

Inclusion in Preschool

with Occupational Therapists and Physical Therapists

Community of Arizona School Therapists
COAST

WHO WE ARE:



Community of Arizona School Therapists (COAST)

Formerly called the Arizona Community of Practice of the Recruitment and Retention of Related Service Providers.

Introductions



Who do we have here?



- ❖ **Participants will understand and describe 2 sensory/motor systems and their impact on success in the educational setting.**
- ❖ **Participants will identify 2 activities that can be embedded into the preschool day to develop a student's sensory/motor systems.**
- ❖ **Participants will describe 3 benefits to collaborating and co-planning with school based therapists.**

**What do
Occupational
Therapists and
Physical
therapists do
anyways**



Physical Therapists

- In school access and development of foundational motor skills...

Occupational Therapist

- Not just motor, although the focus today is on sensory motor..
- Look at student function and performance.
- Play with peers
- Social interactions
- Adaptive skills

The Foundation

- DNA
- Reflexive System
- Tactile System
- Vestibular System
- Proprioceptive System
- Visual and Auditory System



The Foundation

- Where learning occurs as each of the systems are developed
- Can't “see” learning occurring
- Skills can become automatic



Motor Performance

- As the foundational systems mature, we begin to see motor responses, motor patterns, and ultimately motor skills develop
- Speaking, gesturing, writing
- Movement skills demonstrate what we have learned internally
- Performance of movement is not learning



Sitting in a chair – Motor Skill

- Child on with developed sensory systems can usually do easily
- Underdeveloped foundational systems
 - Observe, calculate, consciously control each system
 - Takes much effort to just sit in a chair
- Add the task of writing



Your Turn

- Write your name
- Write your name while balancing on one foot
- Write your name while hopping on one foot

We know it matters..... But now WHAT??

- Collaborate with your OT and PT to identify which systems may be need to be developed further and create activities to facilitate growth in those systems

Reflexive System



Tonic Labyrinth Reflex

Lack of concentration, difficulty sitting upright and motion sickness

Symmetrical Tonic Neck Reflex

Walking on toes, poor posture and co-ordination

Moro Reflex

reactive and sensitive (common in ADHD)

Fear Paralysis Reflex

Withdrawn, shyness, tantrums, anxiety

Asymmetrical Tonic Neck Reflex

Easily distracted, poor co-ordination and messy handwriting

Juvenile Suck and Rooting Reflex

Speech, articulation and dental problems

Spinal Galant Reflex

Trouble sitting still and poor bladder control

Palmar Reflex

Jumbling up letters, poor writing expression and spelling, slouching at the desk/computer



• Important in infancy but they provide a window of opportunity

• Most disappear as we learn

• If reflex does not move through a faulty pattern

Activities to integrate reflexes

- Rocking Horse
- Giraffe Stretch
- Superman
- Popcorn
- Wall Lean



ROLL a POSITION
BENEFITS OF USING THE ROLL A POSITION GAME

- 1. The main objective of this game is to develop children's understanding of position.
- 2. The main objective of this game is to develop children's understanding of position.
- 3. The main objective of this game is to develop children's understanding of position.
- 4. The main objective of this game is to develop children's understanding of position.

GAME SET UP

1. Print game cards on heavy paper or laminated paper.
2. Print game cards on heavy paper or laminated paper.
3. Print game cards on heavy paper or laminated paper.

HOW TO USE THIS

1. Print game cards on heavy paper or laminated paper.
2. Print game cards on heavy paper or laminated paper.
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ROLL a POSITION
INSTRUCTIONS FOR USE:

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SPIN a POSITION
BENEFITS OF USING THE SPIN A POSITION GAME

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ToolsToGrowOT.com

ONE-HALF KNEEL

4-POINT QUADRUPED

SIDE-LYING

POSITION
Picture
CARDS

INSTRUCTIONS:

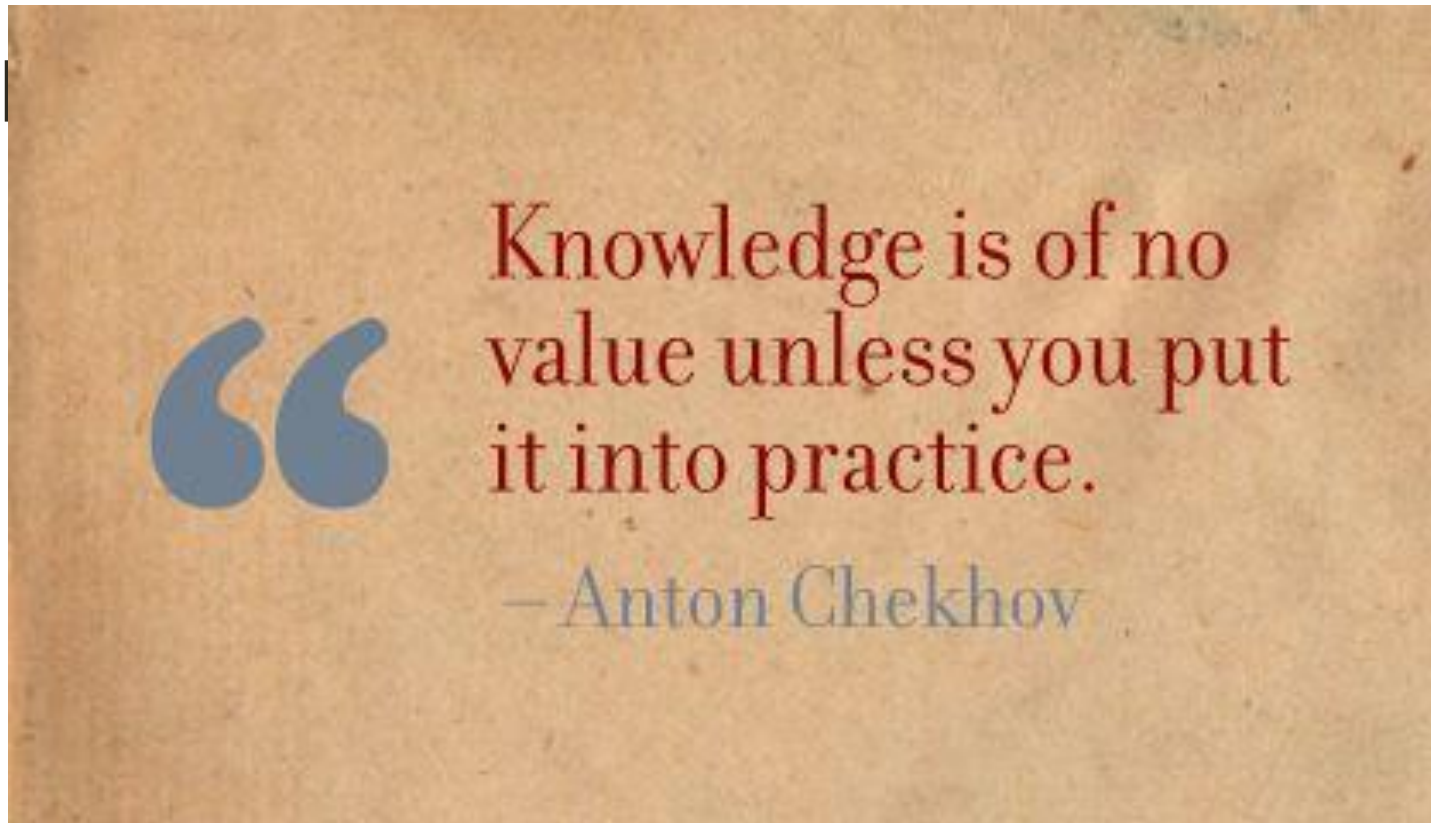
1. Print cards on heavy paper or laminated paper for durability.
2. Cut out each individual positioning card.
3. Child has to assume the same position as the picture depicted on the card.

STANDING

TALL KNEEL

SIDE SIT

Tools to Grow



(think how to embed as a part of the curriculum, into your current routine, themes, literacy units, etc.)

Tactile System

- Protective Role
 - Warns us about danger
 - Severe degrees of temperature and pain
 - Signals flight, fright, or fight
- Discriminate Role:
 - Provides information regarding size, texture
 - Deep pressure, vibration, temperature and touch
- Dysfunctions cause either over or under reaction to touch

OUCH!



Activities for Tactile System

- Deep pressure
- Tactile tunnel
- Messy play
 - Squishy (playdough, clay)
 - Palm/hand paint
 - Goop
- Oral Activities
 - Blowing bubbles, straws, horns
 - Chewing gum, latex free tubing
 - Sucking through a water bottle with straw



Brain Food

- Sweet things = calming
- Sour things = alerting
- Spicy = more alerting
- Hot, bitter = most alerting
- Sucking on candy, popsicles = calming
- Chewing = concentration
- Crunchy = alerting



MAKE

*things
Happen*

Vestibular System

- Provides a sense of movement and understanding of gravity
- First sensory system to develop
- Structure – inner ear
- Function
 - Maintain equilibrium and postural tone
 - Head position and direct the eyes
 - Orient us in space



Vestibular system

- Rocking a baby
 - Provides input to the vestibular system
- “Lost in space” child
 - Will begin to bounce or not move at all
- Connected to Reticular Activating System
 - Alerting system and can become over-stimulated
 - Creating on edge child



Activities for Vestibular System

- Calming
 - Slow rocking
- Motivating
 - Spinning

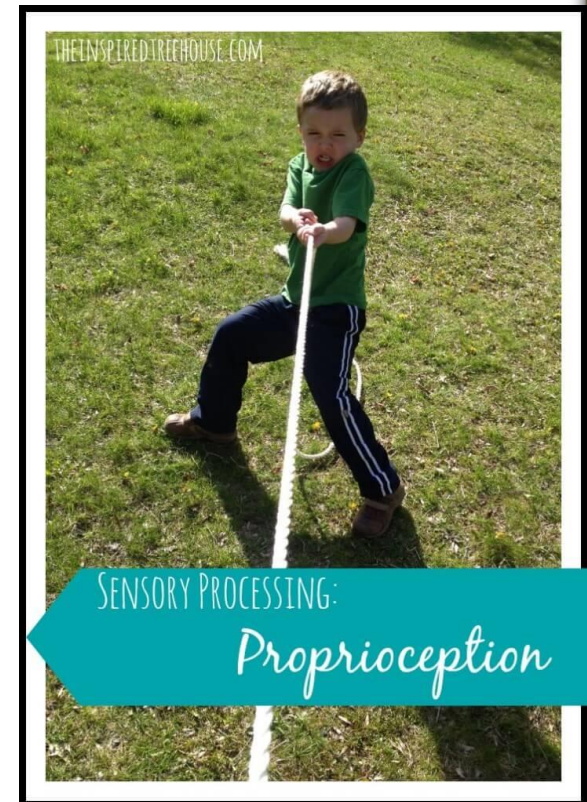


- Spinning
- Rolling
- Swinging
- Rocking (balance boards)
- Sliding



Proprioceptive System

- Understanding unconscious information from muscle and joints
- Provides information about weight and density of object
- Provides information on how much muscle force to exert
- Wrapping legs around chair and W sit
- Noodle positions



Activities

For Noodles: stimulating and organizing

For Bounces: calming and organizing

- Heavy Work
- Pushing/pulling
- Lifting/carrying
- Jumping/hopping/skipping
- Moon Shoes
- Climbing
- Weights
- Alternative seating
- Foot massage



Vestibular and Proprioceptive System

**If you fail to plan,
then you plan to fail.**

Visual System



- Heavily interconnected with the other systems
- Provides knowledge of surrounding and informs about movement
- Vestibular and proprioceptive system work closely with vision
- Muscles and tissue of the eye have to work hard to focus on near-point activities

Activities

- Teaching letters and numbers with manipulatives
- Using a floor grid
- Eye tracking activities
- Eye – hand coordination



Auditory System

- Interconnected with vestibular
- Learning and processing difficulties may coincide with movement, postural, and motor control difficulties
- Auditory information can be hard for our brain to organize
- Sounding out words and spelling



Activities

- Sound cans
- Slow rhythmic sounds
- Matching clapping patterns



Visual and Auditory System

Share out one idea you have to incorporate an activity that promotes development of the visual or auditory system.

Motor Planning

- Process that allows us to use our bodies in skilled ways
- Conceiving, planning, and performing a new skill
- Auto pilot needs to be in control of previous systems
- Motor planning → Motor Response → Motor pattern → Motor Skill

Activities that involve multiple systems

Throw different object into a box 5 ft away ((yarn, tennis ball, rock, bean bag, paper wad)

- Visual: Did it land past the box?
- Auditory: Did it hit the inside of the box?
- Tactile: How will this smooth ball travel?
- Vestibular: How far forward should I step?
- Proprioceptive: How heavy is the ball?
- Reflexive: Did I follow through?



Behavior and the Sensory Systems

- Tactile: may overreact to a stimulus
- Reflexive: ATNR still present
- Proprioceptive: slow to calculate, so he turns his body and his arms “flings”
- Vestibular: slow to calculate, turns quickly and Fright, Flight, Fight kicks in
- Auditory/visual: is different from what he felt

- Heavy work and rocking can be beneficial in calming and providing relief to a stressed child

DID YOU KNOW....?

- Big muscles (gross motor-core) develop before small muscles (fine motor-hands) (Case-Smith, 2001; Therapy Builder, 2001)
- Proximal control/Postural control (core strength) is an important factor for efficient distal movement (Smith-Zuzovsky & Exner, 2004)
- Movement tends to narrow attention to target tasks (Blackmore, 2004).
- Crossing the center of the body promotes the use of two hands (Case-Smith, 2001)

Handwriting Readiness: Preparing for the Kindergarten year

(Lamme, 1979; Benbow, Hanft, and March, 1992)

Whole-body Readiness

- Proper posture/positions
- Movement feedback
- Crossing midline
- Bilateral coordination
- Eye hand coordination

Positioning (Tactile & proprioceptive systems)

- Stable postural base allows the eyes to work together
- Stable/proper positions provides a platform for efficient fine motor tasks
- Alternate positions can encourage core strengthening and visual attention.

So Many Positions!



Standing position

NONSITTING POSITIONS



Prone "puppy" position



All-fours position



Kneeling position



Half-kneeling position



"Centerfold" position

Kinesthetic Feedback

- The sense of movement without visually monitoring
- Provides awareness of effects of pre-writing marks on paper
- Motor Memory: information is stored and recalled when movement is repeated
- **Younger children may substitute visual for kinesthetic feedback in early elementary years**

Crossing Midline Activities(vestibular, tactile and proprioceptive systems)

- When the body sides work together, a skilled hand emerges
- Necklace Stringing
- Reaching for items from one side and place in the other side

BILATERAL MOTOR COORDINATION

(vestibular, tactile and proprioceptive systems)

- Efficient use of both hands during an activity
- Most daily living skills require coordinated use of both hands
- One hand is the “doer” and one is the “helper”
- Holding a bowl with one hand and stirring with another
- Putting beads on a string or lacing a shape card
- Fastening buttons, snaps, zipper or shoe laces
- In writing or drawing both hands need to be involved a dominant hand and a function assist

Eye Hand Coordination

tactile and proprioceptive systems)

(vestibular,

- Obstacle course
- Bouncing/Catching/Rolling a ball
- Balloon Hit and Roll/ Bubbles
- Throwing/Tossing Bean bags
- Hopping/Jumping
- Inch Worm Art

Incorporate directionality i.e. spinning/rolling into activity to elicit Vestibular system

GROUP WHOLE BODY WARM-UPS

(vestibular, tactile and proprioceptive systems)

- Time to move!!
- Brain Gym PACE
- Tai Chi
- Yoga - ABC
- Isometrics



DATA GATHERING

Activity	Monday	Tuesday	Wednesday	Thursday	Friday
Cross Crawls					
Isometrics					
Deep Breathing					
Shoulder Rolls					

Fine Motor Development

It's not just in the hands.



Handwriting Readiness: Preparing for Kindergarten

(Lamme, 1979; Benbow, Hanft, and March, 1992)

Fine Motor

- Dominant hand use
- Small muscle development-dexterity
- Utensil or tool manipulation

Visual Motor Integration

- Orientation to written language/ spatial relations
- Basic stroke formation
- Alphabet letter recognition

Handedness

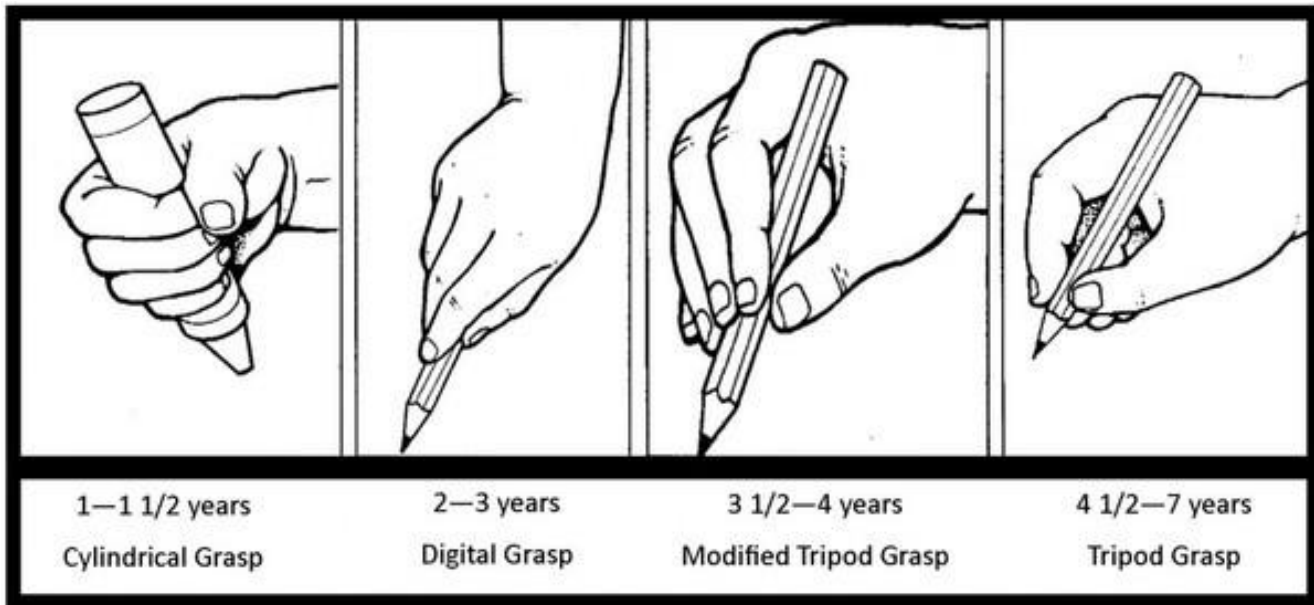
- Typically established age 3
- If in doubt about handedness repeatedly place tools and materials at the student's midline and observe!
- If switching, consider if fatigue is a factor; invite student to take a break, then ... observe.
- Right-Left Orientation
- If left, consider left hand paper position, letter formation patterns will be different.
- If left, provide left-handed scissors.

Ways to Encourage Dexterity & Grasp Utensil/Tool Manipulation

- Universal Recommendations:
 - Create a space for standing to draw or write
 - Clay, clay, clay – can't get enough
 - Pour & dump – rice/beans bins & sand tables
 - Encourage independent food container opening, and jackets on and off
 - Turning pages in book
 - Practice hand washing
 - Lacing/ Pegs
 - Arts and crafts

Pencil Grasp Development

- Why it matters



Spatial Relations

- The Language of Movement

Spatial Concepts: top, bottom, up, down, side, front, back, over, under, around

Motor Planning: first, then, last

Sensory: hard, soft, loud, soft, scratchy, too much, more

The power of music: where do you start your letters? From
Handwriting without tears

Dora's Hokey Pokey

Tools We Can Use – Pre-Writing

- Multisensory learning
- Whole body movement into shapes like letters or animals (body alphabet, Brain Gym)
- Creation of letters with alternatives to writing tools-shaving cream, wicki sticks, pizza dough

**How are you
collaborating
with your
occupational
and physical
therapist to
provide
inclusive
interventions**





Inclusion is not only supported by a research base; it is also supported by a robust **legal foundation** with applicable statutes including the Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), the Head Start Act, and the Child Care and Development Block Grant Act (CCDBG). These Federal laws recognize and support inclusion because of the developmental, educational, and social benefits that inclusion provides to children with disabilities.

***U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES U.S. DEPARTMENT OF EDUCATION POLICY STATEMENT
ON INCLUSION OF CHILDREN WITH DISABILITIES IN EARLY CHILDHOOD PROGRAMS September 14, 2015***

Why collaborate?

Leads to:

Development of student's goals rather than discipline specific goals

Achievement of goals by the student

Shared knowledge of areas of expertise

Increases practice opportunities for students in a natural environment

Builds a strong foundation in academic standards

Early interventionists, Early Childhood Special Educators and Related Services Personnel play a unique role in supporting young children's access to and participation in inclusive early childhood programs. Early interventionists, early childhood special educators, related services providers, and other specialized providers should deliver services to children with disabilities in early childhood programs and with support embedded in everyday routines. They should co-teach and coach early childhood teachers and providers to encourage inclusive educational environments, as opposed to focusing on working with children in separate settings or pulling children out of their settings for specialized instruction, as a first option.

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All students receive instruction with their peers according to their individual strengths and needs based on the least restrictive curriculum and environment.

General education and special education service providers collaboratively plan the implementation of services within the least restrictive environment based on individual student strengths and needs.

ELEMENTS OF INCLUSIVE EDUCATION FOR EARLY CHILDHOOD PROGRAMS AUGUST 19, 2015

<https://inclusiveschools.org/elements-of-inclusive-education-for-early-childhood-programs/>

States should consider promoting **co-teaching models** where specialists and teachers or providers work jointly with children in inclusive settings, and coaching/mentoring models to support teachers and providers in developing their competencies.

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How to collaborate and when.

- Opportunities within a typical preschool classroom day:
- Planning time
- Morning meeting (circle time)
- Centers
- Data review for progress monitoring
- Free play or outside play time/playground equipment

Conclusion

- A true understanding of developmental levels for gross and fine motor development for success in the educational setting.
- Sensory motor development strategies allow for successful school outcomes and impact of development of play skills, the ability to follow classroom routines and regulate their emotional response to environmental demands.
- Children make the most progress when teachers, therapists and parents are collaborating on preschool curriculum activities.

“Successful collaborations are measured by student outcomes, not how often people talk to one another or share resources.”

From the book: Collaborating for Student Success: A Guide for School-Based Occupational Therapy

QUESTIONS???

