supportive learning: live, grow.

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Problem Statement

How can design facilitate and enhance learning for students with autism?
7 Principles of Universal Design:

- Equitable use
- Flexibility in use
- Simple and intuitive function
- Perceptible information
- Tolerance for errors
- Low physical effort for all users
- Appropriate size and space for approach, reach, manipulation and use

http://upload.wikimedia.org/wikipedia/commons/0/08/3D_Full_Spectrum_Unity_Holding_Hands_Concept.jpg
Benefits of Play:

Collaborative skills
Confrontation and resolution
Moral understanding
Negotiation
Language and language comprehension
Experimentation
Problem solving
Creativity
Aesthetic appreciation
Fine and gross motor skills

http://childrenandnature.ning.com/

design for children: a child’s world
Schools

“The school of tomorrow will be a garden city of children; that is to say a place of many shelters – a township, if you will, of small schools built as one community but with every shelter organized as a separate unit designed to meet the needs of children of specific age or stage of life”

– Margaret McMillan, a British pioneer of nursery education in 1928

Robert Owen - 1771-1858
Children as active participants of their education

Friedrich Froebel - 1782 - 1852
Naturphilosophie: stressed children’s need to learn from nature
Froebel play system: embrace the “gifts and occupations of children”
Encourage children to see and create their own interpretations of the world artistically
Coined the term “kindergarten” - school as a metaphorical “garden”

Rachel and Margaret McMillan - 1859 - 1917, 1860 - 1931
Fundamental belief that children have a basic need for fresh air and physical games
Nature-based activities encourage socialization

http://www.lerarenblogs.be/
Twentieth Century Tendencies

Industrialization - Efficiency and Machine Aesthetic

Mechanized place of learning

Function

Large, impersonal schools were the standard

Experts believe large, factory-style schools detract from a strong community and individual identity
| Failure to develop normal socialization | Do not interact with others well or at all  
Difficulty understanding and expressing emotion  
Few or unusual signs of attachment  
“seem to live in a world of their own” |
| Disturbances in speech, language, and communication | 40% do not speak at all  
Echolalia common: parrotlike repeating  
Little to no understanding of symbolic gestures  
May appear to have little control over pitch or volume  
Little understanding of social conventions  
Often become “stuck” on a topic or single-minded |
| Abnormal relationships to objects and events | “need for sameness”  
“predictability and routine”  
Unusual play  
Little imaginative play  
With time and treatment, children may learn to use toys or objects for their intended use |
| Abnormal responses to sensory stimulation | Tendency to “overattend to some stimuli and underattend to others”  
**Difficulty “filtering out” useless stimuli**  
**Overstimulation or focus on certain stimuli may cause distress or behavioral issues**  
Fascination with lights, color patterns, logos, shapes, or configuration of letters and words  
May be preoccupied scratching or rubbing certain surfaces  
May furiously avoid certain textures or colors  
**May respond to motion or pressure in unusual ways**  
Appear to use taste and smell over hearing and vision to explore |
| Developmental delays and differences | 75% score in the range of mental retardation  
**Poor generalization** |
<p>| Begins during infancy or childhood | Inherent lifelong disability |</p>
<table>
<thead>
<tr>
<th>Social Skills</th>
<th>Communication Skills</th>
<th>Self-Help Skills</th>
<th>Motor Skills</th>
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</thead>
<tbody>
<tr>
<td>Engagement, the ability to</td>
<td>Using alternative communication systems i.e. sign</td>
<td>Caring for one's belongings i.e. making the bed,</td>
<td>Riding a tricycle</td>
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<td>remain focused and responsive</td>
<td>language or pictures</td>
<td>washing clothes</td>
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<td>to a person or object</td>
<td>Basic attending skills i.e. eye contact</td>
<td>Grooming and personal hygiene</td>
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<td>Asking peers for assistance</td>
<td>Using one-, two-, three-word sentences</td>
<td>Master concepts of recurrence, negation, and</td>
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<td>Waiting turns</td>
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<td>affirmation</td>
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<td>Responding to peers when they</td>
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<td>Using objects and/or action words</td>
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<tr>
<td>initiate social interactions</td>
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<td>Imitating others' actions, words, sounds</td>
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<td>Initiating social interactions</td>
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<td>Cutting with scissors</td>
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<td>Balance</td>
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<td>Using the toilet</td>
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<td>Tying shoes</td>
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<td>Folding paper</td>
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Issues to address

Unique responses to sensory stimulation - typically over-sensitivity

Poor generalization: the inability to use the same skills in different areas, places, situations or with different people

Poor communication and social skills
Theories: Balance Neuro-Typical and Sensory-Sensitive
Parti
Flood Issues

- river
- preliminary FEMA floodway
- preliminary FEMA 100 year floodplain
- site
Structure

Overall Structure: Concrete Columns, Timber Columns, Two-Way Concrete Slabs

Wall Structure: CMU base, steel studs

Non-Structural Materials: Cedar siding, fieldstone

Retaining walls sheathed in fieldstone become sensory walls
Ground Floor: 40 ft.
1st Floor: 45 ft.
Group Activity / Cafeteria / Flex Space

Outdoor Storage

Kitchen

Accessible Green Roofs

Classrooms

Quiet Library Spaces

Therapy Rooms
Mechanical and Services

Serves Zone 1

Serves Zone 2

Janitor Closet
HVAC Plan: Variable Air Volume (VAV) System

Zone 2: School

Zone 1: Residential

Supply
Plumbing
VAV Fan and Coil Box
Murocaust Wall and Hypocaust Floor
Floodwalls

Protects to 45 Ft.

Protects to 43 Ft.
26 Feet
31 Feet
36 Feet
40 Feet
Ground Floor: 40 ft.