



Healing Learning Environment Supports Student Self-Regulation

A case study at one of the first Minnesota education centers designed specifically for K-8 students with autism, emotional and behavioral disorders, and cognitive disabilities. This study investigates the ways in which design and architecture can influence the ability of students to self-regulate and/or de-escalate in a healing learning environment.

Overview

Karner Blue Education Center started with a clean slate and an aim to design a school unlike traditional elementary schools. Karner Blue provides education for students with autism, emotional and behavioral disorders, and cognitive disabilities. A “typical” elementary school would not support the success of Karner Blue’s students and staff. Forgoing the long, double-loaded corridors typical of schools that can present a distraction to this special population, distinctive pods of classrooms accommodate the different populations the school serves. Curved hallways break the line of sight that could entice children to run down corridors, while daylighting strategies minimize the need for artificial lighting and the noise they can generate. Seating arrangements, windows, common areas, and breakout rooms provide options for children who need to break from group learning and find composure. Multiple entrances reduce crowding and fear students can experience when entering school. Safety elements normally found in behavioral hospitals are incorporated throughout the center.

In partnership with the University of Minnesota’s School of Architecture Consortium for Research Practices, BWBR investigated the ways in which the design of this education center impacts the unique student population. The research focused on studying how the physical environment and features aid students in the process of self-regulation and de-escalation when they are experiencing moments of emotional and behavioral distress.

Methodology

Staff and students were engaged through an image survey to provide their insights about how the physical environment is experienced and used as a tool for self-regulation and de-escalation. Each was asked to indicate the spatial features or spaces that were most effective for helping students (or themselves) feel calm. Additionally, immersive observations allowed the research team to witness how students and staff use the school’s features such as breakout rooms, flex rooms, and sensory rooms with user-controlled light features and music.

AT A GLANCE

Project Type
**K-8
Education**

Location
**Blaine,
MN**

70,000
Square Feet

Completion
2014

Findings

1 Building spaces that have the **biggest impact** on a student's ability to **self-regulate** include:

- **Breakout rooms** accessed from within the classrooms
- **Community pods** (common gathering space located just outside the classrooms)
- **Flex rooms** located in the community pod

2 The most **impactful features** of these spaces include:

- **Visual separation** from other students
- **Proximity** to the classroom
- **Acoustical separation**

3 A common **intervention technique** when students are experiencing an impending escalation is to **change locations** within the building.

- **Immersive observations** (64 hours over several weeks) found:

42
instances

where a student **changed locations** to aid in the process of **de-escalation**

22
instances

of a student **changing locations** to **prevent escalation**

- **The high frequency** of instances of students **changing locations** suggested that **providing destination spaces** for students during moments of escalation is **highly appropriate**.

Impact and Insight

The results of this case study revealed the positive impact that spatial variety in healing learning environments have on a student's ability to self-regulate. This emerging building typology employs numerous design features focused on the safety and security of the students, staff, and visitors, but is first and foremost a place for education. With an increasing number of students in the United States requiring a specialized facility for their education needs, the importance of providing thoughtful, well-developed, and appropriate architecture that removes barriers to learning and encourages students to remain calm during moments of escalation is becoming evident.

From the facility's first to second year of operation, Karner Blue Education Center saw a 75% reduction in secluding students who are likely to harm themselves or others. This reduction may be accredited to resolving escalations in the many smaller, secondary spaces scattered throughout the building.

Recognition

Special **thank you** to Kathleen (Bond) Freiderich, graduate of the University of Minnesota School of Architecture for contributions toward this research effort.

BWBR supports research across all areas of our practice to inform design decisions and build knowledge about occupant and building performance.

