Joseph Chilton Pearce (1977) and included providing environmental "space" in four different ways:

- **Space One** is for quiet, calm, soothing, or regrouping usually done solo by the child, or if an adult joins in the space it is in a very quiet, non-intrusive, no-demand manner. It is characterized by a small, cozy space. In our clinic and consultations we often find that we have to implement this notion of "The Cozy Corner."



A patient gets comfy in his "Cozy Corner" during one of Mouse and Tracy's therapy intensives.

- **Space Two** is similar to the first space, but is more like a cuddling space, where the individual is surrounded by comfort and partakes in quiet, favored activities within a social context. It is still a nook-like space but with companionship as a main feature.
- **Space Three** promotes active movement and physical or social engagement. Body-based challenges with fun movement are the focus of this space, and it can accommodate an individual or more than one person in the experience. Sometimes it is referred to as "kid power" space.
- **Space Four** is for focused, thinking work and can be used for either an individual or groups. It is often referred to as "brain power" space.



*Work towers can help bring order to an otherwise chaotic children's room.*

This matrix model has been adapted by a variety of clinicians in the field of occupational therapy, including Diana Henry in her *Tools* series and her ATEACHABOUT model of training (see her website: <http://www.ateachabout.com>).

Another important source for providing structure and routine in the environment comes from the TEACCH program in North Carolina, devised to promote structured teaching for individuals with autism. Developed in the 1970s by Eric Shopler at the University of North Carolina at Chapel Hill, the TEACCH approach is summarized in an article from its website (<http://www.teacch.com>) on *Structured Teaching* written by staff member Lee Marcus: "To effectively teach autistic students a teacher must provide structure, i.e., set up the classroom so that students understand where to be, what to do, and how to do it, all as independently as possible.

In the TEACCH model, visual structure and routines provide the foundation for creating environmental supports that provide obvious cues to support function. The five basic principles from the TEACCH method are:

- Physical structure
- Scheduling
- Work system
- Routine
- Visual structure

We have found in our clinical and consultative work that the TEACCH principles provide for excellent programming for individuals with FXS. One of the emphases of a true TEACCH model is the careful individualization of the program—not in an inflexible or "canned" manner which is sometimes the case with people who do not fully understand it. Taking these ideas, we extend them to provide structure and routine for our families. Some of the most common practical extensions of

these ideas that we utilize for our families can be understood in the following examples.

#### **TARGET ENVIRONMENT: CHILD'S BEDROOM AND FAMILY/PLAY ROOM**

Kevin's bedroom was a disaster. The floor was littered with parts of games and other toys that no longer belonged to any specific activity. Various pieces of a Wiggle Big Red Car puzzle were mixed with some magic wands from four Leap Frog learning sets. Toy cars and trucks were scattered around the room as well. Legos, duplos and 64-piece puzzles were in boxes in Kevin's closet, and his mother remarked that he never played with them. She wondered how she could introduce some structure and routine into this mess of toys so her son could benefit from and enjoy them. The job of organizing the toys became a joint task.

We divided the toys into several categories: those he enjoyed the most and was successful in playing with independently, and those he needed guidance with or another person in order to be successful. We disposed of those miscellaneous bits and pieces that were no longer connected to toys.

Next, we took several, but not all, of the favorite independent toys and placed them in bins, each with a color picture match of the actual toy, so when Kevin had to clean up he had a visual cue. Several bins were kept in the bedroom, others were taken to the family/play room, and several were placed in an out-of-the way storage closet. Storing some favorite toys away for a while allows mom or dad to periodically change out toys, so that Kevin always has some "new" toys he can play with independently.

Next, we put the toys that needed some guidance, or another person for participation, in several different colored bins, again with color pictures for matching purposes. Some of the bins were placed in the storage closet and the rest were placed in a larger bin in the family/play area. This bin had a photo of Mom, Dad, sister and Kevin on it, meaning that he needed to have a "partner" to access and play with these toys.

This all added up to a successful way to use structure to keep Kevin's toys organized, help him be successful in playing with the toys, and help him maintain interest in them. Besides structuring the toys, we also suggested that mom establish a "cozy corner" for Kevin, a refuge or place he could go to when he returned from school or needed time to regroup. She bought a small tent from IKEA and kept it on his bed, creating a nook that she encouraged him to use to self-regulate.

*continued on page 20 →*


**TARGET ENVIRONMENT: SCHOOL CLASSROOM**

Angie was anxious about entering kindergarten. She didn't know what to expect, who the other children were, or where she would sit. Her list of questions and concerns were endless, and her mother never seemed to have the right answers.

To mom's surprise, two weeks before school began, the teacher called the family and asked them to visit the classroom so Angie could familiarize herself with it. There would also be snacks and a chance to meet other children. The teacher explained that during the visit she would show them all a visual schedule they would use daily. She also told Angie that there would be a "work tower" for her to use to complete her work independently, a concept that Angie had been introduced to in speech therapy.

Angie was visibly relieved and excited about the information she had received. The preparation by the teacher provided Angie with the structure and routine she needed to

reduce her anxiety and apprehension about school, and helped her mother feel secure knowing the tools and support Angie needed to learn were in place.

We find the work tower to be an indispensable tool for organizing work and play for many children. Once they learn the process, the work tower can be used for any age level and just about any task or setting. Imagine the independence a work tower can give to a young adult as he or she moves into the world of work, not so dissimilar to our desks with their In/Out boxes and vertical file holders! 

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**CALENDAR OF EVENTS**

# Happenings 2008

*A listing of upcoming educational and fundraising events for Fragile X.*

*For more information or updates, visit [www.FragileX.org/calendar.htm](http://www.FragileX.org/calendar.htm), or call the NFXF at (800) 688-8765.*

- March** 4 Raising Green in the Desert Card Party, Scottsdale, AZ.  
*Info: Joan Canel (480) 502-0962*

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- 29 3rd Annual Mouse Races, St. Louis, MO.  
*Info: Rich Erker (636) 458-9728*

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- April** 12 Fragile X Walk for Knowledge, St. Louis, MO.  
*Info: Diane Southard (314) 835-9673*

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- 18 California Fragile X Awareness Day, Sacramento, CA.  
*Info: NFXF office (800) 688-8765*  
*Also call the Foundation for a special NFXF and NCFXA-sponsored Awareness Day event scheduled April 16 in Sacramento!*

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- 19 5th Annual Walk for Fragile X Syndrome, Canton, IL.  
*Info: Holly Roos (309) 647-4864 or [roosfam@sbcglobal.net](mailto:roosfam@sbcglobal.net)*

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- 22 Q & A Online-Audio Webcast: Preparing for the 11th International Fragile X Conference  
*See page 25 for details.*

- May** 10 Chicago Dinnerless Dinner ■ Hosted by Lynda & Scott Canel, Cheryl & Cary Cooper and Rebecca & Ira Fishman  
*Info: NFXF office (800) 688-8765*

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- 22 "New York Helps"—A Benefit for the NFXF in NYC!  
*Info: NFXF office (800) 688-8765*

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- June** 21 2008 Walk for Fragile X, Bernville, PA.  
*Info: Jennifer Mathias (610) 488-1612, (717) 813-1289 or at [LukeJen97@aol.com](mailto:LukeJen97@aol.com)*

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- July** 22 National Fragile X Awareness Day  
*Info: NFXF office (800) 688-8765*

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- 23-27 11th International Fragile X Conference, St. Louis, MO.  
*Info: NFXF office (800) 688-8765*

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- Aug** 3 2nd Annual Fragile X Assoc of Michigan Fun Run/Walk  
*Info: [fraxmich@hotmail.com](mailto:fraxmich@hotmail.com) or (248) 674-2147*

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- Oct** 25 2nd Annual North Carolina Gala  
*Info: Pam Bailey, [pambailey@nc.rr.com](mailto:pambailey@nc.rr.com)*