

# Trauma- Informed Design Workbook

VERSION 4

*bassetti*  
*architects*

Architects  
of Achievement

“...the thoughtful inclusion of trauma-informed design ideas can help shape educational environments for healthy, engaged learners.”

LORNE MCCONACHIE FAIA  
PRINCIPAL EMERITUS, BASSETTI ARCHITECTS

"Collectively as a society, we can design learning studios and school communities that build human connections and let students know there is a village there to help them succeed."

VICTORIA BERSAGEL

## CONTENTS

# Introduction

**Introduction to Trauma, Trauma-Informed Care, and Trauma-Informed Design** 1

## 1

**Survival Basics** 9

Shelter • Sustenance • Safety

## 2

**Guiding Principles** 17

Safe and Secure • Personalized • Collaborative • Learning Focused • Flexible and Adaptable • Community Connected • Sustainability

## 3

**Overarching Design Characteristics** 27

Personalization • Thoughtful Transparency • Flexibility • Safe and Secure • Optimal Light • Acoustics • Display • Materials and Finishes • Furniture • Toilet Rooms • Area of Refuge • Biophilia • Play • Project-Based Learning

## 4

**Spaces Within a School** 49

Group Spaces • Learning Spaces • Circulation Spaces • Professional Work Areas • Student Counseling Services • Community Spaces

**Questions to Ask** 75

**Conclusion** 77

**References** 79



## INTRODUCTION

As architects and designers, we understand how the built environment can have a profound effect on us — physically, emotionally, and spiritually. We also believe that well-designed space can help to refocus our minds, change our mood, or help us see ourselves and reframe our place in the world.

*The percept of the body and the image of the world turn into one single continuous existential experience; there is no body separate from its domicile in space and there is no space unrelated to the unconscious image of the perceiving self. - Juhani Pallasmaa<sup>1</sup>*

As educational facilities designers, we are creating learning spaces for the youngest members of society. As the events of recent years have shown, children are vulnerable to trauma.

Trauma among our students is pervasive. The landmark 1998 Adverse Childhood Experience (ACE) Study focused on a subset of potentially traumatic experiences such as parental incarceration, divorce, and threats to emotional or physical safety. Over 2/3rds of the participants reported having experienced one or more of these events during childhood. Studies on youth violence corroborate these numbers.<sup>2</sup>

The past three years of a global pandemic, racial injustice, food insecurity, and homelessness has led to an alarming jump in the number of children who experience trauma.

Henry Beiteyia, Unsplash,

## DEFINING TRAUMA

SAMHSA (Substance Abuse and Mental Health Association) developed a definition of trauma:

*Individual trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being.*<sup>3</sup>

Although stress resulting from trauma has been recognized throughout history, it was only in the past two decades that stress resulting from trauma was defined and given psychiatric diagnostic criteria. Diagnostic criteria for traumatic stress disorders were placed in the Diagnostic and Statistical Manual V under the new category of Trauma-and Stressor-Related Disorders in 2013. This led the way for new research regarding trauma, its lasting effects, and more specifically Trauma-Informed Care.

Trauma in our society takes on many forms: *Acute* - resulting from a single stressful or dangerous event, such as witnessing a death or natural disaster, or the recent COVID-19 pandemic; *Chronic* - repeated and prolonged exposure to events, such as child abuse, poverty, systemic racism, discrimination; *Complex* - exposure to multiple events early in life; *Historical* - collective and cumulative trauma such as genocide, slavery, structural racism, or homophobia.

Worldwide it is estimated that nearly 70 percent of humans have witnessed a traumatic event.<sup>4</sup> These statistics are not getting smaller. What does this mean for our children and their readiness to learn? These changes impact several areas of the brain including the hypothalamic-pituitary and pre-



frontal cortex leading to impairments in learning memory, regulation, and many others.<sup>5</sup>

## TRAUMA-INFORMED CARE

Trauma-Informed Care (TIC) encompasses a “program, organization, or system that is trauma-informed. Its tenets are:

- + Recognize the signs and symptoms of trauma in patients, families, and staff;
- + Integrate knowledge about trauma into policies, procedures, and practices; and
- + Actively avoid re-traumatization.<sup>7</sup>

TIC seeks to create a paradigm shift from asking “what’s wrong with you?” to “what’s happened to you?” thus changing the subject from the patient to the trauma. Realize the widespread impact of trauma and understand paths for recovery.

Trauma-Informed Care “is grounded in an understanding of and responsiveness to the impact of trauma; that emphasizes physical, psychological, and emotional safety for both providers and survivors; that creates opportunities for survivors to rebuild a sense of control and empowerment.”<sup>8</sup>

TIC is not a singular technique or checklist; it is an approach that is best implemented at an organizational level to effectively respond to trauma. Although the approach may be different between organizations, it embraces six primary guiding principles:



The goals of TIC are to nurture a safe context that reduces toxic stress, trauma, and re-traumatization. Doing so can help students regain their power and agency, which, supports “whole brain” health.

Trauma-Informed Care can be brought into any service organization or institution to enable better understanding of and response to the likelihood that the majority of people carry some kind of trauma that affects their daily experience.

There are three tiers of support in trauma-informed teaching and learning:

1. Adults, parents, teacher
2. Peers in the learning environment
3. Physical environment<sup>9</sup>

As designers, we reside in the third tier. The educational facilities we design support learners, educators, and the greater community in their commitment to the healing of our children.

This workbook outlines Trauma-Informed Design patterns that can be incorporated into schools to support trauma-informed teachers and staff, and to provide spaces for learners to feel safe, comfortable, focused, and ready to learn.



*Love and compassion are necessities, not luxuries. Without them, humanity cannot survive.*

## OUR ROLE

As architects and designers, we are not the first line of care for our children, yet we shape the spaces they inhabit for much of their early years. The schools we design must support the educators, counselors, and staff that work tirelessly to serve our most vulnerable. We do this through the use of Trauma-Informed Design (TID).

TID can be utilized as both a series of patterns for the built environment as well as a process to engage in a deeper dialogue focused on Trauma-Informed Care within specific communities of learners. Filtered through overlapping lenses of psychology, neuroscience, physiology, and cultural factors, its intent is to create spaces where all users feel a sense of safety (real and perceived), respect, connection, community, control, dignity, and joy.

To address the pervasive impact of trauma in our school, this Trauma-Informed Design workbook is intended as a charrette tool, used during each phase of design to assist designers, educators, and administrators in attaining knowledge and developing actionable ideas.

Strategies for dealing with trauma continue to be emergent and this TID Workbook is a starting point for the design conversation. The open-source compilation of ideas, patterns, and provocations herein is meant to be shared, modified, and customized for specific learning communities.

We hope this workbook will promote creative thinking and encourage dialogue so that embedding trauma-informed concepts in new and existing learning environments becomes the default. Now more than ever, TID is necessary to help heal and empower our students and teachers.





*Sisyphus Sosorakis, Unsplash*

# 1

## SURVIVAL BASICS

Shelter. Sustenance. Safety.

These are basic human needs that an increasing number of students are going without. Before we can engage the more finite development of Guiding Principles and Trauma-Informed Design, we must address how our educational facilities can meet basic needs. These physical needs are based on the largest subset of Maslow's Hierarchy of Needs - Physiological (food and clothing).



# Shelter

Schools may have students who are either experiencing homelessness or are transient — moving back and forth between multiple extended family or friends' households or foster services. Every day children arrive at school without appropriate clothes or having had access to hygiene facilities. Providing spaces and resources for these students can help them feel capable, empowered, and welcome. Studies show access to these resources increase student attendance and engagement.

Students benefit from environments that create a sense of security, belonging, and protection. They may require spaces that allow for naps or de-escalation from trauma they experience outside or inside of school.<sup>11</sup>

- + Address hygiene
  - Shower facilities
- + Care for clothing/possessions
  - Laundry facilities for student use
  - Lockers or closets to store belongings
- + Provide a safe space for sleep
- + Provide the basics
  - Warm, safe, and dry
    - › Create comfortable spaces
  - A clothes closet to aid students lacking essential clothing or ill equipped for inclement weather



- + Create layers of shelter
  - Create opportunities to retreat
    - › A den, nook, or cave for protection
    - › Floor cushions may provide a comfortable oasis
    - › Sensory materials, fidget toys, resistance bands
  - Create opportunities to observe
    - › See what's going on from the safety of a retreat area
  - Create opportunities to participate
    - › In individual or trusted small group activities before engaging with larger groups



WALNUT GROVE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS.  
Benjamin Benschneider

## Sustenance

More and more schools are recognizing that young students benefit from frequent snacks, rather than relying on a short lunch period to satiate them. In addition, many students come to school hungry and go home to an empty pantry. Providing opportunities for meals throughout the day can help students focus on learning instead of being distracted by their rumbling stomachs.

- + Remedy hunger and thirst:
  - A kitchenette for warm meals
  - A community pantry for take-home provisions
  - Opportunities for food and drink in learning areas
  - Availability before, during, and after school
- + Drinking fountains and water stations, indoors and out



TOP: ROMP / BASSETTI ARCHITECTS.  
Kip Beelman

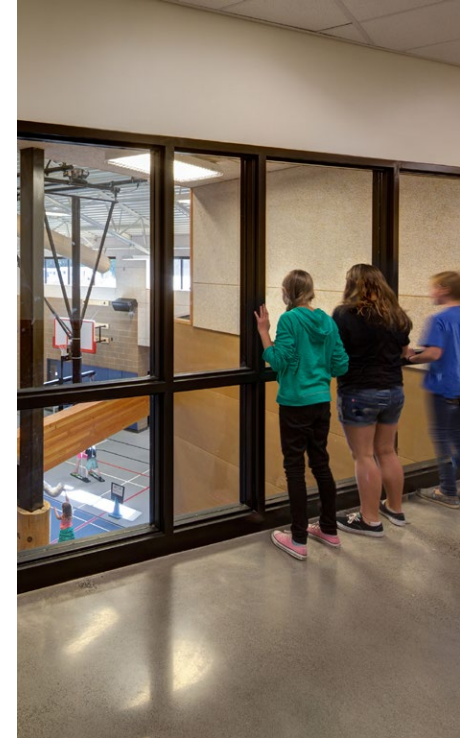
BOTTOM: WALNUT GROVE  
ELEMENTARY SCHOOL / BASSETTI  
ARCHITECTS. Benjamin Benschneider.



## Safety

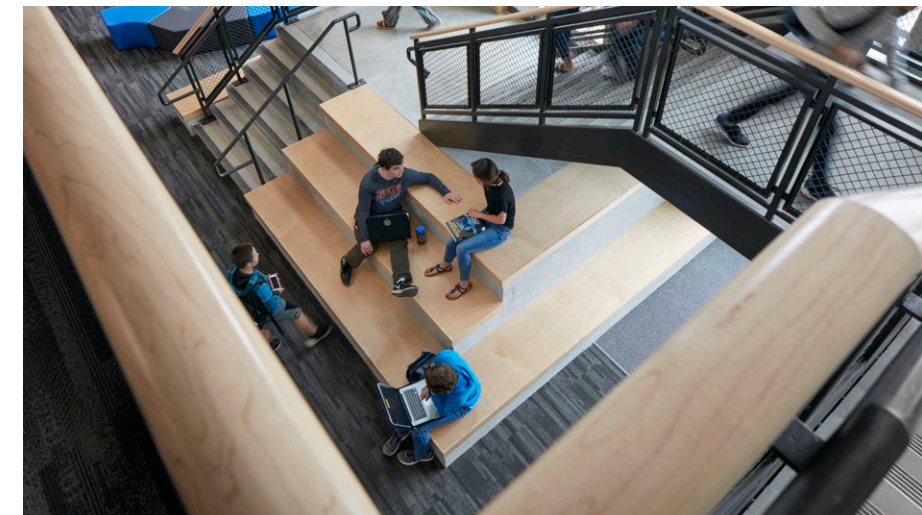
Children who have experienced trauma often have a dysregulated fight or flight system, meaning their response to a perceived threat may be out of proportion with the facts of the situation, i.e., hearing a door slam and scrambling for cover, or shutting down completely when caught off-guard by a question in class. Traumatized children can struggle to engage with their peers and oftentimes have trust issues. Some children have different levels of trust for people in their lives, while others may feel that trusting anyone is too dangerous and remain on-guard at all times. Hypervigilance, or monitoring one's surroundings to ensure personal safety, is physically and emotionally exhausting and quickly depletes internal resources intended for learning.

- + Understand levels of trust
  - Work to ensure individual needs are met
- + Accommodate hypervigilance:
  - Vantage points and clear sightlines with transparent materials
  - Spaces that feel protected
  - Multiple routes to destinations
  - Calm and quiet spaces away from the primary activity/action



TOP: BUD HAWK ELEMENTARY  
SCHOOL / BASSETTI ARCHITECTS. Jeff  
Amram

BOTTOM: KLAHOWYA SECONDARY  
SCHOOL / BASSETTI ARCHITECTS.  
Moris Moreno







# 2

## GUIDING PRINCIPLES

Guiding Principles are big-picture ideas or goals that frame projects and help prioritize decision-making. Different projects invariably have different guiding principles. Safe and secure; personalized; collaborative; learning focused; flexible and adaptable; community connected; and sustainability are guiding principles we often encounter in our projects.

In many ways the guiding principles of design mirror the guiding principles of TIC. When a thread of TIC is woven into the overarching concepts that shape a project, we are able to create spaces that more accurately address the needs of the Whole Child.

*Evelyn Mostrom, Unsplash*

## Safe and Secure

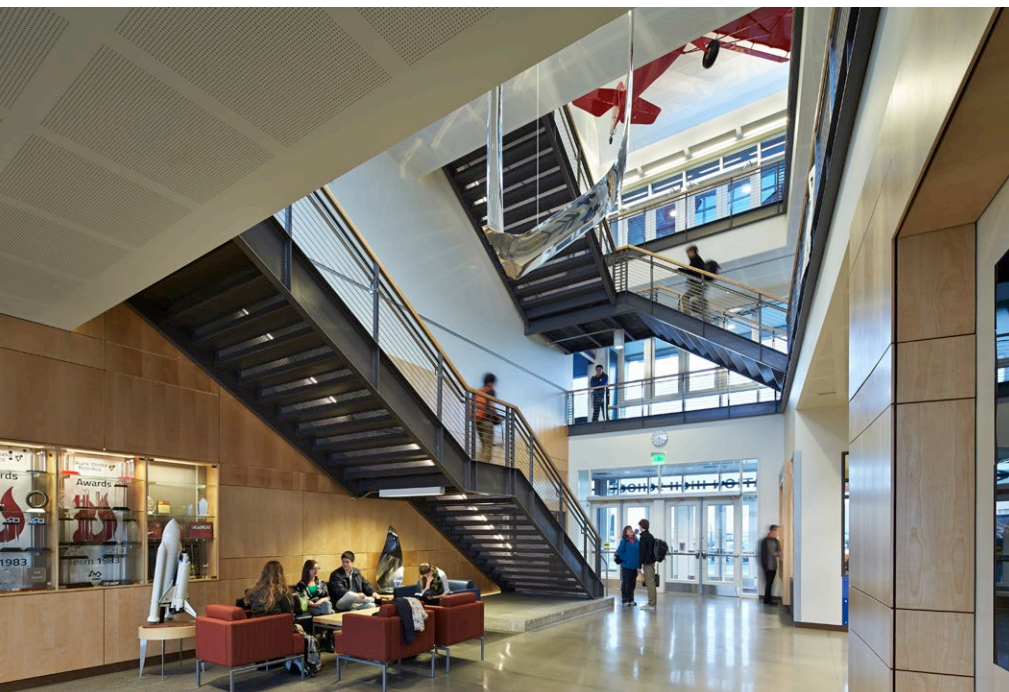
A safe and secure environment includes physical attributes such as visible, single points of entry and home bases for students within their learning communities. Less tangible attributes, such as fostering a sense of belonging and providing social-emotional comfort, can also be addressed through designing a space that feels protected.

- + Welcoming
- + Highly visible
- + Home base



TOP: ARBOR HEIGHTS ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Jeff Amram

BOTTOM: RAISBECK AVIATION HIGH SCHOOL / BASSETTI ARCHITECTS. Benjamin Benschneider



## Personalized

Personalized learning environments offer the opportunity for all students to be known well and encouraged socially, emotionally, as well as academically. Sustained relationships among students and adults are promoted.<sup>12</sup>

- + Trustworthy, transparent
- + Empowering to student and community voices
- + Cultural, gender support
- + Celebrate children's work



TOP: ROMP / BASSETTI ARCHITECTS. Kip Beelman

BOTTOM: COUGAR RIDGE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Moris Moreno



## Collaborative

These spaces facilitate student-to-student, adult-to-student, and adult-to-adult interactions. Families and community feel welcomed, engaged, and involved in learning.

- + Provide peer support
- + Encourage interpersonal communications
- + Create opportunities for sharing of feeling, action, or support between groups



TOP: RAISBECK AVIATION HIGH SCHOOL / BASSETTI ARCHITECTS. Benjamin Benschneider.

BOTTOM: TODD BEAMER HIGH SCHOOL / BASSETTI ARCHITECTS. Art Grice



## Learning Focused

The effects of trauma are widespread, but none are as dramatic as the changes that happen within the brain. Research has demonstrated that under duress the body's neural regulatory network stalls or even shuts down. In lay terms, this means that under stress the brain is not able to have a regulated response to new information and learners are not ready to learn.

When under stress and without intervention, learners may “act out” or withdraw from learning activities.

Learning-focused spaces engage the individual learner and support the capabilities of each child. In addition to deep engagement, powerful learning environments provide layers of space for children to discover how to regulate their emotional responses and how to become ready to learn.

- + What does the brain research say?
  - Body regulatory network shuts down higher brain functions if stressed
  - Sequence of engagement
  - Regulatory system balanced (not stressed)
  - Connect emotionally (listened to, respected)
  - Reasoning engaged (higher brain functions – language, history, morals)



BOTTOM: ROMP / BASSETTI ARCHITECTS. Kip Beelman

## Flexible and Adaptable

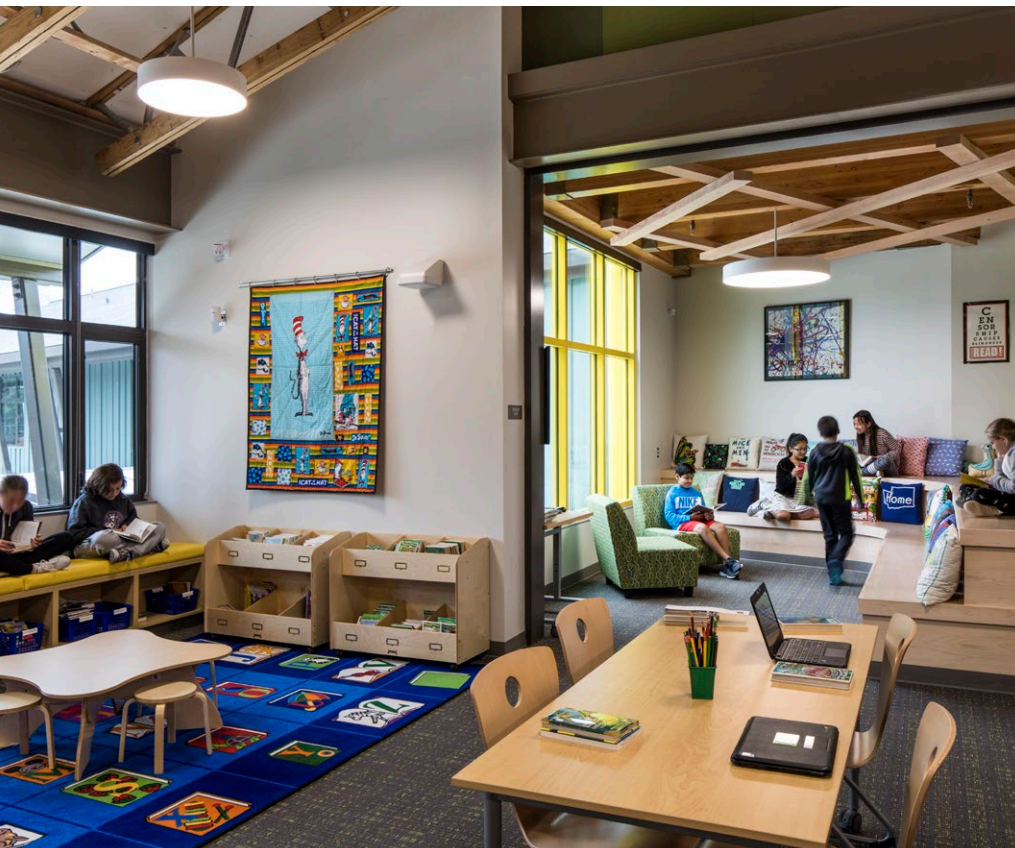
Flexible and adaptable spaces are a mainstay of 21st-century education. They provide students the option to create spaces that are ideal for their individualized learning needs. They include spaces that are unique, easily changed, and not overly prescriptive.

- + Options/Choices
  - Choices for seating
  - Options for movement
  - Exercise while learning
  - Movement leads to centering, mindfulness
  - Whole Child awareness
- + Agency
- + Varied spaces



TOP: LYNNWOOD ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Jeff Amram

BOTTOM: MOUNTLAKE TERRACE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Stuart Isett



## Community Connected

Learning communities are inherently rooted in the land and culture of place. Just as each community is different, the impact of trauma varies from place to place. One community may be impacted by racism, another by poverty, and still another by the Covid pandemic. A natural disaster or mass tragedy will invariably impact the children of a community in distinct ways. The design response to trauma must be tailored to meet each community's specific challenges

Schools can become a community's hub for social services and cultural programs celebrating arts, language, and cuisine. Reinforcing the contextual vitality of community helps students dealing with trauma develop a sense of safety, mutuality, and empowerment.

- + Culture
- + Identity
- + History
- + Social justice
- + Environmental justice
- + Sustainability



ROOSEVELT HIGH SCHOOL / BASSETTI ARCHITECTS. Leif Sjoquist







# 3

## OVERARCHING DESIGN CHARACTERISTICS

Overarching Design Characteristics provide patterns that support Trauma-Informed Design. This evolving list has been compiled from research, observations, and input from educators experienced in dealing with trauma.

The list is intended to be used to spur creative thinking about designing for kids dealing with trauma; to remind us of critical issues impacting traumatic stress; and to help us critique our designs in the hope of developing more comprehensive solutions.

MAyria Grobelska, Unsplash

## Personalization

Personalization ranges from the large-scale arrangement of a learning community to the small-scale individualization of a learning setting. It may include way-finding and experiential graphics, layers of space entering into the school, and an environment where learners are able to individualize art displays, learning spaces, or their home base.

- + Design human-scaled space
  - Small groups of varied learning spaces
- + Eliminate institutional feel
  - Entry way-finding
  - Streetscapes
  - Gracious circulation space - navigate without touching others
- + Allow opportunity for personalized space
  - Customization by learners
    - › Art
    - › Flexible furniture



TOP: WALNUT GROVE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. A. Michael Cole

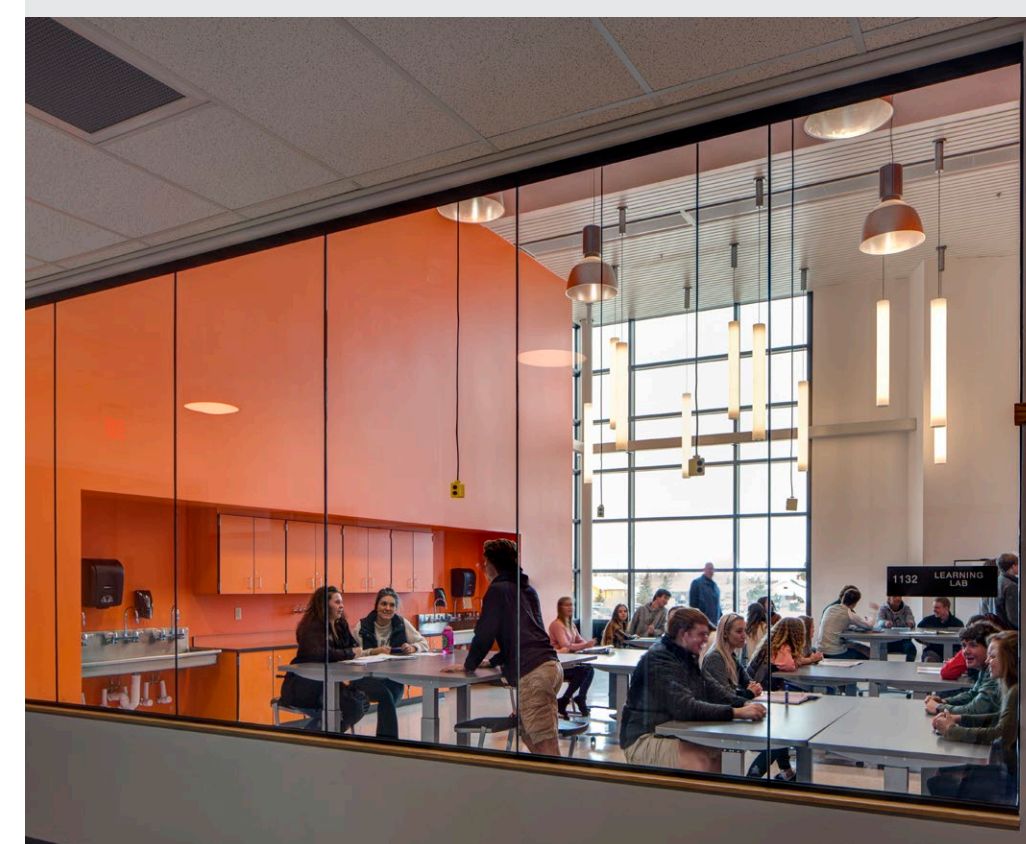
BOTTOM: ARBOR HEIGHTS ELEMENTARY SCHOOL / BASSETTI ARCHITECTS, Jeff Amram



## Thoughtful Transparency

Transparency is about being able to see your place within a larger space. It helps to create a feeling of safety by minimizing dark dead ends, and offers vantage, connection, and passive supervision. It can delineate learning pods or conference rooms within the greater learning community, helping learners feel connected. It also provides a glimpse into learning spaces so activities are visible to teachers or other learners, ensuring they always have access to caring adults.

- + Design two-way visibility between spaces
- + Create opportunities to see who's coming and going
- + Balance transparency with areas of refuge
  - Need to see but also need to feel secure
- + Avoid the feeling of being in a fishbowl

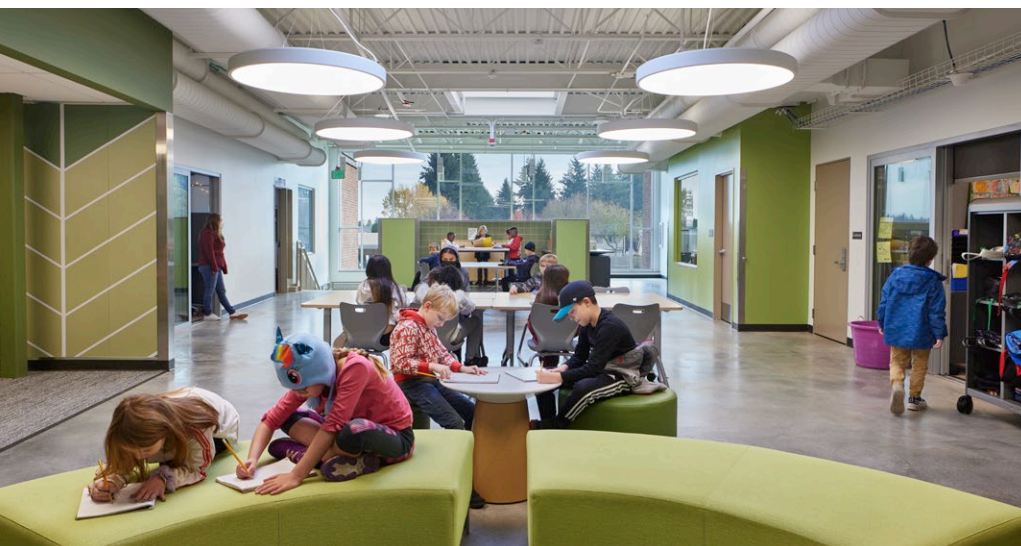


NATRONA COUNTY HIGH SCHOOL / BASSETTI ARCHITECTS. Jeff Amram

## Flexibility

Flexible learning environments are one of the hallmarks of 21st-century education design. Whether in individual learning spaces, flex areas, or throughout the school, flexible spaces allow for a range of teaching methods and pedagogies that are adaptable to individual students. Flexibility to choose how to use the space and the flexibility to move between these connected spaces with no stigma attached to making these personal choices can go a long way in eliminating an ‘institutional feel’ and helping traumatized children feel in control, empowered, and able to self-regulate their emotions.

- + Design for multiple ways of using space
- + Allow equitable use by all
- + Adjust space for specific needs of kids
- + Create choice
  - Seating/table types, locations, noise levels, light levels, group or solo
- + Utilize Technology
  - Evolving technology requires access and reconfiguration
  - Flexibility for students who need quiet, customized spaces to work



LINCOLN HIGH SCHOOL / BASSETTI ARCHITECTS. Benjamin Benschneider

## Safe and Secure

While the horror of active shooters grabs headlines, more pernicious challenges impact the safety of our students on a daily basis. Twenty-five percent of our children are bullied in school and 20% are abused. School safety is an all-encompassing concern.

School design can mitigate security issues and create positive environments that empower kids and give them agency.

- + Make spaces trustworthy and transparent
- + Adopt appropriate CPTED (Crime Prevention Through Environmental Design) design principles
- + Empower student voices
- + Create cultural, gender support
- + Use biophilic design



SPRUCE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Moris Moreno

## Optimal Light

While daylighting is of primary importance for ideal learning environments, artificial light — which many times must supplement daylight — should be thoughtfully designed to minimize harsh shadows, flickering bulbs, and cold color temperature.

- + Design excellent daylight in learning areas
  - Create areas of lower/ adjustable light levels
- + Augment natural light with artificial light
  - High quality, warm values, task lighting
- + Avoid sensory triggers
  - Harsh, flickering, buzzing lights
  - Visual complexity – distracting patterns on walls and floors

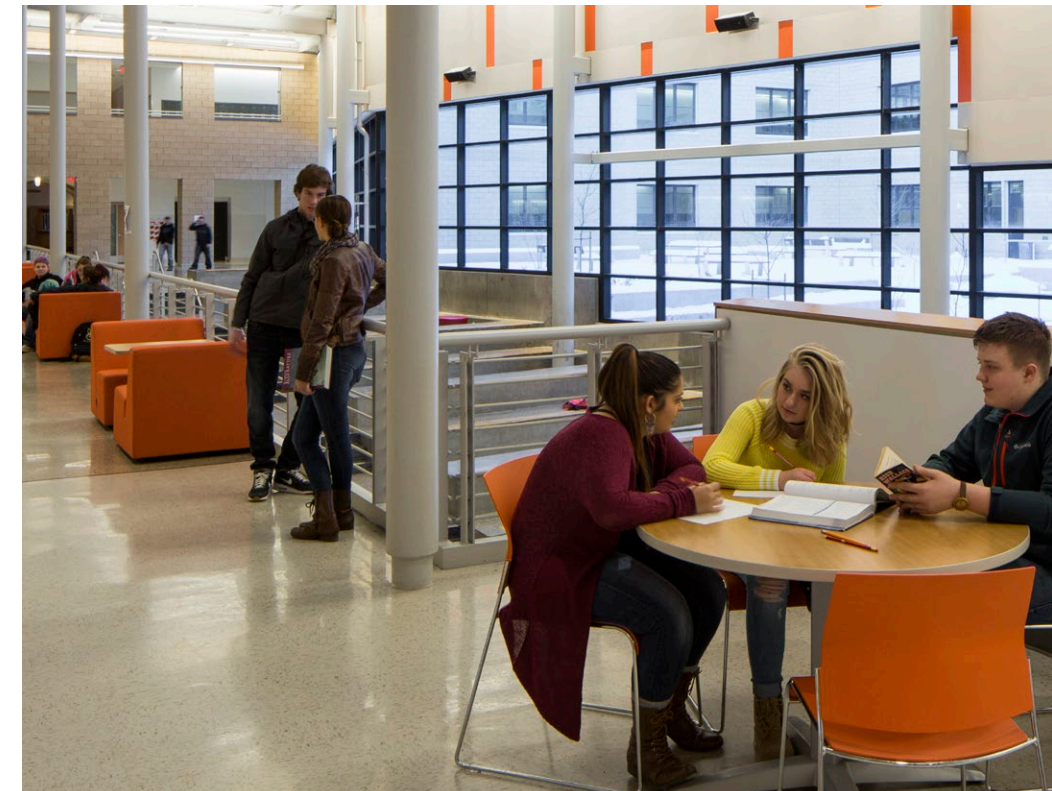


NATRONA COUNTY HIGH SCHOOL /  
BASSETTI ARCHITECTS. Jeff Amram.

## Acoustics

At best, loud noise may distract students from their studies. At worst, it can trigger traumatic responses in learners who have experienced significant stress or PTSD. Absorbing and attenuating sound helps to create calming spaces where students can concentrate.

- + Create balanced acoustics
  - Minimize unnecessary and overwhelming ambient noise
  - Both sudden and steady noise can be stressful
- + Attenuate sound
  - Tiled and/or portable carpets are a great option because they can be replaced and cleaned as needed to eliminate pathogens and dust
- + Provide variable sound options
  - Music, calming sounds – water, birds



NATRONA COUNTY HIGH SCHOOL /  
BASSETTI ARCHITECTS. Jeff Amram.

## Display

Display can consist of student work, experiential graphics, or commissioned art, and may include way-finding graphics. Adding a personalized touch to spaces helps create a sense of belonging and pride.

- + Display for visual interest and warmth
  - Artwork: landscapes, organic color palettes
  - Biophilic elements
  - Hand-made features in high-traffic areas such as entryways to humanize a building
- + Ensure that art does not have a symbolic significance that may be interpreted negatively
- + Place positive messages in learning, gathering, and circulation areas
  - Avoid punitive sounding messages
  - Consider “can do” vs “can’t do”



TOP: LYNNWOOD HIGH SCHOOL / BASSETTI ARCHITECTS. A. Michael Cole

BOTTOM: NATRONA COUNTY HIGH SCHOOL / BASSETTI ARCHITECTS. Jeff Amram.



- + Reduce clutter in visuals
  - Avoid too much visual stimulus
- + Avoid overhead, hanging, dangling display – can spark hypervigilance



VANCOUVER SCHOOL FOR ARTS AND ACADEMICS / BASSETTI ARCHITECTS. Benjamin Benschneider.

## Materials and Finishes

Interaction with materials and finishes primarily involves touch and sight. Finishes should be calming, biophilic, and not contain harmful chemicals. It is important to work with individual stakeholders and communities to determine what is culturally appropriate. In selecting materials and finishes, consider that you are affecting all five senses.

- + Use soft, durable, easy to clean finishes
- + Design with biophilia in mind
  - Avoid institutional, slick feel
- + Consider wall colors carefully
  - Avoid bright white, gray, beige – stark or institutional
  - Avoid sensory triggers – neon intensity, deep saturated colors
    - › Red, yellow, orange
- + Consider light shades of blues, greens, purples
  - Foster spaciousness
  - Colors found in nature
  - Pops of bright colors are okay
- + Be culturally respectful – finishes, colors, patterns
- + Use textured, naturally weathering materials
- + Use low VOC finishes to prevent off-gassing of design materials
  - Consider a fragrance-free environment



THE EVERGREEN SCHOOL / BASSETTI  
ARCHITECTS. A. Michael Cole

## Furniture

Furniture needs vary by spatial use. In general, providing a variety of seating options with space to move around them leads to more active learners. It allows students to organize the space to suit their learning styles.

- + Keep spaces uncluttered
- + Don't overcrowd with furniture or visual stimulation
- + Ensure adequate space for navigation
- + Provide flexibility and choice
  - Separate and varying chair and table options
  - Wheels on tables, chairs - quiet and movable
  - Optional locations, noise levels, lighting levels
  - Socialization options, individual or group layouts
  - Seating options may face into walls to give greater privacy
  - Soft finishes, comfort
- + Provide a peace corner
  - Focus, quiet, calm
- + Materiality
  - Durable, easy to clean



HIGHLINE HIGH SCHOOL / BASSETTI  
ARCHITECTS. Benjamin Benschneider

## Toilet Rooms

Historically, toilet rooms have been marginally supervised areas in schools where many challenging behaviors occur. Bullying, drug use, sex, and suicide top the list. Toilet rooms need to be designed to provide privacy while promoting safety for all students. Different cultures and communities have strongly held opinions about toilet room design and thoughtful communication and questions need to be dealt with to address the needs of all. Critical questions include:

- + Lockable individual rooms with toilets and sinks vs stalls and common sink areas
- + Lockable toilet rooms with common sink areas
- + All gender vs binary
  - Alternative approaches within a facility - traditional and progressive
- + Safety and support for LGBTQ+ students
- + Safety and support for traumatized kids
- + Passive supervision provisions
  - Visually and/or acoustically open to corridors vs behind doors
  - Cameras
- + Cleanliness - urinals vs all-toilets (boys pee on the seats!)
- + Address needs of homeless children
  - Shower, lockers, laundry



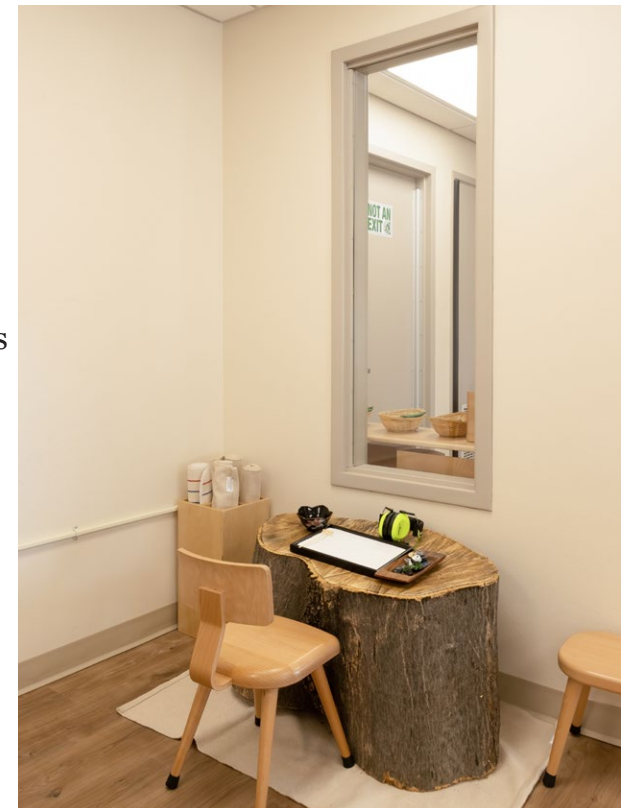
BOTTOM: ST. THOMAS SCHOOL GYM /  
BASSETTI ARCHITECTS. Moris Moreno

## Areas of Refuge / Brain Corners

Different students have varying spatial needs to find refuge, to recharge, or to rebalance from traumatic stress. While a quiet “peace corner” in a classroom may suffice for an elementary age student, adolescents often need to get away from a room filled with other learners to find a space to re-center their emotions. Barring approved calming space alternatives, traumatized learners may seek out default spaces such as a restroom stall, seldom used stairwell, or similar unsupervised retreats.

- + Consider developing a series of approved, passively or actively supervised spaces for kids experiencing stress to find refuge
  - A portion of an office of a trusted adult – counselor, SPED supervisor, nurse, administrator, etc.
  - A small conference room adjacent to a trusted adult’s workspace
  - A quiet corner of a flex area, breakout learning area, or shared work space co-located with a group of learning spaces
  - A quiet outdoor space (climate dependent) within sight lines of outdoor learning spaces or administrators. A calming garden, grove, or outlook tucked away from bustling activity zones
  - Consider areas of refuge within or adjacent to large gathering areas (Library/Media Center, Commons/Cafeteria, Gym, Theater, etc.)
  - Provide quiet edges, nooks, balconies, or adjacent rooms for retreat or passive observation rather than direct engagement
- + Consider flexible seating, soft seating, study niches, or counters that face a wall to develop areas of refuge without ‘calling attention’ to the need for retreat
  - Beanbags and soft finishes

MONTESSORI-INSPIRED TUITION-  
FREE DAYCARE / BASSETTI  
ARCHITECTS. Moris Moreno



- + Consider separate, supervised options at whole-school assemblies or large gatherings for students experiencing trauma
  - Provide shared video or sound of the events occurring in the large gathering space
- + Consider communication and supervision protocols for identifying and supporting student needs within the busy schedules of school personnel
- + Consider multiple spaces and options when trusted adults are unavailable or “things get crazy”



TOP: TRUMAN ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Unknown.

BOTTOM: VANCOUVER SCHOOL FOR ARTS AND ACADEMICS / BASSETTI ARCHITECTS. Benjamin Benschneider.



WALNUT GROVE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Benjamin Benschneider.

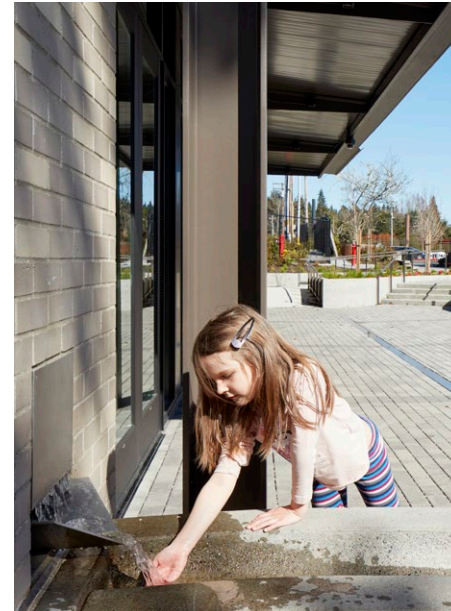




## Biophilia

Biophilia, or using elements that are natural in form or material, helps to de-institutionalize learning environments. Connection to nature helps to calm and center students and staff, and can also create a sense of place for the school.

- + Create a connection to nature
  - Outdoor connections can enhance emotional, problem-solving, critical thinking, and constructive abilities
- + Use biophilia in Design
  - Use nature-inspired colors, textures
  - Draw inspiration from the context of place
  - Use vernacular design when appropriate
- + Design outdoor learning spaces that provide additional space to learn
  - Create sensory patterns in natural environment
  - Provide learning and teaching opportunities



TOP: ST THOMAS SCHOOL NEW GYMNASIUM AND PERFORMING ARTS CENTER / BASSETTI ARCHITECTS. Moris Moreno

BOTTOM: FIVE OAKS MIDDLE SCHOOL / BASSETTI ARCHITECTS. Moris Moreno



## Technology

Technology is capable of facilitating remote learning. This can allow students to learn from home when necessary, and it can also help to create individualized, trauma-informed learning experiences within schools. Interactive technology allows students to participate in larger events while allowing them to be physically present in a smaller, more personalized learning space.

- + Provide technology for children needing a quiet, customized space to work
  - Give children a sense of agency over learning
- + Integrate technology into areas of refuge in larger spaces to allow students to sit away from the action while still participating



RAISBECK AVIATION HIGH SCHOOL / BASSETTI ARCHITECTS. Benjamin Benschneider.

## Play

Spaces that invoke wonder, curiosity, inspiration, and fun, and those designed for exploration, creativity, and discovery via hands-on experiences perform double duty - not only do they enhance the learning experience for all children, but they also provide a grounding and calming experience for those experiencing symptoms of trauma. Unstructured play allows students to move at their own pace in a nonjudgmental setting, empowering them to use their agency and play to their strengths.

- + Use play as a means to learn
  - Furniture that provides opportunity for movement in classrooms
  - Allows for Whole Child awareness
- + Provide spaces that transition between structured indoor vs. unstructured outdoor, and formal teaching vs. informal play help with self-regulation of emotions and grounding
- + Design informal seating and gathering spaces to facilitate social interactions and initiate playfulness
  - Sensory tables, building blocks, board games, reading nooks



*BOTTOM: MOUNTLAKE TERRACE  
ELEMENTARY SCHOOL / BASSETTI  
ARCHITECTS. Stuart Isett.*

## Project-Based Learning

Project-based learning (PBL) provides opportunity to develop solutions for specific projects. PBL is active, hands-on learning and it empowers students to personalize their learning experience. This can allow kids struggling with trauma to retreat from the larger group and still participate (either individually or with a small, trusted group) while working on a project.

- + Include spaces for hands-on learning
- + Provide opportunities for differentiated learning
  - da Vinci Studios provide art and music integration
  - Maker Labs
  - Greenhouses, gardens, and vegetable patches grown by students offer sensory grounding and connections to natural cycles - these may be used as a connection to community initiatives
  - Outdoor learning spaces
    - › Provide learning and teaching opportunities for sustainable design
    - › Greenhouses, gardens, and vegetable patches grown by students offer sensory grounding and connections to natural cycles - these may be used as a connection to community initiatives.



*THE EVERGREEN SCHOOL / BASSETTI  
ARCHITECTS. Moris Moreno*





# 4

## SPACES WITHIN A SCHOOL

This section explores spaces and groups of spaces within an educational environment where aspects of the overarching design characteristics might be applied.

# Group Spaces

## LIBRARY / MEDIA CENTER

### Enhance personalization

- + Nooks, edges, study carrels
- + Refuge at perimeter
- + Flexible, movable furniture

### Balance social spaces and private spaces

- + Small conference rooms with relites

### Learning opportunities

- + Project-based learning
- + Opportunity to replace corridors and hallways with studios, informal gathering spaces, and makerspaces adjacent to more formal learning spaces



TOP: VANCOUVER SCHOOL OF ARTS AND ACADEMICS / BASSETTI ARCHITECTS. Benjamin Benschneider.

BOTTOM: THOMAS JEFFERSON HIGH SCHOOL / BASSETTI ARCHITECTS. Benjamin Benschneider.



## COMMONS / CAFETERIA

### Seating options

- + Small tables, high-tops, booths, counters for a variety of group sizes
- + Perimeter counter to look away from the busy space
- + Raised platform/space for refuge and/or prospect over a space
- + Connection to outdoors

## THEATER / AUDITORIUM

### Viewing options

- + Balcony or raised space for stressed students
- + Options for alternative viewing setting



WALNUT GROVE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS. Benjamin Benschneider.

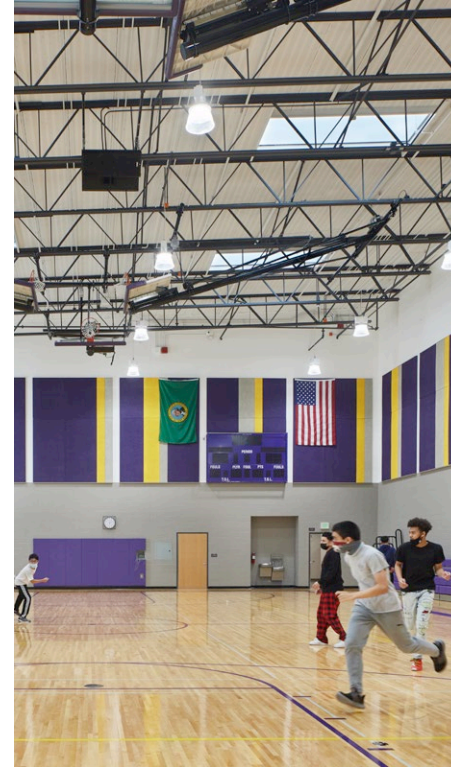
## PHYSICAL EDUCATION SPACES

### Activity options

- + Activity room that supports focused mindfulness exercises: yoga, meditation, tai chi, etc.
- + Movement courses on walls and floors for balance and self-awareness
- + Use of circulation spaces as opportunities to encourage mindfulness, the joy of physical movement, and grounding
- + Connection to outdoors

### Design elements

- + Perimeter benches
- + Thoughtful placement of mirrors - not all students want to be “on display”



TOP, BOTTOM: *HIGHLINE HIGH SCHOOL / BASSETTI ARCHITECTS.*  
*Benjamin Benschneider.*



TOP: *WALNUT GROVE ELEMENTARY SCHOOL / BASSETTI ARCHITECTS.*  
*Benjamin Benschneider.*

BOTTOM: *TRUMAN ELEMENTARY SCHOOL / BASSETTI ARCHITECTS.*  
*Benjamin Benschneider.*



## Learning Spaces / Clusters of Learning

While the exact size varies and is determined by available resources, educational pedagogy, and cultural preferences, an average Learning Community size of 150 works for most.<sup>13</sup>

### Enhance personalization

- + Human scale
- + Home base - known well
- + Access to multiple caring adults

### Balance social spaces and private spaces

- + See the door(s), window(s)
- + See who is coming and going
- + More than only seeing a whiteboard



TRUMAN ELEMENTARY SCHOOL /  
BASSETTI ARCHITECTS. Benjamin  
Benschneider

### Develop layers within each community

- + Small, medium, large
- + Open, translucent, closed

### Consider primal-inspired learning spaces

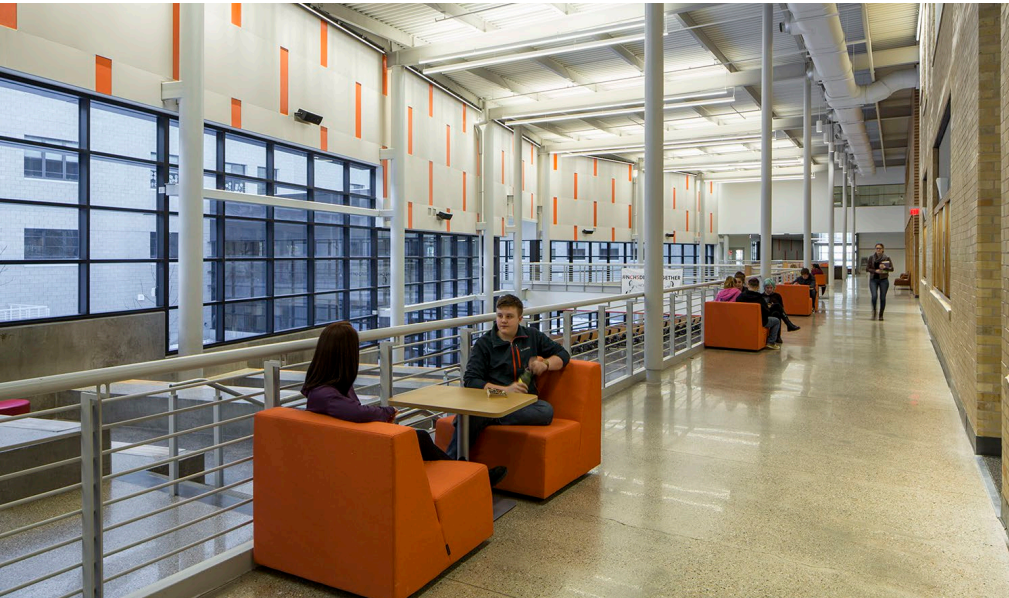
- + Cave-like, privacy niche
- + Watering hole or fire pit
  - Gathering space
- + Upholstered tube



BOTTOM: ARBOR HEIGHT  
ELEMENTARY SCHOOL / BASSETTI  
ARCHITECTS. Jeff Amram

## Address the needs of the learner

- + Isolation vs inclusion
- + Home base - personalized, retreat, focus, relationships
- + Learners known well by teacher(s)
- + Provide variable size spaces to support personalized learning opportunities
  - Small group spaces (2-6 learners)
    - › One-on-one mentoring, instruction
    - › Collaboration on group projects
  - Medium group spaces (6-15 learners)
    - › Group instruction
    - › Project-based learning
  - Large group space (15+ learners)
    - › Presentation, debate
- + Adaptability to support student agency
- + Safe edges, nooks, areas of refuge
- + Visible connections to outdoors/nature, physical activity areas, electives - music, art, career pathways, makers lab



*SPRUCE ELEMENTARY SCHOOL /  
BASSETTI ARCHITECTS. Benjamin  
Benschneider*



*TOP: ROSE HILL MIDDLE SCHOOL /  
BASSETTI ARCHITECTS. Jeff Amram*

*BOTTOM: WALNUT GROVE  
ELEMENTARY SCHOOL / BASSETTI  
ARCHITECTS. Benjamin Benschneider.*





## Learning Spaces / Outdoor Learning Spaces

### Enhance connections to nature

- + Calm, center, de-stress, ground
- + Breathe – oxygenate the brain – enhance learning and focus
- + Encourage problem-solving skills, critical thinking, constructive abilities
- + Enhance emotional clarity
- + Promote healing, recovery

### Support refuge

- + Varied, approved passively or actively supervised spaces for students experiencing stress
  - Edges, benches, slopes
  - Grove and garden

### Support learning activities

- + STEAM, reading, poetry, drama, debate, movement

### Support exploratory learning

- + On site
  - Natural areas, local ecosystems, water story, garden, orchard, arboretum
- + Off site
  - Neighborhood, town, city, parks, ecosystems

### Encourage play

- + Active play
- + Passive play
- + Small/Medium/Large

### Support fitness

- + Organized and personal
- + Track, field, court, course
- + Fitness circuit, climbing, obstacles

### Support social gathering

- + Small/Medium/Large/Extra Large
- + Areas that support small trusted group – friend(s), mentor



TOP: BARN BEACH RESERVE /  
BASSETTI ARCHITECTS. Jeff Beck

BOTTOM: THE EVERGREEN SCHOOL /  
BASSETTI ARCHITECTS. Jeff Amram



# Circulation Spaces

CONNECTED SPACE BEGINNING AT THE ENTRY

## Intentional design of movement through the school

- + Clarity, visibility, thoughtful transparency
  - Avoid sharp corners, surprises
  - Minimal barriers
  - No dead ends
  - Consistency, predictability
  - Clear consistent signage
  - Gracious circulation space, avoid touching, and interfering with personal space

## Entry Sequence

- + Clearly define an exterior approach
- + Landscape/biophilia, security, welcome, visibility, engagement, shelter, protected place, scale



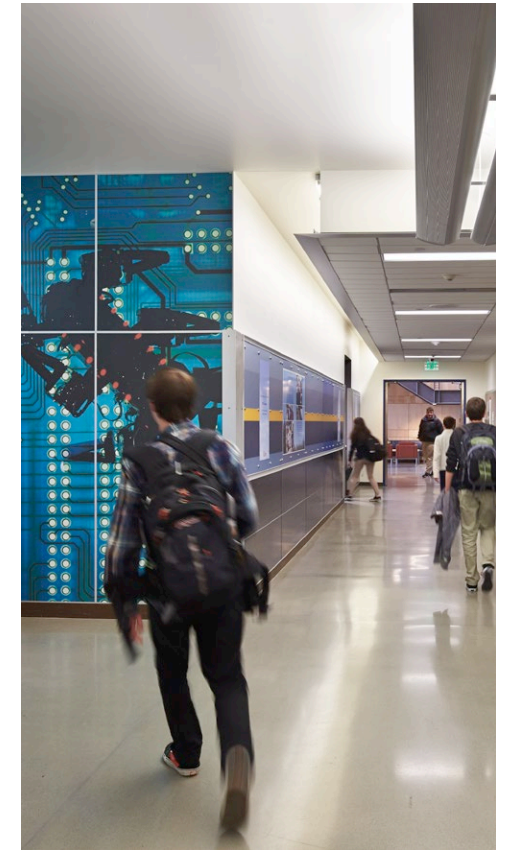
TRUMAN ELEMENTARY SCHOOL  
/ BASSETTI ARCHITECTS. Ben  
Benschneider

## Vestibule

- + Shelter, warmth, visibility

## Lobby

- + Welcome (students, parents/caregivers, community partners)
  - Information, support
    - › Avoid punitive sounding messages
    - › Celebrate movement and mindfulness
    - › Support 'Can do' vs 'can't do'
    - › Safety and security, visibility



TOP: RAISBECK AVIATION HIGH  
SCHOOL / BASSETTI ARCHITECTS. Ben  
Benschneider

BOTTOM: SPRUCE ELEMENTARY  
SCHOOL / BASSETTI ARCHITECTS.  
Moris Moreno



## Professional Work Areas

### Ongoing professional development space

- + Restorative practices
- + Relax, re-focus, biophilic connections

### Collaboration, planning, counseling spaces

- + Adults model collaboration
- + Coordinate with parents, caregivers, counselors, social workers, etc.



TOP: ST THOMAS SCHOOL / BASSETTI ARCHITECTS. Moris Moreno

BOTTOM: FEDERAL WAY PUBLIC SCHOOLS SUPPORT SERVICES CENTER AND CENTRAL KITCHEN/ BASSETTI ARCHITECTS. Jeff Amram



## Spaces for student supervision

- + Passive supervision
  - Familiar caring adults nearby who watch out for students
  - Create a sense of safety and comfort
- + Active supervision
  - Space for test taking - private but visible to teachers + Adult eyes on student
  - Concern for highly stressed student acting out or shutting down

## Welcome space

- + Space to graciously greet guests and caregivers



TUALATIN HIGH SCHOOL / BASSETTI ARCHITECTS. Jeff Amram

## Student Counseling Services

### Distributed counseling services

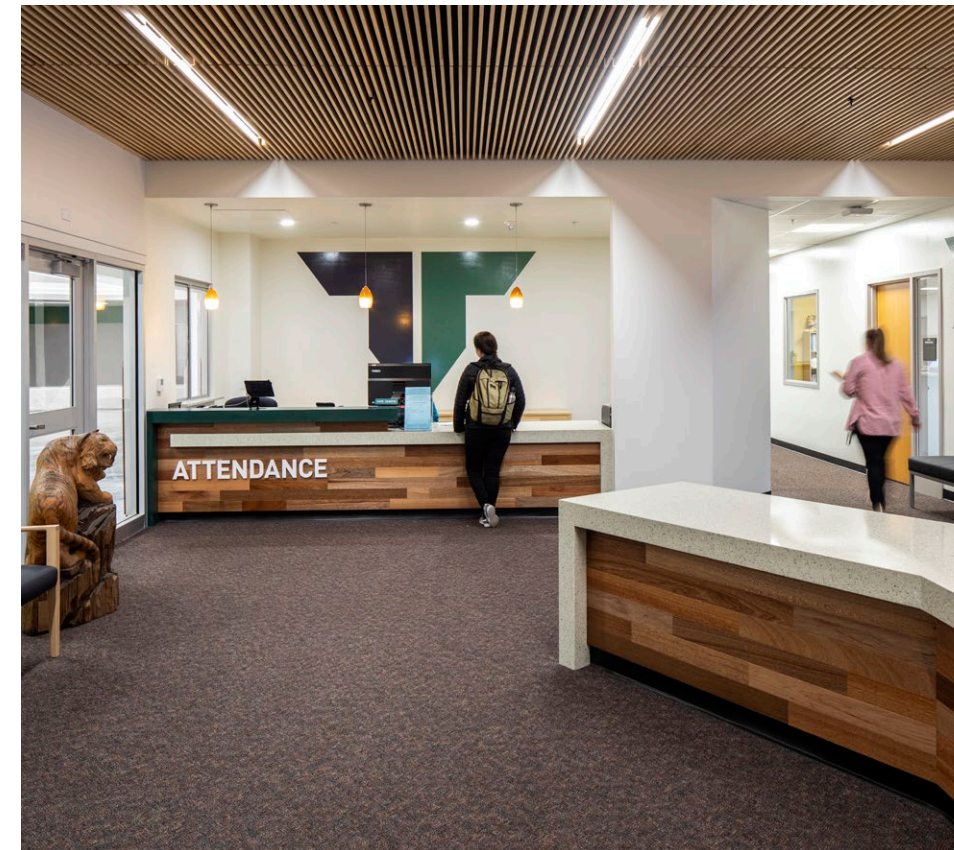
- + Counseling services brought to the students - interspersed throughout the school
  - Meeting spaces located in each learning community
  - Central records and planning space to accommodate counselor collaboration

### Centralized counseling services

- + Areas of refuge within counseling waiting area
- + Create circulation pathways that provides for confidentiality when using student services
  - Avoid placing counseling services in major circulation areas
    - › Create circulation paths that provide confidentiality for students
    - › Help students in crisis avoid the “walk of shame” when seeking a counselor



ST THOMAS SCHOOL, CENTER FOR LEADERSHIP AND INNOVATION / BASSETTI ARCHITECTS. Moris Moreno



TOP: TIGARD HIGH SCHOOL / BASSETTI ARCHITECTS. Jeff Amram

BOTTOM: FIVE OAKS MIDDLE SCHOOL / BASSETTI ARCHITECTS. Josh Partee



## Community Spaces

Provide spaces to enhance community engagement. Invite family participation in developing Trauma-Informed Care strategies. Recognize family inclusion is often the key to developing a safe place for kids

### FAMILY ROOMS

Welcoming, highly visible

Place of refuge, caring adults

A place to meet, work, consult

PTA, school volunteers, tutoring

Technology

English as a Second Language (ESL)

After-hours access and use

Extracurricular skills and vocational training



SHOREWOOD HIGH SCHOOL /  
BASSETTI ARCHITECTS. Jeff Amram

### NEXUS OF COMMUNITY SERVICES

Community agencies, counseling, communication

Health clinic

Homelessness services

+ Food pantry

+ Clothes closet

### PLACE OF REFUGE

Caring adults

### MULTI-PURPOSE SPACES

Use of indoor and outdoor school spaces by the community for gatherings, sports, greenhouses and gardening

+ Conferencing - large and small

+ Kitchen

+ Office

TRUMAN ELEMENTARY SCHOOL  
/ BASSETTI ARCHITECTS. Ben  
Benschneider







## QUESTIONS TO ASK AS YOU EXPLORE TRAUMA- INFORMED DESIGN

What TID concepts can you implement at zero to minimal cost?

What TID strategies are critical for your community?

Maxim Shutov, Unsplash



## CONCLUSION

Since the inception of organized schooling, educators have been confronted by the affects of trauma on the children they teach. Students who experience traumatic events face challenges regulating their emotions and have difficulty with attention, learning, and memory.

A growing understanding of Adverse Childhood Experiences (ACEs) has helped educators deal more effectively with the ramifications of family violence, abuse, divorce, poverty, bullying, racism, alcoholism, drug addiction, and a host of other stressors. The COVID-19 pandemic added yet another layer of toxic stress. The pandemic's impact on marginalized populations, such as people living in poverty, refugees, BIPOC, and LGBTQ+ communities, has been particularly severe.

We hope this TID Workbook assists educators, administrators, architects, designers, and managers in developing actionable ideas to help shape learning environments that positively respond to the challenges of trauma-affected youth. By helping traumatized children become more resilient and ready to learn, we are helping our teachers do what they do best: teach.

The importance of discussing, debating, and applying the ideas in this open-source list is critical, particularly as we emerge from a global pandemic.

We hope you find it useful and welcome your feedback and ideas by writing us at [media@bassettiarch.com](mailto:media@bassettiarch.com).



## REFERENCES

- <sup>1</sup> Juhani Pallasmaa, *The Eyes of the Skin* (Great Britain, 2007).
- <sup>2</sup> M. D. Felitti, et al. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventative Medicine*. 14. (1998).
- <sup>3</sup> SAMHSA.org. Trauma and Justice Strategic Initiative. (n.d.).
- <sup>4</sup> SAMHSA.org. (n.d.).
- <sup>5</sup> Seth D. Pollack, Karen E. Smith. Early life stress and development: potential mechanisms for adverse outcomes. *Journal of Neurodevelopmental Disorders*. Article 34, 2020.
- <sup>6</sup> SAMHSA.org. Concepts of Trauma and Guidance for a Trauma-informed Approach, Maryland, 9 (2014).
- <sup>7</sup> traumainformedcare.chcs.org. (n.d.).
- <sup>8</sup> SAMHSA.org. (n.d.).
- <sup>9</sup> SAMHSA.org. (n.d.).
- <sup>10</sup> Dalai Lama XIV.
- <sup>11</sup> V. Bergsagel, et al. *Building Patterns for Small School Learning*. (Washington, 2007) .
- <sup>12</sup> S. Kellet 2005. *Building for Life: Designing and Understanding the Human-Nature Connection*. Washington DC: Island Press.
- <sup>13</sup> R.I.M Dunbar. Coevolution of Neocortical Size, Group Size and Language in Humans. *Behavioral and Brain Sciences*. 1993, Vol 16. 681-735.



## ACKNOWLEDGMENTS

### Authors

Lorne McConachie FAIA  
Victoria Bergsagel REFP Assoc. AIA  
Deepa Bharatkumar AIA, LEED AP BD+C  
Dena Eaton-Colles Assoc AIA, LEED Green Associate

### Editors

Tegan Hill  
Leah Wilcox

### Designers

Elaine Danielson LEED Green Associate  
Ellie Lange

Thank you to everyone in the education and architectural communities for their contributions and feedback.

To use the TID Workbook V4 in a publication, please email [media@bassettiarch.com](mailto:media@bassettiarch.com). Please tag Bassetti in any digital mentions of the workbook:

Instagram: [@bassettiarch](https://www.instagram.com/bassettiarch)

LinkedIn: [Bassetti Architects](https://www.linkedin.com/company/bassetti-architects)

Facebook: [@bassettiarch](https://www.facebook.com/bassettiarch)



