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Interpreting REALITY

Trees in the Classroom



The average child currently spends five to eight hours a day in front of a tablet, phone, computer and/or television. By the time a child turns eight, they will have spent one year of their life in front of a screen. The 1990s saw the beginning of a trend to minimize outdoor time by cutting out recess and physical education. Children are increasingly occupying classrooms without views to the outside. The overcrowding of schools has been mitigated by the portable classroom resulting in 10



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million students attending classes in “temporary” modular classrooms with nothing more than views to another wall. Classrooms in new schools are being built without windows. All of this has dramatically changed how children view nature. However, there is a glimmer of hope as more organizations step up to fill this void that has been created.

Humans are wired to interpret the fractal patterns that dominate the natural environment. Studies show that it takes the brain less time to analyze a nature scene versus a familiar urban environment. This survival mechanism has passed down through evolution and is present in all of us. It has been clouded by the hustle of daily life, but it’s there. Viewing nature calms

us and helps us focus and engage. This is the founding premise behind my formation of Sereneview,[®] a company that places nature imagery in hospitals to promote healing. These landscape images are placed on hospital curtains surrounding patient beds and can be found in over 3,000 hospitals worldwide. Extensive research in healthcare shows that patients with nature views have lower blood pressure, require less pain medication, heal faster, and leave the hospital sooner.

I personally experienced this connection with nature when my assistant and I spent six weeks in Grand Teton, Yellowstone, and Glacier National Parks photographing nature scenes for hospital curtains. There, my training

and ideas finally came to life as we both had a similar epiphany upon returning to camp after 10 days in the wilderness. I remember saying to him, “What just happened today? It’s like a switch was flipped in my brain and I no longer feel separate from the wilderness.” Words are difficult to describe the transformation. After this realization, we were both less fearful and noticed that the animals we encountered responded differently to us. With our relaxed demeanor, the deer, elk, and bears weren’t afraid to see us and allowed us to pass without hesitation during our encounters. We belonged there.

The connection of bringing nature inside classrooms began many years earlier with my graduate education and training as a school psychologist. My certification as an Interpretive Guide and California Naturalist served to reinforce this connection. Further, as a photographer and park ranger, I see the healing results of nature every time I venture into the interior of Catalina Island. This fusion of training and experience in early childhood education combined with my belief in the healing power of nature was the driving force behind the formation of Nature in the Classroom (NITC) and a personal commitment to improving education.

After my California Naturalist certification, I started receiving emails from the North American Association of Environmental Educators and was introduced to Attention Restoration Theory (ART). First developed at the University of Michigan in the 1980s, ART’s premise is viewing trees and foliage, whether real or a photograph, calms us and helps us focus and engage. Forty years of peer-reviewed, scientific research supports this premise. Research documents that views of trees from classroom windows boosts academic performance, creativity, problem solving, test scores, focus, attention, engagement, and improves language skills in students. NITC is the embodiment and application of

Attention Restoration Theory, E.O. Wilson’s Biophilia, Denis Dutton’s Darwinian Theory of Beauty and supportive empirical research. As a retired school psychologist, I took note of the dots connecting the science of viewing nature to a classroom application. Walls are sacred areas for classroom teachers, but ceilings are typically just white acoustic tiles. How would students respond if they had a chance to sit under a tree while they were in class?

After actively and vigorously canvassing my teacher friends, NITC placed tree canopy murals of local endemic trees in pre-K through second grade classroom ceilings at Avalon School, Coyote Ridge Elementary, and Catalina Kid Ventures in 2018. The teachers and students loved them. Teachers found that students came in, settled down, and engaged more quickly, which gave them more time on task. Students said that the trees made

them happy and were the reason they liked going to school. They also had their favorite parts of the tree where they saw birds, bugs, thought of songs, and told stories of what they saw. When I asked kindergartners what they thought, answers varied from “It feels like we’re outside” to “It makes me want to help nature.”

I have also discovered students are able to visualize a tree-canopy ceiling and how it will affect them even before installation. My fondest memory happened at the preschool where we placed our first ceiling. I was waiting for the class to go outside for the morning so I could measure the ceiling grid. A three-year-old girl approached me and in a rapid-fire sentence, said to me, “Hi, who are you, what’s your name, what are you doing here?” I chuckled to myself and answered, “My name is Ernie and I’m here to measure your ceiling.” She paused and again, she asked “So, what are you doing here?”



I replied, “I’m going to put a tree in your ceiling.” She stopped, looked up and stared at the ceiling, then looked back at me and said, “That’ll make me happy,” before heading out the door for recess. My experience has been that while children instantly and instinctively understand this concept, adults need reassurance that there is no downside. When first approached, the teachers at this school quickly embraced the idea and the science behind it; however, convincing a principal to do a pilot study was another story. It took over two years of advocating for the replacement ceilings and communicating with three principals to get started.

Fast forward to August 16, 2021. Fifteen hundred students were greeted by trees in three classrooms and the library at Gage Middle School, a Title 1 School in Huntington Park, California, within the L.A. County Unified School District. With a 98 percent Hispanic student population, increased workloads and stress on teachers and students, disproportionately brought on by the recent pandemic, the ceilings are used to mitigate anxiety and bring a sense of calm to classroom settings. One teacher reported, “I always recommend if the kids need a moment from everyday stress of work to just stare up at the ceiling and wonder quietly as your eyes make their way through the leaves and branches and into the sky.” Another teacher added, “My students this year seem calmer, and I noticed a few outside staring up at other trees.” These responses closely reflect scientific findings. When teachers were asked how they intend to use the tree canopies, one response was, “Bringing the canopy mural indoors opens opportunities to engage students in learning experiences that center on natural art aspects in nature, photography, and environmental issues impacting our world today.”

Once the pandemic ends, the University of North Carolina at Greensboro plans to partner with



NITC to study the impact of the tree murals on academic achievement and emotional development. This study will build on the conceptual framework by investigating the impact of ceiling murals of tree canopies in the classroom rather than a direct view of parks and trees. Student behaviors will be hypothesized to improve with this intervention, exposure to views of nature, in accordance with the findings of Hartig et al. (1997), Kuo, Barnes, and Jourdan (2019), and Li and Sullivan (2016). Ceiling murals installed in classrooms should lead to increased attention and better emotional regulation, which sets students up for more meaningful learning experiences. At the same time, student absences, nurse visits, and discipline referrals are expected to decrease.

Children must go to school. This necessity should not carry a requirement to be walled off from the natural environment with all the educational benefits it provides. Science shows that images of nature evoke the brain to respond as if it was looking at the real thing. We also know that the earlier children connect

to nature the greater the likelihood that they will become stewards of the environment as adults. NITC seeks to help fill the nature connection void in today’s educational environment by actively continuing to pursue opportunities for the installation of tree canopy ceiling murals that enhance academic achievement, social-emotional development, and nurture a connection to the natural environment.

ABOUT THE AUTHOR

Ernesto Rodriguez is the founder and executive director at Nature In The Classroom, and founder/CEO of Sereneview hospital curtains. He is a photographer whose works are on exhibit in the Smithsonian and in the Curator’s Collection at the Museum of Modern Art in New York. He is a park ranger/naturalist for the Catalina Island Conservancy and grandpa to two small comedians. Visit www.natureintheclassroom.org for more information. For a list of references please contact the author.