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Exercise: An Antecedent Based Intervention to Address Sensory Motor Needs and Learning Readiness

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Research (selected)

- “Exercise (ECE) is a strategy that involves an increase in physical exertion as a means of reducing problem behaviors or increasing appropriate behavior while increasing physical fitness and motor skills.”
- “ECE can be used effectively to address behavior, school-readiness, academic, and motor skills.”

DSM-5 ASD Diagnostic Criteria includes:
- Hypo (under) or hyper (over) reactivity to sensory input or unusual interest in sensory aspects of the environment.
- Children with ASD have documented sensory processing and motor impairments. Positive effects from sensory motor interventions including improved play, social interactions and decreased sensitivity. (Baranek et al., 2002)

Marshall Preschool Autism Programs

- Leveled programs
  - Highly Structured
  - Structured
  - Generalized
  - Kindergarten

- Philosophy and practice of Interdisciplinary Team Collaboration
  - Autism Specialist/Behavior Analyst
  - Occupational Therapist
  - Speech Language Pathologist

Programming

- Formal in-service modules for teachers and staff (monthly, 2010-2014). Written and presented by the therapy team
- Individual classroom collaboration meetings (approx. Monthly).
- Interdisciplinary team classroom consultations – “push-in”

Current Model: MOTOR THRU THE DAY

Built directly into the daily curriculum
Roughly 12 times per day over a total of 200 minutes of instruction
1. Circle time (2x per day – 60 mins) - Exercises
2. Stations (“Get Ready” Exercises x 6 stations)
3. FM Exercises (FM station & art projects)
4. FM / GM lessons (approx 20 mins stations)
5. Structured Recess – 2x per day = 60 minutes total

Information for Families

Motor Development

Frequently Asked Questions (FAQs)

Q: When does sensory motor exercise programming happen?
A: Throughout the school day! Be on the lookout for sensory motor activities including: exercises in circle time, “Get ready to learn” exercises in stations, motor breaks, recess activities, and specific motor development lessons. Sensory motor programming happens multiple times per day!

Q: Where does sensory motor exercise programming happen?
A: In the classroom, during group instruction, in learning stations and on the playground.

Q: How does sensory motor exercise programming happen?
A: Interdisciplinary team collaboration is the key. The Occupational Therapist (OT) is a member of our team and provides sensory motor support to each classroom. The OT consults with each classroom on a regular basis and provides formal in-service training to our teachers and staff regarding sensory motor / exercise needs and classroom interventions to support student learning.

Q: What should I do if I have more questions?
A: Contact your child’s teacher with any questions to support student learning.

Circle Time Exercises

- Circle time was analyzed to determine how much time students spent “sitting”
- All exercises (gross, fine and oral motor) done in standing position
- Sensory motor “exercises” designed to be peppered throughout circle time:
  - Exercise
  - Book
  - Exercise
  - Song
  - Exercise
  - Etc
- Sensory motor exercise visuals included in circle time schedule and/or on choice boards

Get Ready Exercises

At the beginning of each rotation, students participate in get ready exercises.
- Helps students get ready to learn.
- Exercises repeated as needed throughout the lesson and sometimes at the end to facilitate transition.

Fine Motor Exercises

- Done before lessons involving fine motor skills

Recess

- Formal inservice training on structured and purposeful recess for all teachers and staff.
- Lesson plans and fidelity checklists developed.
- Visual supports and variety of sensory motor exercise/social play emphasized. Teaching ratio maintained.
- Activities include:
  - Visually structured gross motor obstacles using playground
  - Chalk
  - Bubbles
  - Parachute
  - Tricycles

Break / Self-Regulation

- Use of visuals taught throughout program
- Sensory-Motor Exercises can be used responsively because they are integrated throughout the day.

Future Directions

- Ongoing program implementation via interdisciplinary program collaborative approach
- Formal student outcome measure data collection
- Classroom data
- BIP data
- IEP goals

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