



THE LEARNING ENVIRONMENT

In our school's core values, we reference the importance of the school environment. Our philosophy speaks of the environment being the child's third educator, after parents and teachers. But how does the environment play such an important role?

An even more basic question might be why does the environment play such an important role? The simple answer is that all learning is physical and based on sensory experiences. Children must touch, smell, see, hear and even taste everything that they come into contact with to create a full picture of the world around them and to begin to create order in that world. Also, the environment needs to be conducive to attending to tasks, encouraging appropriate risk-taking and fostering independence. Here are just a few of the criteria we consider when evaluating our learning environment.

Light has a major affect on a classroom. All people, but especially children, need full spectrum light. A lack of access to full spectrum light is linked with headaches, arthritis, low learning ability and poor calcium absorption. Studies show that light levels can affect reading achievement by as much as 30%. The easiest source of full spectrum light is sunlight. Time outdoors can supplement indoor light exposure, but large windows that provide natural light are very important. Access to sunlight or artificial full spectrum light on at least two sides of each indoor space is optimal. But along with sunlight can come thermal variances. Thermal factors can impact task performance, attention spans, comfort levels and overall achievement. So the ability to adjust light and glare coming from a window is key.

While full spectrum light enhances a child's learning ability, fluorescent lights have a subtle flicker that can be completely distracting and disorienting to many children, especially those with learning disabilities. Limiting the use of these lights enhances children's ability to learn.

Varying light levels throughout the day is also a significant factor in lighting a classroom. A more brightly lit room encourages more physical activity, while softer lighting soothes.

Going hand in hand with light are color choices. As with light, color can encourage high motor activity (bright colors) or greater concentration (lighter colors). Primary colors, associated with preschoolers for many years, have been shown to relate to hyperactivity, agitation and exhaustion. When paired with fluorescent lights, primary colors trigger eye strain, stress and concentration issues. Natural materials should be used whenever possible, including the material choice for classroom toys and furniture. They also add texture to the environment reducing glare and providing a sense of warmth.

Specific colors can create unintended consequences if used unthinkingly. Blue is very calming, but when paired with fluorescent lights can induce sleep. Red is too stimulating for work or study. Exposure to a color for as little as 5 minutes can change your muscle tone and mental activity level. Often in the past, classrooms were stocked with vibrant colored toys and rugs, but try sitting at a child's level on a brightly colored rug and listening attentively to a story. Most adults could not keep their attention on the teacher – the rug was too distracting.

Another aspect of the classroom to consider is noise. Preschool classrooms, by their nature, are noisy places. While people are wired to detect variations in sound, we cannot endure a steady onslaught of sounds at a very high level. Therefore, being aware of decibel levels and using noise reduction measures are key components to a successful environment.

As with light, noise levels in classrooms have been showing to have a significant effect on learning. Receptive language abilities are negatively impacted, as are concentration and attention skills. Headaches, stress, accelerated hearing loss and negative motivational and cognitive effects are also seen in overly noisy environments. The EPA recommends limiting exposure to sounds over 70dBA, but preschools classrooms with no noise control can easily climb to 90 dBA and higher.

Again, the classroom can help with noise control. We don't use background music while children are engaged in other activities. Soft surfaces, including rugs, upholstered furniture and curtains, help absorb noise. Hanging clear plastic panels from the ceilings can significantly reduce noise. Furniture placed perpendicular or at angles to the walls helps to reduce reverberation. We monitor sound levels on a regular basis to see if we need more controls.

We haven't begun to discuss air quality, furniture placement, proximity of different materials, sizing spaces, managing open spaces, creating private and public spaces, encouraging independence and a multitude of other criteria. But the multitude considerations that go into classroom design and the serious impact that they have on children should be becoming apparent.

It is critical to remember that experience shapes the brain – and experiences are shaped by the environment where children learn.

