

Using exercise and activity in physical education to reduce problem behavior and increase student engagement: an evidence based practice



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Using exercise and activity in physical education to proactively reduce problem behavior and increase student engagement: an evidence based practice for students with autism spectrum disorder (ASD).

Many teaching strategies and interventions exist for students with autism spectrum disorder (ASD), however, scientific research has found only 27 of these interventions to be effective. Exercise was identified in 2014 as one of the 27 evidence based practices.

This session will explore the use of this evidence based practice and help physical educators to understand student behavior in the context of sensory processing disorders, and assist them to select activities to proactively improve behavior and engagement and help students to "calm". Examples of student "behavior", activity solutions, and a variety of ways in which physical education programming has become an integral part of student behavior plans and school days will be shared.

<http://fpg.unc.edu/sites/fpg.unc.edu/files/resources/reports-and-policy-briefs/2014-EBP-Report.pdf>



“The increased prevalence of ASD has intensified the demand for effective educational and therapeutic services, and intervention science is now providing evidence about **which practices are effective.**”

Exercise: 2014 added as EBP due to sufficient empirical evidence

Many interventions exist for autism spectrum disorder (ASD). Yet, scientific research has found only some of these interventions to be effective. The interventions that researchers have shown to be effective are called evidence-based practices (EBPs).

Increase in physical exertion as a means of reducing problem behaviors or increasing appropriate behavior

What's exercise do for your brain?



- Clinical trials show that exercise is as effective as certain medications for treating **anxiety and depression**
- Exercise ramps up levels of **serotonin**, which calms us down and enhances our sense of safety
- Moving the body also triggers the release of gammaaminobutyric acid (GABA), which is the brain's major inhibitory neurotransmitter (and the primary target for most of our **antianxiety medicines**).

Sensory Processing Disorder (SPD)

Sensory Processing Disorder (SPD) acts like a neurological "traffic jam" that prevents certain parts of the brain from receiving the information needed to understand and respond to sensation. People with SPD misinterpret everyday sensory information, such as touch, sound, and movement. They may **over-respond** and find clothing, physical contact, light, sound, food, or other sensory input unbearable. Or they may **under-respond** and show little or no reaction, not even to pain or extreme hot and cold. A third option is **sensory-motor problems**, including weakness, clumsiness, awkwardness or delays in acquiring gross and/or fine motor skills.

Understand student behavior in the context of sensory processing disorders

Sensory processing ... the way the nervous system receives messages from the senses and turns them into appropriate motor and behavioral responses..."

Sensory Processing Disorder... is a condition that exists when sensory signals don't get organized into appropriate responses.

<http://spdfoundation.net/about-sensory-processing-disorder.html>



Understand student behavior in the
context of sensory processing disorders

A Child's View of Sensory Processing

WATCH THIS VIDEO!

<https://www.youtube.com/watch?v=D1G5ssZIVUw>

Sensory Processing Disorder and ASD

More than 90 percent of children with autism spectrum disorders (ASD) demonstrate unusual sensory behaviors.

"When a child finds it difficult to process and act upon information received through the senses, this is called sensory processing disorder (SPD), a neurological condition which often leads to clumsiness, anxiety, depression, behavioral problems, and even learning issues."

<http://www.medicaldaily.com/sensory-processing-disorder-and-autism-linked-decreased-white-matter-connectivity-brain-295762>

Connect "behavior" to communication
sensory need...issue?
...connect to activity and FUN

OBSERVE carefully...use your sensory processing "lens"

What is the student doing? Hypothesize

What do you think the behavior means?

What might he/she be "asking for"?

What might the behavior indicate re: sensory needs?

What do we have in our PE bag of tricks to meet these
needs?

What might these behaviors
look like in the gym?

What's she saying?



What is he saying?



Get me out of HERE!

ANXIETY?

People who are anxious tend to immobilize themselves — balling up in a fetal position or just finding a safe spot to hide from the world.

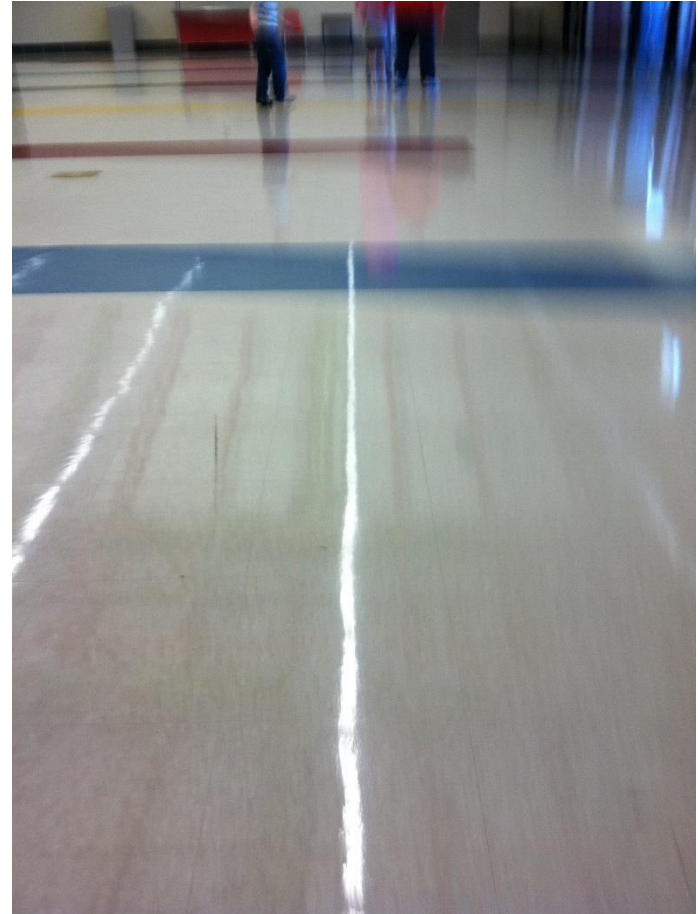
What are they saying?



Too Loud!

YIKES!

looks like **ICE**



Small Space? Pressure?



BEHAVIORS? or

FOLLOWING DIRECTIONS?



OH SHIT!
YOU DID IT
JUST LIKE I
TOLD YOU TO...

Behaviors???? or NEEDS????

Spinning Laps

Foot stomping or foot slapping when moving

Body slamming walls or mats

Jumping and crashing to the floor

Jumping and flapping

Rocking

Head banging

Grounding...sliding on the floor

Activities for FUN, action and exercise

What works???

GREAT instructors

GREAT instructional strategies: ie EBP's

FUN and engaging equipment

ACTION!!!

PRESSURE seekers

Mat Sandwich

Fitness Ball Squish

Bolsters

Massagers...Massage Chairs



Balance

River Rocks
Railyard Fitness
Razor Scooters
Land Paddles
Rollerskating
Obstacle courses
Indo Boards
"Perching"



Rocking and Swinging

Net swings

Hammock swings

Airwalker

Video Chair



Body Support

Ladders

Chinning Bars

Stall Bars

Climbing Walls

Uneven and Parallel Bars

Climbing Rope

Playground Equipment



Spinning and Rolling

Dizzy Disc

Astronaut Board

5-gallon bucket lid

Mat car spins

Bolster

Spooner Board

Ankle Spin



Fitness Room Equipment

Step Boxes
Treadmills
Elliptical Machines
Stair Steppers
Spin Bikes (with videos!!)
Recumbent bikes
Weight Machines
Moon Walkers
Resistance Bands
Foundational Fitness wall train system
Medicine balls
Rowing Machines



Heavy Work/Resistance

Squairs

Mat folding, moving

Mat cars

Bear Walk with scooters

Pulling/pushing friends on scooters or parachutes

Snow shoes

Medicine balls

Put equipment away (railyard, bowling mats...)



Stomping...Jumping...Bouncing...Kicking

Step n Launch Ball Stomper
Jogging Tramps/rebounders
Pogo Sticks
Air Pogo
Fitness Balls
Jump DOWN from height
Kicking: Wavemaster
"Wrecking Ball"



Physical Education can be an integral part of a behavior plan

- Run laps with every class...scheduled vigorous activity every 40 minutes or as needed
- Join an older class for warm ups
- APE first thing in the morning...shake off the bus ride
- Scheduled prior to core (reading/math...difficult subject)
- Access to fitness room throughout the day
- DAILY physical education...prescribed in the IEP
- Individual PE teacher within GPE class

Integrated into classroom

Stand up desks

Wobble stools

Cushioned pads to stand on or sit on

Rocking chairs

Massage Chairs...iJoy

Swings for bus transition

Variety of seating...rolling, bouncing,

Keymakers: If you know a child with autism, you know ONE child with autism



Some people see a closed door
and turn away

Others see a closed door, try
the knob, if it doesn't
open, they turn away

Still others see a closed door,
try the knob, if it doesn't
open, they find a key, if the
key doesn't fit, they turn
away

A rare few see a closed door, try
the knob, if it doesn't open,
they find a key, if the key
doesn't fit, they make one