TRAUMA-INFORMED DESIGN
2021 KELLEY TANNER INNOVATION AWARD
JULY 30, 2021
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NARRATIVE

As statistics rise regarding depression, grief, isolation, fear of deportation, institutional racism, drug and alcohol use, gun violence, sexual abuse, suicide, and breathtaking levels of anxiety, a national health crisis has emerged. Those most vulnerable have been the worst hit—especially marginalized populations such as people living in poverty, refugees, black, indigenous, people of color (BIPOC), and LGBTQ+ populations. Domestic abuse went up and reporting went down, as educators were physically disconnected from their students as students experienced a decreased ability to learn from, and confide in, trusted adults.

This all comes at a tremendous cost to society. More than 85% of children in Head Start, 90% of youth in the juvenile justice system, and 93% of adolescents in psychiatric treatment programs have experienced trauma.

The brain is also affected by long-term trauma. The hippocampus (memory) shrinks, the amygdala (survival response) enlarges, the temporal lobes (impulse control) are undeveloped, and the prefrontal cortex (executive function) is impaired. Our amygdalas communicate with each other. If we can benefit from tuning into the amygdalas of large mammals—which is why dogs and horses are used for trauma therapy—it makes sense a

TRAUMA-INFORMED DESIGN
Empowering Learners and Communities

Before COVID-19 over two thirds of all American children under the age of 16 experience some sort of trauma, violence, crime, or abuse in the prior year, and almost a quarter have experienced three or more Adverse Childhood Experiences (ACEs) - which is likely an underestimate. In people of color that number was over 83%.

Students who experience traumatic events can be easily triggered, have trouble regulating their emotions, and have difficulty with attention, learning, and memory.

Then the pandemic hit. Schools serving over 50 million students were shuttered. At least thirty million of those students qualified for free or reduced lunch, breakfast, and snacks, and many had little to no technology access. Millions of parents were thrust into unemployment. Students were afraid of, or experienced, the loss of loved ones and trauma became ubiquitous. One youth agency reports an 83% increase in suicide and self-harm, a 63% increase in violence, a 59% increase in drug and alcohol abuse.

As statistics rise regarding depression, grief, isolation, fear of deportation, institutional racism, drug and alcohol use, gun violence, sexual abuse, suicide, and breathtaking levels of anxiety, a national health crisis has emerged. Those most vulnerable have been the worst hit—especially marginalized populations such as people living in poverty, refugees, black, indigenous, people of color (BIPOC), and LGBTQ+ populations. Domestic abuse went up and reporting went down, as educators were physically disconnected from their students as students experienced a decreased ability to learn from, and confide in, trusted adults.

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A group of traumatized people can positively or negatively affect one another.

Students who experience traumatic events can be easily triggered, have trouble regulating their emotions, and have difficulty with attention, learning, and memory. Addressing issues of social equity, justice, and safety is vital as educators and architects consider programs and spaces to build resilience.

Students can be supported by adults and peers; and they can be buoyed by the physical environments in the place they call school.

Learning spaces can either promote healing and well-being—or not. The very process of designing spaces can prompt us to reflect more deeply about what schools stand for and how we can improve learning, resiliency, stress reduction, and mindfulness. We may not be able remove trauma from our students’ lives, but we can offer them safety; trustworthiness and transparency; peer support to engender mutual self-help; collaboration and mutuality; empowerment, voice, and choice; and conversations about cultural, historical and gender issues—the six principles of Trauma-Informed Care.

Combining these principles with the design principles of safety, personalization, collaboration, flexibility, and community connections, we offer a model that is crosscutting and learning focused. We researched trauma, consulted with experts, and listened to students and educators. Our open source TID Checklist is designed as a tool to assist architects and educators gain both knowledge, and actionable skills, in designing and remodeling learning spaces in ways that can ameliorate the pervasive trauma students and teachers experience. It is meant to be shared and modified by all as best practices gain traction and are refined.
CONCEPT

Kelley Tanner clearly focused on the underserved. She cared for students first and foremost, often giving her time and insights to her local community and the world at large. She always said that informed design ideas are emergent and important. Like Kelley we follow the research and believe that the impacts of trauma on learning must foster awareness in the teaching and design professions.

The long-term impacts of students falling behind, dropping out, and failing to develop the critical thinking skills necessary for lifelong success and citizenship, have impacted communities for decades. These impacts are particularly harmful to underserved communities. We hope to change that.

Brain research tells us that a child’s readiness to engage in more complex cognitive functions is dependent on having their basic survival needs (safety, shelter, food) and emotional needs met. Traumatized kids often struggle to find safety, food, or a place to sleep. They are hyper vigilant about experiencing the traumatic events that overwhelmed them in the first place, and struggle to be engaged and focused on learning.

Social restrictions, shutdowns, and school closures contribute to stress in parents and children and can become risk factors that threaten child growth and development. In fact, science tells us that the behavior of a person’s genes doesn’t only depend on the genes’ DNA sequence. They are also affected by epigenetic factors, the study of the external environment’s effects upon genes that can influence disease. Unlike genetic changes, epigenetic changes are reversible and do not change your DNA sequence, but they can change how your body reads a DNA sequence. In short trauma can leave a chemical mark on a person’s genes, which then is passed down to subsequent generations. It is no wonder why COVID-19 disproportionately affected people of color and those with special needs.

People with six or more ACEs died nearly twenty years earlier on average than those without ACEs and annually costs the U.S. $401 billion per year in terms of lowered life expectancy, health care, special education, child welfare, and criminal justice.

Early phases of project planning and design usually identify goals to create learning environments for all students, yet specific strategies dealing with traumatized kids have largely been intuitive and uncharted.

Our TID Checklist fosters more meaningful learning environments and helps designers and educators envision places for students to retreat, observe, and engage as they are ready. We hope the checklist is used to influence flexible environments in ways that help all those dealing with trauma to shape spaces in support of their specific needs. Students are the most qualified to tell us how we might design places to relax, re-balance, re-charge, and avoid re-traumatization. They can be our hope and our future.
Our TID Checklist is an educational planning tool to ensure the needs of traumatized kids are fully integrated into the planning process in both new and renovation projects. It is applicable to schools across the nation and the world. Community members, students, educators, and design professionals are all part of our model to ensure that student needs are met as we introduce students and teachers back into schools. We want to ensure that all students are cared for and prepared as they launch into a world they may not have imagined and need to navigate.

Even before the pandemic, we used our TID checklist in visioning, conceptual planning, design development, critiques, and post-occupancy evaluations.

One of the most exciting aspects of the TID Checklist is that it is largely cost neutral. It encourages spatial layers of engagement.
Shaping a quiet alcove and selecting appropriate furniture and paint colors is required for most projects regardless of budget. With thoughtful implementation, educators can also implement many of our ideas today with virtually no cost at all.

Many classrooms and schools feature peace corners, places where students can calm down, chill out, focus, or be by themselves and away from the rest of the class. (This may look different at various phases of development. For instance, peace corners may be located within elementary classrooms and near a counseling office for secondary students). These areas or alcoves provide quiet spaces where students can use de-escalation tactics such as breathing exercises or the completion of a reflection worksheet. They should be welcoming and include biophilic materials, comfortable furniture, and culturally sensitive décor.

Having experience in engaging the foundational principles of our work, we believe this idea has traction.

With thoughtful implementation, educators can also implement many of our ideas today with virtually no cost at all.
The TID Checklist has been co-presented and critiqued several times in several venues to ensure that it addresses and incorporates up-to-date research and feedback as it is available on-line for download by any educator, architect, planner, student, or parent. We have recently begun to take the TID Checklist ‘on the road’. To date we have presented it to an AIA/CAE gathering in Chicago and the national Green Schools Conference. We have written an article that is in the final editing stage for publication in the fall edition of the Learning by Design magazine and will offer a plenary panel at the 2021 LearningSCAPES conference. We have also applied to present it at SXSW EDU in Austin, Texas, and offer a session where participants can ask for the advice and feedback of architects, an educational design strategist, the director of Trauma-Informed Care for the state of Oregon, and a behavioral clinical director well versed in the Threat and Hazard Identification and Risk Assessment (THIRA), a process that helps communities and individuals understand their risks and what they need to do to address those risks by asking:

- What threats and hazards affect us and community?
- When they occur, what impacts would those threats and hazards have on our community?
- Based on those impacts, what capabilities should we build?

We are passionate about ensuring that all students have opportunities to learn in places that support their academic success and well-being. The development of this tool supports both our personal and professional goals and encourages us to continually innovate with every iteration. We have incorporated the checklist into our planning and design work with school districts across the country and look forward to its further development as we learn with, and from others. It is a tool that adds greater knowledge and strategic thinking to our existing personal and professional goals. The open format allows for critical feedback and additional information when available, as the application of the ideas in the checklist is a choice, hopefully determined by ‘what’s best for kids’ in specific settings.
The TID Checklist is shared knowledge and can benefit anyone who chooses to use it. Our goal is to develop a malleable tool to help ensure the impacts of trauma are understood and considered as we all shape learning environments. Too many of our children are experiencing trauma in the emergent post-pandemic world. We all have a responsibility to seek equity and opportunity for all students—not just some of them—if we are to shape robust schools and healthy communities. We want the benefits to accrue to all. Obviously, traumatized kids are the primary beneficiaries of the ideas embedded in the checklist. Any student can gain advantage by having a quiet place to center one’s thoughts or calm down. All students benefit when the classroom environment is personalized, collaborative, and focused on learning. Teachers, faced with the daily retreat of students in crisis, can benefit from the restorative ideas embedded in the checklist as they address their planning challenges. The entire school and community benefits when caring adults address the challenges faced by students experiencing deep adversity in their lives.

Perhaps the definition and measure of success can best be addressed by Lao-tzu’s well-traveled comment, “The journey of a thousand miles begins with one step.” Dealing with societal dysfunction that results in traumatized children...
The Multiple Pathways to Graduation (MPG) campus for Portland Public Schools in Oregon supports a variety of programs designed for students needing an alternative to the typical comprehensive high school.
is a long-term challenge. It requires levels of awareness, funding, and community safety nets that are at best, evolving and emergent. The Checklist is one more step on a long journey and another tool in the toolbox. Supporting one student or one classroom is a win. Reaching a worldwide community of educational planners and designers is a bigger win. Raising awareness on a national and international scale is the ultimate imperative. If knowledge is power, shared knowledge is the only path to the collective power needed to shape a better world for our children—one space at a time.

Several measured impacts and challenges have been incorporated into this submittal. Since the pandemic is new to the world and we have lacked access to students, there continues to be much that we can study regarding the checklist’s impact. Future metrics we anticipate using to measure success include attendance and dropout rates in schools, completion of treatment protocols in healthcare, and recidivism rates for adolescents swept into corrections and penal systems.

Softer metrics to examine in the long game might include:

- People feeling valued, cared for, having a sense of belonging as measured by school climate surveys;
- Staff engagement versus absenteeism; and
- Improved wellbeing indicators in youth that result from healthy coping, increased buffers, and decreased stressors.

We have shared the TID Checklist with hundreds of people to date and have applied it to a half dozen projects-informing clients, educating designers, and implementing strategies. We have incorporated numerous community rooms and assets into our designs to foster vital bridges between families, schools, and community services. Yet to paraphrase Robert Frost, “We have promises to keep, and miles to go before we sleep.”

One pinnacle of our success is the design of the Multiple Pathways to Graduation (MPG) campus for Portland Public Schools in Oregon. The campus supports a variety of programs designed for students needing an alternative to the typical comprehensive high school. We utilized the Black Manifesto in planning, which thoroughly
incorporates the concepts embedded in our checklist to shape a school that supports the social and emotional needs of all students.

Another is the design of the Options High School in Bellingham, Washington. A school of choice, it incorporates an early learning center to support teen parents. Designed with trauma-affected students in mind, it provides easy access to social services, a rooftop with a green roof and space for gardening where students can decompress, and services to support homeless students. It also incorporates an extensive maker space and views to the bay and mountains.

The realistic potential for expanding the TID checklist’s impact is huge. It is a straightforward list that every planner and designer can effortlessly utilize to inform themselves and their clients at no additional cost to the project. It is an expandable tool, ready to incorporate new ideas and best practices. It is sharable and free to all who want to modify and make it their own.

Simply put, we need to get smarter about how we design for kids experiencing trauma. The TID checklist embodies early steps on a long journey. As Amanda Gorman eloquently wrote, “When day comes, we ask ourselves, where can we find light in this never-ending shade?”

Options High School, Bellingham, WA, Zervas Group Architects with Architects of Achievement
JULY 25, 2021

LETTER OF REFERENCE AND ENDORSEMENT

I have worked with Victoria, Lorne, and Kelley around school design for a very long time. We share many common ideas about learning environments both in and outside of school.

Their open-source trauma-informed design checklist and submittal for the Kelley Tanner Innovation Award is timely and much needed by schools, students, teachers, parents, and communities all over the world. It deserves to be selected as the Impact Award.

Kelley was always a serious practitioner and researcher into best practices that were new and relevant. She loved environments that were made safe for all students to voice their beliefs and concerns and worked tirelessly to help the underserved.

While most educators have been talking about learning loss in a time when we are coming back to school, few are concerned about the trauma students are experiencing both outside of school, as well as the trauma caused by school. Lack of change around school scheduling leading to a lack of sleep, serving foods laden with sugar, fat and salt, the lack of movement and exercise during the school day, and putting the onus put on students to perform academically by making up years’ worth of work in a matter of months, all contribute to declines in student mental ill-health. Victoria and Lorne’s checklist has already shown great impact and has been widely received and used by several practitioners.

What I like most is that Victoria, Lorne, and their team are thinking about the voices of young people and how schools can be informed to respond to students in ways that can prevent and help them deal with trauma by designing more compassionate learning environments by reaching out to students before interventions are even necessary. Given COVID, and where we are today, Kelley would have loved to see this approach to design because it is one of the most timely and effective interventions in the world of education today.

Being a friend and colleague of Kelley I know how much the checklist would mean to her. It embodies Kelley’s values to support students and communities, provides for equity and opportunity, and enables us, like her, to practice selfless service with integrity based on research and facts. It offers a clear vision of what’s possible for all students as we face one of the most daunting challenges our world has ever known.

I hope this Trauma-Informed Design checklist becomes a practical part of students coming back and staying healthy and think it should become part of the lexicon of school design. It is an actionable solution to a very complex problem and is an idea whose time has come.

Warmly,

Elliot Washor
Cofounder, Big Picture Learning
July 27, 2021

To Whom It May Concern:

It is with great pleasure that I recommend Victoria Bergsagel, Lorne McConachie, and their interdisciplinary team for the Kelley Tanner Innovation Award.

Now retired, I worked with Kelley for many years as the Director of Facilities in the Federal Way School District, where Kelley lived and served our community. Together with Lorne and Victoria we designed and built exemplary schools.

I am pleased to nominate their team for the award that celebrates Kelley and now share with you some of my experiences.

- Kelley was a colleague, teacher, friend, and partner. She passionately, professionally and thoughtfully challenged easy answers with informed questions and professional insight.
- In a moment she could have you smiling at a great Texas yarn then moments later, engage you in a challenging conversation around innovative school design and function.
- Kelley was an “influencer” but did not seek the credit or notoriety.
- She was interested in the conversation, as long as it informed the best outcomes for students.
- Kelley could be bold about her passions.
- She was professionally serious about school design so long as innovation supported best practices.

I loved Kelley dearly, as did Victoria and Lorne, who have assembled an interdisciplinary team to create a trauma-informed checklist that has the potential to change the world of school design in many ways.

Their research and checklist will help our nation’s schools move past politics to make a difference for the students we are all responsible to serve.

Victoria and I have worked together since 1994. As the Director of Educational Design, she was my partner in facilitating two McConnell finalists and is sincerely one of my best friends.

Lorne worked with me and Victoria to design Todd Beamer High School and Sequoyah Middle School. He is one of the most talented architects I know. If these two have assembled a team, I am all in. They are that smart.

Together with their team, Victoria and Lorne are committed to honoring Kelley’s legacy.

Thank you for this opportunity to recognize Kelley through the work of those who loved her best.

Sincerely,

Rod Leland, Director of Facility Services (retired), Federal Way School District
July 26, 2021

Recommendation letter for the Kelley Tanner Innovation Award

I’m writing in support of the submission by Victoria Bergsgæl, Architects of Achievement, Lorne McConachie, Bassetti Architects, and team for the Kelly Tanner Innovation Award. I’ve had the good fortune to work with Kelley, Victoria and Lorne and appreciate the opportunity to lend support to this application.

Kelley always kept learners at the center, strove for equity, and pushed boundaries of what is possible. Victoria and Lorne embody these characteristics and have incorporated them into an important and timely proposal.

I have known Victoria since 1994, when I was Superintendent of Federal Way Public Schools and Victoria was a school administrator. She went on to lead district design and innovation projects creating world class products. When I served as the first Executive Director of the Bill & Melinda Gates Foundation, Victoria was a key advisor on school design. We sponsored 1200 new schools and 800 school transformation efforts and Victoria influenced many of them working with network and district leaders.

Lorne is one of the most talented and communicative architects I’ve worked with. I’ve always appreciated his collaboration with Victoria—they have informed and inspired communities around the world.

Thank you for honoring Kelley Tanner with this program. Victoria and Lorne embody her values and honor her legacy with this proposal. For what it is worth, I most definitely think it should win the Impact Award.

Feel free to contact me for more information. I can be reached at Tom@GettingSmart.com or 206.909.8251.

Sincerely,

Tom Vander Ark
VICTORIA BERGSAGEL REFP
PRESIDENT | ARCHITECTS OF ACHIEVEMENT

Victoria Bergsagel is passionate about designing schools where all students achieve. She founded and directs Architects of Achievement and has a gift for nurturing people’s talents and insights to arrive at inspired solutions. Harvard-educated, Victoria has been a teacher, counselor, principal and school district administrator. She also served as the director of educational partnerships at Talaris Research Institute, working with scientists to conduct, integrate, and interpret the world’s leading brain research. She now works as an educational design strategist throughout the US and abroad, helping people realize their hopes and dreams for their communities and children. She has written a book, authored several articles, lectured at Harvard, USC and Berkeley, served on the national AIA school design jury, and advised the Obama White House on STEM education. Victoria is renowned for her strategic approach, heart for equity, and ability to bridge the worlds of education and architecture.

LORNE McCONACHIE FAIA
PRINCIPAL | BASSETTI ARCHITECTS

Lorne McConachie FAIA, is a Principal at Bassetti Architects at their Seattle, Washington office. Lorne has over 40 years of experience planning schools that focus on personalized, collaborative spaces that support differentiated learning, engaged communities, and sustainable connections to place. He is especially adept at trauma informed design where safe, welcoming, and flexible spaces are vital. Lorne’s architecture, writing, speaking, and consulting have contributed to enhancing learning environments, inspiring students, and enriching communities. Lorne co-authored a book (Architecture for Achievement) and several published articles. Under his leadership, Bassetti has been recognized locally, regionally, and nationally with numerous awards for transformational educational designs that embrace strategies for changing curricula, enhancing communities, environmental stewardship, and technology integration.

JOE ECHEVERRI AIA, LEED AP BD+C
PRINCIPAL | BASSETTI ARCHITECTS

Joe Echeverri is a Principal at Bassetti Architects with over 18 years of experience. As the leader of Bassetti’s Portland office, he plays an active role in local, sustainable design, with a keen interest in modernizing existing and historic school buildings. Joe’s interest in K-12 architecture was infused by growing up among a family of educators. Joe appreciates working on projects that play an important role in creating pride and instilling a sense of community. In addition to his passion for design, Joe enjoys inspiring students through volunteer and intern mentorship programs within the greater Portland area. He believes student engagement throughout a project can bring meaningful personalization to the design of educational spaces.
DEEPA BHARATKUMAR ASSOC. AIA, LEED AP BD+C, CDT
SENIOR ASSOCIATE | BASSETTI ARCHITECTS

As an architect at Bassetti Architects in Portland, OR, Deepa is deeply aware of how the built environment impacts the sense of security for its users. She sees educational design projects as an opportunity to serve some of the most important people Bassetti designs for — children. As the mother of two, she places high importance on creating schools that are rewarding and enriching for their users, community, and the environment. Over her 20 years in the profession, she has become an advocate for actively seeking out vulnerable students’ voices, in addition to listening to parent, teacher, and district voices. As a first-generation Asian immigrant who has witnessed extreme poverty and displacement in her birth country, she empathizes with victims of trauma. Her design approach incorporates trauma-informed design principles to ensure that our schools are perceived by vulnerable children as a sanctuary offering refuge and support - recent examples of such an approach are the Family & Community Resource Centers in the schools she helped design. Throughout her career, Deepa has served many roles, from drafter to principal in charge to project manager. Her experience allows her to keep a wide perspective on her

MANDY DAVIS PhD
ASSOCIATE PROFESSOR OF PRACTICE AND DIRECTOR OF TRAUMA INFORMED OREGON | PORTLAND STATE UNIVERSITY SCHOOL OF SOCIAL WORK

Mandy Davis, PhD, is the Director of Trauma Informed Oregon and Associate Professor of Practice at Portland State University’s School of Social Work. Dr. Davis specializes in providing training, consultation and supervision to systems, organizations and providers on topics related to implementing trauma informed care and trauma specific services. In addition to her systems change work, Dr. Davis teaches courses related to abuse, trauma, and trauma informed care and she provides training in the Trauma Recovery Empowerment Model (TREM). As a licensed clinical social worker, Dr. Davis has over 20 years of experience working with survivors of trauma across the lifespan.

SARAH SKOTERRO MA
CLINICAL DIRECTOR | THIRA HEALTH

Highly regarded nationally and internationally Sarah Skoterro is a human concept developer – with a 30-year career guiding and growing programs and institutions to advance population health within the context of mental health. Her indelible interest in how large systems inform small systems, and vice versa, drives a longitudinal commitment to ensuring the safety and wellbeing of humans interacting with the healthcare and educational systems across the country. Sarah has served in roles ranging from Executive Director to Clinical Director, and always draws upon the voices and perspective of the often “voiceless” and persecuted to formulate inclusion, reduce risk, improve health outcomes and increase the validity of approaches to healing and innovation in service provision.
SUPPORTING DOCUMENTATION

- TRAUMA INFORMED DESIGN CHECKLIST
- LEARNING BY DESIGN FALL 2021 ARTICLE
The TID Checklist outlines best practices to help shape learning environments that support students and teachers who have experienced trauma. Pre-pandemic over two thirds of children reported at least one traumatic event by age 16. Post pandemic trauma statistics soared.

To address the pervasive impact of trauma in our schools we present this checklist as a tool to assist designers, educators, and administrators gain knowledge and actionable ideas.

Strategies for dealing with trauma continue to be emergent. This TID Checklist is a start. An open-source compilation of ideas, patterns, and provocations, it is meant to be shared, modified, and revised for specific learning communities. Hopefully it will promote creative thinking and dialog to embed trauma-informed concepts into new and existing buildings and classrooms. Now more than ever, trauma-informed design (TID) can help heal and empower our students and our schools.
Guiding Principles are “big picture” ideas or goals that frame projects and help prioritize decision making. Different projects invariably have different Guiding Principles. The following list is a compilation of Guiding Principles we often encounter in our projects. Inclusion of Trauma Informed Design ideas within the overarching concepts that shape a project ensures they are more fully integrated into the design.
Safe and Secure

- Welcome
- Visibility
- Home base
Personalized

- Trustworthy, transparent
- Empowerment, voice
- Cultural, gender support

Clockwise from top left: Cougar Ridge Elementary School; ROMP; Tigard High School, Bassetti Architects.
Collaborative

- Peer support
- Mutuality
Learning focused

Brain research

» 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)
Flexible and Adaptable

- Choice
- Agency
Community Connected

- Culture
- History
- Social justice
- Environmental justice
- Sustainable

Above: Shorewood High School, Bassetti Architects.
Survival Basics are the fundamental needs that must be addressed so children are ready to learn.
Shelter

- Warm, safe, dry
- Layers of shelter:
  » Retreat - to “den” for protection
  » Observe - while feeling safe
  » Participate – from safe place to observe
Safety

- Allow for hypervigilance – monitor for perceived threats or need for protection
- Realize that for some, trusting others can feel dangerous
- Monitoring for one’s safety can be physically/emotionally demanding and exhausting
Safe and Secure

- Food & drink in learning areas?
- Hunger - learning readiness

Homelessness

- Hygiene – shower, toileting
- Hunger - kitchenette
- Clothing – laundry, storage
- Sleep – nap, overnight
Overarching Design Characteristics is list of ideas and patterns that support Trauma Informed Design. This is an evolving list that 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 preliminary designs in the hope of developing more comprehensive solutions.
Personalization

- Human scale
- Less institutional – more personal
- Personal space
  - Don’t overcrowd with furniture
  - Navigate without touching others
Thoughtful transparency

- Visibility from space to space
- See who’s coming and going
- Balance transparency with areas of refuge
  » Avoid being in a “fishbowl”
Flexibility

- Support multiple ways of using space
- Support equitable use by all
- Adjust for specific needs of kids
- Develop choices
  - Seating/table types, locations, noise levels, light levels, group or solo
Safe and Secure

- Trustworthy, transparent
- Empowerment, voice
- Cultural, gender support

Left: The entry way at Spruce Elementary features an interpretive wall displaying tree rounds from trees cleared for the new building. Working with the students, Bassetti created a timeline of notable events that reflect the age of the tree.
Optimal Light

- Excellent daylight in learning areas
  - Areas of lower light levels

- Artificial light
  - High quality, warm values, task lighting
  - Controllable light
    - Dimmers, sensors
  - Sensory triggers
    - Harsh, flickering, buzzing lights
    - Visual complexity – distracting patterns on walls and floors
Acoustics

- **Balance**
  - Minimize unnecessary and overwhelming ambient noise
  - Sudden or steady noise can be stressful
- **Carpet preferred for noise reduction**
  - Tiled and/or “portable” carpets are a great alternative in that they can be replaced and cleaned as needed to eliminate pathogens and dust.
- **Variable sound options**
  - Music, calming sound – water, birds
Display

- Provide visual interest and warmth
  - Artwork: landscapes, organic color palettes
- Biophilic elements
- Positive messages in learning areas, gathering areas, circulation areas
  - Avoid punitive sounding messages: can do vs can’t do
- Organize display materials – reduce clutter
- Avoid too much visual stimulus
- Avoid overhead, hanging, dangling display – can spark hypervigilance

Above: Truman Elementary School, Bassetti Architects.
Materials and Finishes

- Soft finishes, durable, easy to clean
- Biophillic finishes
  - Avoid institutional, slick feel
- Wall colors:
  - Avoid bright white, gray, beige – stark or institutional
  - Avoid sensory triggers – neon intensity, deep saturated colors
    - Red, yellow, orange
    - Pops of color are okay
  - Use light shades of blues, greens, purples – foster spaciousness
- Culturally respectful – finishes, colors, patterns
- Use low VOC finishes to prevent “off-gassing” of design materials
- Consider a fragrance-free environment
- Avoid distracting patterns on walls and floors
Furniture

- Unclutter - don’t overcrowd with furniture
  - Ensure adequate space for navigation

- Separate chair and table options
  - Flexibility
  - Wheels on tables, chairs – quiet and movable
  - Choice – seating and table types
  - Location, noise level, group or solo
  - Socialization options
    - Seating to face away from or into walls
  - Soft finishes

- Durable, easy to clean

- Peace corner – focus, quiet, calm
Toilet Rooms

- Verify toileting approach
  - Passive supervision to mitigate bullying
  - All-gender vs binary (B/G)
  - Traumatized kids need security
  - Consider lockable stalls for privacy vs. concerns for suicide, drugs, sex

- Needs of homeless kids
  - Shower, locker, laundry
Biophilic

- Support physical and mental well-being
  » Healing, recovery
- Enhance emotional, problem-solving, critical thinking, and constructive abilities
  » Sensory patterns in natural environment
- Organic, naturalistic design
- Place-based, vernacular design
This section explores spaces and groups of spaces within an educational environment where aspects of the overarching design characteristics might be applied.
Learning Spaces

- Clusters of Learning
  - Enhance personalization
    - Human scale
    - Home base - known well
  - Balance of social spaces and private spaces
    - See the door(s), window(s)
    - Who is coming and going?
    - More than simply seeing a whiteboard
Clockwise from top left: Lynnwood Elementary School; Truman Elementary School; Raisbeck Aviation High School; Truman Elementary School; Rose Hill Middle School; Arbor Heights Elementary School, Bassetti Architects.
Learning Spaces

- **Layers of Space**
  - Needs of the student - isolation vs inclusion
    - Home base - personalized, retreat, study, focus
  - Small group space (2-6 students)
    - One-on-one classrooms
    - Collaborate, group projects
    - Students known well by the teacher
  - Medium group space (6-15 students)
    - Adaptable to small group collaboration
    - Group instruction, project-based learning
    - Safe edges, peace corners, nooks
  - Large group spaces (+15 students)
    - Prospect and refuge
    - Safe edges, nooks
  - Outward bound
    - Connection to outdoors, electives, CTE, PE, music, art, etc.,
Clockwise from top left: Lynnwood High School; Truman Elementary School; Five Oaks Middle School; Klahowya Secondary School; Cougar Ridge Elementary School; Bassetti Architects.
Circulation Spaces

- Layers of connected space
  - Entry sequence
    - Exterior approach
      - Landscape/biophilic, security, welcome visibility, engagement, shelter, protected place, scale
  - Vestibule
    - Shelter, warmth, visibility
  - Lobby
    - Welcome (students, parent/care givers, community partners...)
    - Information, support
    - Avoid punitive sounding messages
      - ‘Can do’ vs ‘can’t do’
    - Safety and security, visibility

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

Clockwise from top left: Lincoln High School; Raisbeck Aviation High School; Truman Elementary School; Arbor Heights Elementary School, Bassetti.
Professional Work Areas

- Ongoing professional development regarding trauma informed teaching
- Restorative practices
  » Relax, re-focus, biophilic connections
- Passive supervision
  » Safety, comfort, known adult
- Planning, collaboration, counseling
  » Adults model collaboration
  » Coordinate with parent, care giver, counselor, social worker, etc.
- Greet guests
  » Graciously greet folks who serve kids
  » Communication needs – ESL, hearing/sight impaired, limited literacy
Clockwise left to right: Tualatin High School, Bassetti; Federal Way Public Schools Support Services Center, (same); St Thomas Gymnasium, The Evergreen School, Bassetti Architects.
Community Spaces

- Restorative practices to support families
  - Family rooms
    - Place to meet, work, consult
    - Information, food, technology access
  - Meeting/conference rooms
  - Strengthen ties to community agencies, health care
Community Spaces

Left to right: Truman Elementary School Family Resource Center; Shorewood High School (2), Bassetti Architects.
Questions to ask as you explore TID

How are you currently using your space/environment to buffer toxic stress?

What are barriers you may have to creating trauma informed space?

Where can you get the most “bang for your buck?”
Conclusion

Educators have faced the impacts of trauma on children since the inception of organized schooling. Students who experience traumatic events face challenges regulating their emotions and difficulty with attention, learning, and memory.

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

We hope this TID Checklist assists educators, administrators, architects, designers, and managers develop actionable ideas to help shape learning environments that positively respond to the challenges of trauma affected youth.

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.
Thank you.
LEARNING BY DESIGN Article
(to be published in Fall 2021 issue)
Before COVID-19 over 60 percent of all American children under the age of 18 experienced some sort of trauma, violence, crime, or abuse in the prior year\(^1\), and almost a quarter of adults have experienced three or more Adverse Childhood Experiences (ACEs) - which is likely an underestimate. Then the pandemic hit. Schools serving over 50 million students were shuttered. Thirty million of those students qualified for free or reduced lunch, breakfast, and snacks, many had little to no technology access. Millions of parents were thrust into unemployment. Students were afraid of, or experienced, the loss of loved ones. Now more than ever, trauma-informed design (TID) can help heal and empower our students and schools.

**SCHOOLING IN AN AGE OF TRAUMA**

As statistics rise regarding depression, grief, isolation, fear of deportation, institutional racism, drug and alcohol use, gun violence, sexual abuse, suicide, and breathtaking levels of anxiety, a national health crisis has emerged. Those most vulnerable have been the worst hit—especially marginalized populations such as people living in poverty, refugees, blacks, indigenous, people of color (BIPOC), and LGBTQ+ populations. Domestic abuse went up and reporting went down, as educators were physically disconnected from their students. Given a lack of technology access and student reluctance to turn on computer cameras, numerous students have experienced a decreased ability to learn from, and confide in, trusted adults.

This all comes at a tremendous price to society. More than 85% of children in Head Start, 90% of youth in the juvenile justice system, and 93% of adolescents in psychiatric treatment programs have experienced trauma.\(^2\) Adverse Childhood Experiences (ACEs) include family violence, abuse, parent separation or divorce, family mental health and substance use problems or incarceration. They also includeas environmental adversities, such as exposure to group and/or community violence, poverty and related stressors, bullying, systemic racism and related violence and discrimination, poor health, involvement with child welfare and juvenile justice systems, and collective adversities such as the coronavirus pandemic.\(^3\)

Students who experience traumatic events can be easily triggered, have trouble regulating their emotions, and difficulty with attention, learning, and memory. Addressing issues of social equity, justice, and safety is vital as educators and architects consider programs and spaces to build resilience.

There are many tiers of student support. First, students can be supported by adults, parents, teachers, and community organizations. Secondly, they can be supported by peers. And perhaps most importantly, they can be buoyed by the physical environment.

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\(^3\) [https://www.cdc.gov/washington/testimony/2019/20190711.htm#_ftn5](https://www.cdc.gov/washington/testimony/2019/20190711.htm#_ftn5)
GUIDING PRINCIPLES

Architecture gives form to the patterns by which we live. Learning spaces can promote healing and well-being. The very process of designing spaces can prompt us to reflect more deeply about what schools stand for and how we can improve learning outcomes for all.

Resiliency, stress reduction, and mindfulness can be taught and encouraged. We may not be able to remove trauma from our students’ lives, but we can offer them safety; trustworthiness and transparency; peer support to engender mutual self-help; collaboration and mutuality; empowerment, voice, and choice; and conversations about cultural, historical, and gender issues—the six principles of trauma-informed care. 4

Combining these principles with the educational design principles of safety, personalization, collaboration, flexibility, and community connections, we offer a model that includes patterns that is crosscutting and learning focused. (A TID checklist can be downloaded at https://bassettiarch.com/index.php/resources/.)

DESIGN PATTERNS FOR TRAUMA-INFORMED DESIGN

Every element of TID has a purpose. The arrangement of buildings, the shape of spaces, the color of the walls, the adaptability of learning environments, and the selection of furniture can all influence the way students learn. Design patterns such as personalization, thoughtful transparency, flexibility, varied spaces, optimal light, acoustics, display, circulation, materials and finishes, furniture, and community spaces, are all critically important in the post-pandemic world.

4 http://store.samhsa.gov/shin/content/SMA14-4884/SMA14-4884.pdf
SAFE AND SECURE

Survival basics must inform our designs. Ensuring that students are warm, safe, and dry is foundational, as is food, drink, and sustenance. Providing students with access to hygiene, clothing, and sleep boosts their ability to learn. Students who have experienced trauma and physical and emotional exhaustion are hypervigilant and need to retreat. Predictability, safety, positivity, and consistency are exactly what they need. Spaces should feel uplifting and use color sparingly to enliven and warmth that can soothe.

Many classrooms feature peace corners, places where students can calm down, chill out, focus, or just be alone and away from the rest of the class. (This may look different at various phases of development. For instance, peace corners may be located within elementary classrooms and near a counseling office for secondary students). These areas or alcoves provide quiet spaces where students can use de-escalation tactics such as breathing exercises or the completion of a reflection worksheet. They should be welcoming and include biophilic materials, comfortable furniture, and culturally sensitive décor.
Layers of learning help students to retreat, observe, and participate. Spaces that are trustworthy and transparent foster empowerment and student voice and include a home base that is personalized for one-on-one learning, tutoring, and counseling.

Optimal light is critical. Quality daylighting and high-quality, controllable light with dimmers and sensors can help students perform to their highest potential. Sometimes we want our environment soft, dark, and cozy. Other times energizing task lighting is needed. Just remember that harsh, flickering, or buzzing lights can set off sensory triggers and should be avoided.
MATERIALS AND FINISHES

Materials and finishes send strong messages. Wherever possible provide furniture that is soft, durable, and easy to clean. Incorporate biophilic designs to bring nature in. Consider reflecting the cultural backgrounds of students, and avoid stark white, institutional gray and bland beige colors, as well as neon intensities that can serve as sensory triggers. Instead consider cool colors such as shades of blues, greens, and purples with pops of color—in the furniture for instance.

PERSONALIZATION

School buildings can embody the belief that learning happens best on a human scale. Students and adults at successful schools know one another well. They need places that reflect and support a collegiate family atmosphere. Designing on a human scale requires that we shape environments in ways that are less institutional and more personal. Provide sheltered spaces where students can feel safe, relax, and restore balance through calming influences.

When designing for wayfinding, enable students experiencing trauma to navigate spaces in their schools without having to touch others. Crowded hallways with lockers that click and clack should be a thing of the past. Circulation spaces, with places to collaborate and retreat should become the new norm.

Thoughtful transparency provides visibility from space to space and allows students and teachers to see who is coming and going. A balance of prospect and refuge is critical. Avoid fishbowls—consider school cafeterias—and offer students opportunities to nestle into a couch with a book or good friend.

Calm areas of refuge to retreat and rejuvenate help both students and teachers to revitalize.
**Varied spaces** provide students with the opportunity to choose between isolation and inclusion. Small group spaces for 2-6 students afford opportunities to interact with peers and caring adults in a safe environment. Medium spaces of 6-15 students provide optimal environments for group discussion and project based learning. Large group environments (15+) provide community interactions.

In addition to their own stress, many teachers are experiencing secondary traumatic stress just being exposed to their students’ trauma. **Professional work areas** afford them spaces to work undisturbed, and with others, in locations that make them available to students when necessary. These planning areas allow teachers to personally re-balance and to model collaboration.

**COLLABORATION**

Historically schools have insulated students. Teachers plan lessons and instruct behind closed doors. Students study in isolation. Parents come to school only when problems arise. **Clusters of learning** enhance both personalization and collaboration. Given a home base, students are known well. When the community can see through doors and windows, they know who is coming and going and students feel safe. Schools have much to gain as they think through collaboration.

**FLEXIBILITY**

Education and the world are changing rapidly. Facilities need to be flexible and adaptable enough to support a wide range of educational models, including those not yet identified. Within a trauma-informed environment, flexibility focuses on choice. Giving students a choice regarding readiness to engage with others, what location, noise level, lighting level, and furniture options (seating and table) they wish to utilize. Consider quiet, movable furniture on wheels that allows socialization options such as facing toward or away from a wall or a window.

**DISPLAY**

Schools rest their reputations on the quality of work, displaying it both formally and informally. Entryways, circulation spaces, and commons areas can show off student work on walls, shelves, pedestals, and other display structures, helping students to feel valued and building a positive school culture. Trauma-informed displays are organized to reduce too much visual stimulation. Avoid overhead, hanging, and dangling displays that can spark hypervigilance.

**COMMUNITY CONNECTIONS**

Peer support and mutuality matter as we back our students and reinforce their connection to their communities. Personal control and choice help students optimize their learning. Community resources provide support. Facilities and programs provide opportunities to connect with the community, sending students into the world and bringing the world into the community.

Many schools build in **community resources** to provide much-needed services for students. This is particularly critical for students dealing with trauma. Strengthen ties to community agencies and health care. Provide family rooms and meeting spaces to enhance consultation, information, and partnerships. Support outreach to various ethnic groups through technology access and areas for food preparation. Schools must become centers of community if we are serious about serving students. Protective factors can foster positive relationships, school connectedness, student agency, and social and emotional learning in ways that ameliorate the impact of trauma on a variety of outcomes and prevent further trauma.
PROCESS MATTERS
What we do is important. So is the way we do it. Processes matter. Methods count.

The Black Manifesto\(^1\) was put together by a group of Black urban planners, architects, artists, activists, and designers. Their work is spot on and can be utilized in virtually any situation.

+ **Create circles, not lines.** Practice more dialogue, inclusion, and empowerment.
+ **Choose critical connections over critical mass.** Focus on creating critical and authentic relationships to support mutual adaptation and evolution over time.
+ **Move at the speed of trust.** Proceed together with fluidity at whatever speed is necessary.
+ **Be humble learners who practice deep listening.** Listen deeply and approach the work with an attitude towards learning, without assumptions and predetermined solutions.
+ **Celebrate, catalyze, and amplify black joy.** Give due space to joy, laughter, humor, and gratitude.
+ **Plan with and design with stakeholders.** Walk with people as connectors, conveners, and collaborators helping them to imagine and realize their own futures.
+ **Center lived experience.** Prioritize lived experience so it can be a guide and touchstone of all work.
+ **Seek people at the margins.** Learn and practice new ways of intentionally making space for marginalized voices, stories, and bodies.

+ **Reckon with the past to build the future.** Meaningfully acknowledge the histories, injustices, innovations, and victories of spaces and places as new work begins.
+ **Protect and strengthen culture.** Make visible and strengthen Black cultures and spaces to honor their sacredness and prevent their erasure.
+ **Cultivate wealth.** Cultivate a wealth of time, talent, and treasure that provide the freedom to risk, fail, learn, and grow.
+ **Foster personal and communal evolution.** Make opportunities to expand leadership and capacity.
+ **Promote excellence.** Allow excellence to build influence that creates opportunities for present and future generations.
+ **Manifest the future.** Imagine and design the future into existence now, working inside and outside of social and political systems.

\(^1\) [https://www.blackspace.org/manifesto](https://www.blackspace.org/manifesto)
have to dig deep into trauma to effectively respond with empathy and flexibility. Collectively, as a society, we can design classrooms and school communities that build human connections and let students know there is a village to help them succeed as they develop their capacities for attention, calming, emotional regulation, and compassion.

We cannot go back to business as usual. Collective efforts to recover from one of the greatest trials of our lifetimes will require educational and design strategies to address societal challenges. Fostering positive relationships, student agency, social/emotional learning, and critical thinking can help students rise above the trauma they have experienced. Now more than ever, we need to think better, design better, and do better. Our students deserve it as we help build a more lasting and healing legacy to address societal changes.

Victoria Bergsagel is an educator passionate about designing schools where all students achieve. She is the founder of Architects of Achievement helping people realize their hopes and dreams for their communities and children. Harvard-educated, Victoria has been a teacher, counselor, principal, and school district administrator and worked with scientists to conduct, integrate, and interpret the world’s leading brain research. She co-authored the book Architecture for Achievement, has published several articles, lectured at Harvard, USC and Berkeley, served on the national AIA school design jury, and advised the Obama White House on STEM education. Four of her projects have been named James D. MacConnell Award finalists. Victoria is renowned for her strategic approach, heart for equity, and ability to bridge the worlds of education and architecture.

THE AMERICAN RESCUE PLAN

The pandemic illuminated key shortcomings and inequalities in our nation’s infrastructure. Many communities were able to adapt to the pandemic with remote or socially distanced options for work, education, and health care. Others lacked the infrastructure to do so, compounding disruptions and exacerbating inequalities.

Recognizing these challenges, the $1.9 trillion American Rescue Plan provides an unprecedented level of federal aid. While $129 billion is slated for K–12 education, most of that money ($123 billion) is to help students and educators deal with the various impacts of the pandemic—including trauma-related care. Most will be distributed through the federal Title I formulas for disadvantaged students. The bill also includes $350 billion for state, local, territorial, and tribal governments, and $7 billion to provide students with internet service and connected devices. Districts must spend the relief funds by September 2024. States can spend money on construction costs and school facility improvements to reduce the risk of virus transmission and support student health needs. While trauma-informed care and design opportunities are not specifically spelled out in the American Rescue Plan, the need for enhanced care and design is clearly an outcome of the pandemic. It is now a challenge to grant applicants to shape requests to deal with these pressing problems. We can re-envision and rebuild.

MOVING FORWARD

Talking about unfinished learning is appropriate because students cannot lose what they did not have. Jay Mehta, a Harvard professor suggests we need to “Marie Kondo” school culture. From curriculum to learning spaces, schools need to find ways to prioritize. Students have missed school and we need to prioritize retaining what brings joy, discarding what is non-essential. We should also be careful about our terminology. Rattling off the term “learning loss” sends students signals that they are somehow at fault. We need to support students as they learn from their failures.

CONCLUSION

We need to raise awareness of the wide-ranging effects of trauma. Students who once connected with a trusted adult and now feel bereft need our help. Educators do not have to dig deep into trauma to effectively respond with empathy and flexibility. Collectively, as a society, we can design classrooms and school communities that build human connections and let students know there is a village to help them succeed as they develop their capacities for attention, calming, emotional regulation, and compassion.

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Lorne McConachie, a Principal at Bassetti Architect, has over 40 years of experience planning schools that focus on personalized, collaborative spaces that support differentiated learning, engaged communities, and sustainable connections to place. Lorne co-authored the book Architecture for Achievement and has several published articles. His work has been recognized with several school building design’s designated A4LE’s MacConnell Award Winners. Under his leadership, Bassetti has embraced design strategies for changing curricula, enhancing communities, environmental stewardship, and technology integration.