Using Gardens to Engage Exceptional Students in Multisensory Learning Opportunities

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Students Served:

- Attention Deficit Disorder
- Specific Learning Disabilities
- Autism Spectrum Disorder
- Hearing Impairment
- Intellectual Disabilities
- Sensory Processing Disorder
- Genetic Disorders
- Neurological Disorders
- Neuromuscular Disorders
- Visual Impairment
- Speech/Language Impairment
- Traumatic Brain Injury
- Emotional Disabilities
- Multiple Disabilities
Prevalence of students aged 21 diagnosed with a disability is:

- 14 % United States
- 15 % Bibb County

Drop-out rate for students with disabilities is 64.5% nationwide.
Common Behaviors Associated with Students Who Cannot Regulate

- Off task behavior
- Non compliance
- Difficulty with transitions
- Difficulty with completions
- Difficulty following directions
- Excessive shouting
- Aggressions
- Inappropriate social behaviors
- Elopement
- Self injurious behavior
Typical Classroom Environment

cookie cutter learning

- Chair
- Desk
- Paper
- Pencil
Sensory Overload

- Fluorescent lighting
- Uncomfortable seating
- Noisy
- Visually distracting
- Unpredictable routine
- No built in breaks

This is not meeting students’ sensory needs and causing unnecessary and preventable stress. This in turn leads to behavioral outbursts and poor participation in class assignments.
Typical Styles of Learning

- 20% of the population learns best through **AUDITORY**
- 40% of the population are **VISUAL** learners
- 40% are **KINESTHETIC** style learners

When all 3 styles of learning are incorporated into classroom learning, the needs of each student are met and everyone has equal opportunity to excel without receiving pull out services.
Why kinesthetic/multisensory learning

Our students have difficulty making connections between new information and what they already know.

Multisensory instruction helps kids tap into their learning strengths to make connections and form memories. It allows them to use a wider range of ways to show what they’ve learned.

“Tell me and I’ll forget,
Show me and I may remember,
Involve me and I’ll understand.”
How many are there?

7 sensory systems

**Classic 5**
- Sight
- Sound
- Smell
- Touch
- Taste

**Vestibular**
contributes to balance and orientation in space. It is the leading system informing us about movement and position of head relative to gravity.

- Balance
- Eye movement for tracking objects and reading

**Proprioceptive**
the position, location, orientation, and movement of the body muscles and joints. Proprioception provides us with the sense of the relative position of neighboring parts of the body and effort used to move body parts.

- How much pressure is needed to hold a pencil
- Amount of force needed

Therapist use slightly different terms: visual, auditory, olfactory, gustatory, and tactile
Language Systems

BROCA'S AREA
helps in producing coherent speech.

WERNICKE'S AREA
helps in speech processing and understanding language.
Outdoor/hands-on Activities

- Release the trust/communication hormone **oxytocin**
- Counteracting the anxiety hormone **cortisol** (which shuts down communication)

Promotes the child’s ability to learn.
Receptive language

following directions, spatial concepts (over, under, behind), sorting/categories, vocabulary
Expressive language

making requests, expressing ideas, communicating wants and needs, naming, using phrases and sentences

In...not today... but before today... my...teacher let me the thingie... so I won-ded!
OUTDOOR SENSORY EXPERIENCE

We miss out on so many readily available sensory experiences by not getting our kids outdoors!

- Sound - wind chimes, birds chirping, leaves rustling
- Sight - colors of flowers and leaves, scavenger hunts
- Touch - stepping stones, wet soil, wind blowing your hair
- Taste - taste of garden grown fruits and vegetables
- Smell - smell of fresh flowers, grass or rain

"Increasing evidence demonstrates the many benefits of nature on children’s psychological and physical well-being, including reduced stress, greater physical health, more creativity and improved concentration. "
Sight and Sound

BACK YARD SCAVENGER HUNT

- ant
- brown leaf
- butterfly
- clover
- cloud
- purple flower
- pinecone
- ladybug
- bird
- grass
- green leaf
- yellow flower
- feather
- rock
- sticks
Taste and Smell
Forget Cookie Cutter Classroom

**Adaptive Seating**
- Wiggle Cushions
- Balance boards for stand up desks
- Ball Chairs
- Kneeling Mats
- Weighted Lap Pads

**Sensory Lighting**

**High Contrast**

**Routine**
Materials:
Fine Motor Skills

These skills are necessary to be successful in the classroom and all across the school environment. Without adequate fine motor skills our kids struggle to perform everyday living tasks such as: dressing, eating, toileting and writing.

Self help skills
Strength
Cutting
Handwriting
Bilateral Coordination and Motor Plan

Bilateral coordination is the use of both sides of the body together to perform a task. The practice of using both the right and left sides of the body together is important for activities such as: writing, cutting, typing, throwing and catching a ball, riding a bicycle, and most academic and gross motor activities. Good bilateral integration is an indicator that both sides of the brain are communicating effectively and sharing information. When this is not present academic demands become more difficult.
Sensory Box Ideas

Dry Textures

- rice
- beans
- split peas
- sand
- salt
- corn meal
- coffee grinds
- Birdseed
- dirt
- flour
- cotton balls
- Easter grass
- oatmeal
- pasta
- jelly beans
- seashells
- acorns
- popcorn kernels

Wet Textures

- water beads
- shaving cream
- jello
- pudding
- cooked oatmeal
- putty
- silly string
- cooked pasta
- slime
- bubbles
“John Deere That’s Who!”

symbols for book adaptation

- Print out and laminate
- Attach symbols in book using velcro dots
- Students of all ability levels can use picture communication symbols to answer comprehension questions
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