USING EVIDENCE BASED DESIGN TO DEVELOP AN INCLUSIVE CLASSROOM

HONORS THESIS DEFENSE

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Guiding Principles: Evidence Based Design

• Evidence Based Design is the method of developing a built environment based on credible research to achieve the most effective design.

• The design of a space is critical to the function, mood, efficiency, and effectiveness of an environment, making it crucial especially in educational facilities.

• Encourage a balance of independent study, group study, and social interactions to provide the optimal learning environment for every student.
Guiding Principles: Inclusive Classroom

• An inclusive classroom is a general education classroom that also includes students with disabilities.

• Support students on the Autism Disorder Spectrum in an inclusive classroom environment, while also fulfilling the needs of the general education students and the educator.
  • Approximately 1 in 68 children has been diagnosed with autism spectrum disorder (ASD) according to estimates from CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network.
Objectives

• Accessibility/Mobility
  • Pertains to building elements, heights and clearances implemented to address the specific needs of children with different needs, including sensory sensitivity.

• Aesthetics
  • Pertains to the physical appearance, scale and image of the interior elements of the classroom, including wall space for display, natural lighting, universal design, and texture.

• Functional/Operational
  • Pertains to functional programming-spatial needs and requirements, system performance as well as durability and efficient maintenance of interior elements.

• Secure/Safe
  • Pertains to the physical protection of the students and educators from man-made and natural hazards.
Evidence Based Design: Interviews

Highland Park Elementary:
Stillwater, Oklahoma
Mrs. Charla Balfanz
Special Education
Mrs. Claire Gage
Fourth Grade Teacher

Richmond Elementary:
Stillwater, Oklahoma
Mrs. Andrea Garrett
Second Grade Teacher
4 students on spectrum
Evidence Based Design: Interviews

Challenges:
• Limitation of space
• Sound and acoustics
• Storage
• Line of sight

Catering to students on the Spectrum:
• Change and transition
• Cool down zone
• Safezone
• Calming effects
• Sensory

Everyday Needs:
• Technology
• Lighting
• Furniture
• Safety
The Third Teacher: 79 Ways You Can Use Design to Transform Teaching and Learning

- 75% of America’s six million students with disabilities are being educated in the general education classroom.
- “Design with words: What you say influences what you think and what you do.”
- Keys for inclusive classrooms:
  - Social experiences
  - Nurturing climate
  - Activity-based
  - Sensory-rich
  - Developmentally appropriate
  - Flexible
“Effects of Visual Activity Schedules on Independent Classroom Transitions for Students with Autism”

- Students with AD have a hard time with verbal cues
- Visual cues make transitions easier
- A visual calendar and schedule need to be in clear sight
“Lasting Effects of Creating Classroom Space: A Study of Teacher Behavior”

- Kids view space horizontally, while adults view it vertically.
- Arranging desks in clusters encourages exploration.
- Students select their own space to work based on three criteria:
  - Need for a solid work surface
  - Physical comfort
  - Autonomy
“Classroom Design for Living and Learning with Autism”

- Kids with autism are extremely sensitive to any sensory element. Achieve flexibility with lighting, furniture, and furniture layouts.

- Keys to a Successful Inclusive Learning Environment
  - Non-Threatening
  - Non-Distracting
  - Predictable
  - Understanding
  - Controllable
  - Safety

Evidence Based Design: Vogel, Clare L, 2008
Programming

- Cubby/student storage area
- Safe zone/quiet zone for ASD students
- Closet/lockable safety room for teacher storage and emergency shelter
- Closed storage for teaching materials
- Sink/water fountain
- Library with book display
- Open space for activities
- Projector/whiteboard space with podium
- Teacher desk/work area
- Teacher/student interaction area
- Students work area/desks
Rooms that implement zoning and can be easily reconfigured meet the needs of the most diverse group of learners.
Furniture Plans

Visibility:

Teachers have 180 degree peripheral while students have 120 degree peripheral.
Lighting Plan

LED 2x2 Troffer
- Dimmable
- Color Changing
- Daylight Sensing
- Diffused Lens
Floor plan and Elevations

- Storage Millwork Typical
- Smartboard Mounting Typical

Floor plan:
- Classroom
- Store/Safe
- Cubby

Dimensions:
- 38' - 8 1/2"
- 7' - 8 1/2"
- 31' - 0"
- 12' - 4"
- 17' - 4"
Furniture

- Fidget Seating
- Activity Table
- Multi-functional Panels
- Adjustable Height Whiteboard
- Movable Podium
- Student Desk
Renderings

Group Activity Center

Daily Activities and Calendar

Storage and Sink with Counterspace

Height Adjustable Smartboard

Teacher Workstation

Student Technology Center