



Move to Learn Training Series

Unit 1.6 The Proprioceptive Sense

Welcome to the **Move to Learn Training Series**. Please watch the Instructional Video, and then proceed to the Learning Guide. Once you have completed the Learning Guide, go to the Self-Assessment Survey to complete this unit. When you finish the Self-Assessment Survey, you will receive your certificate for this unit.

Instructional Video

Insert Video here

The reference documents cited in the Instructional Video are included at the end of the Learning Guide.

Learning Guide

Introduction

In the video, I gave you a lot of information about the complex nature of the proprioceptive system and how it affects children. This sense may seem opaque because it operates in the background, and most of us never even know it is there. But, if you have taught preschool for any length of time, you have probably seen children with poorly developed proprioceptive sense. See if any of this sounds familiar -

- A 5 year old friend loved to play outside and he always wanted to play soccer with his friends on the playground. He would beg for a ball and some cones to set up a soccer pitch, and the game would start out great with lots of running and laughing. But, within minutes, this little friend would start running into his friends and tackling them to the ground - hard. He was a sweet kid and he never wanted to hurt anyone. He just could not regulate the force he used going for the ball.
- A four year old friend would bound out to the playground, anxious for the open space. He would grab a big, metal dump truck and take off running, rolling it along the ground. Nothing strange there - except for the fact that he wouldn't stop running and pushing that truck until it was time to go in, no matter how long that took. 20 minutes, 30 minutes, 40 minutes - up and down a hard, rutted, dirt hill with that metal truck.
- A four year old who just could not seem to settle into any activity, just wandering through her day and aggravating her friends. But, when you gave her heavy, difficult chores to do, she was happy and productive. She would work and work on something that seemed almost impossible for a four year old to accomplish, like dragging heavy cardboard to the dumpster and somehow getting it up and in the opening. She would enthusiastically volunteer for the most difficult jobs, and work tenaciously until she conquered them.
- A four and a half year old friend who just could not, no matter how hard he tried, walk down the middle of the long hallway in his school. He just couldn't. Instead, he

pinballed down the hallway, slamming into the walls in a zigzag pattern, often running into his friends too.

All of these children were working to make sense of where their bodies fit in space by seeking proprioceptive input. They were working to integrate information from their joints as those joints met resistance. The only way to work on that important skill is to practice.

Some children have the opposite problem with their proprioceptive system. It is poorly developed so they avoid input. In my years of working with preschoolers, this situation presents less of a behavior problem, so it is less noticeable. But you have probably seen children who insist on wearing clothes that are so loose that they are a tripping hazard. They cannot stand anything tight - clothes, hugs, or crowded spaces. These children also need help developing a well-functioning proprioceptive system, but you are going to have to take it slow and build it up gradually.

In the video, I gave you a long list of activities that can help develop the proprioceptive sense. Basically, these are activities that send information through the joints and ligaments. Here it is again for your reference:

- Climb a tree
- Push someone on a swing
- Hug
- Play on a teeter totter or seesaw
- Build a fort
- Play in an obstacle course
- Animal walks: crab walk, lizard crawl (uses hands only)
- Pillow fight
- Pull a wagon or sled filled with objects or with a person riding in it
- Play catch with or carry bean bags
- Play catch with a large ball
- Climb up a slide
- Monkey bars
- Climb at the playground (ladders, rock walls, etc.)
- Hang and/or swing on a bar at the park
- Crawl backwards
- Climb a chair or couch
- Carry a pile of books, a bag of groceries, a laundry basket of clothes - anything heavy
- Push a punching bag
- Play statue (adult stands as straight as possible and child tries to push adult)
- Carry a bucket of water or sand
- Play tug of war - You can use a rope, blanket, scarf, stretch band
- Wheelbarrow walking
- Push a door (adult puts resistance on a door while child tries to push the door closed)
- Bear crawl (no knees allowed)
- Hand pushing game (adult and child place hands together and push back and forth)
- Dig in the dirt, garden, or sandbox

- Do push-ups
- Squish, knead, and play with play dough or silly putty or clay
- Ride a scooter board on your tummy and use hands to move
- Shovel snow
- Jump on a trampoline
- Big jumps down the hallway
- Build forts
- Rake leaves
- Take the big trashcan to the curb
- Sweep
- Yoga
- Run up and down a big hill
- Push a big dump truck filled with something heavy

Once you know what to look for, you will see the proprioceptive sense at work everywhere.

Things to read

Strauss, Valerie “Why So Many Kids Can’t Sit Still in School Today.’ Washington Post 7/8/14
<https://www.washingtonpost.com/news/answer-sheet/wp/2014/07/08/why-so-many-kids-cant-sit-still-in-school-today/?arc404=true>

Sensorysmarts.com “Sensory Diet”
https://www.sensorysmarts.com/sensory_diet_activities.html

Equipment

To prepare for physical learning, first you need the tools. Here are some suggestions for equipment to add to both your indoor and outdoor space.

Indoor space

Bean bags
Mini trampoline with handles
A balance beam or big cushion to jump *down* from
Big exercise ball
Tunnel
[Bodysock](#) (but you can also make your own with continuous fabric from a fabric store)
Scooter boards

Outdoor Space

Equipment that allows for hanging, jumping, climbing
Climbing *up* a slide
Rope swings
Battle ropes
Sleds or wagons
Buckets with sand
Child-sized snow shovels (often sold as snow shovels to keep in your trunk)
Playground balls, the bigger and heavier the better

Quick Idea for Incorporating Physical Activity Throughout the Day Arm or Leg Tunnel



If you find yourself with some waiting time next to an empty wall (carpool, waiting to go outside, waiting for the music teacher, etc.) try this:

Have children step about one stride length from the wall then turn around right where their feet are and face the wall. Without moving their feet, have them lean forward and put their hands on the wall, creating a tunnel. Starting with a child at one end, have her crawl all the way through the tunnel, and then add on to the end of the tunnel for the next friend to crawl through. If you don't have enough space to move the tunnel down the wall, have each child walk to the beginning of the tunnel, crawl all the way through, and then walk back to her spot and rejoin the tunnel.

Make this activity even more challenging for older children by having them make a tunnel with their legs, rather than their arms. They lie down close to the wall and walk their feet up the wall until their hips are off the ground, with their shoulders still on the floor. They are doing a really elevated bridge pose. The tunnel will be lower, so the crawling friends will have to slither like snakes.

Move to Learn Activity Bottles, Bottles Everywhere

Put out a call to families for empty plastic bottles - 2-liter soda bottles, large juice bottles, and large sports drink bottles all work well. Fill them to various levels with water and some food coloring - different colors in each bottle. Maybe add a little magic by including something shiny like glitter, sequins, or small pieces of foil. Secure the lid with heavy duct tape, and place the bottles around the playground. (For younger children, either use smaller bottles or put less water in the big ones.) The more bottles, the more opportunity for the children to carry them, build with them, or hide them. With some time, children will invent all sorts of stories about where the bottles came from, what they are, and how to use them. They could be pirate treasure, magic potions, or ice cream toppings. The key is to make them heavy and attractive, and then to get out of the way to let the children find interesting and creative ways to move these swishy toys all over the playground.

Move to Learn Collaborative Assignment Proprioceptive Fun with Jumping

Working with another teacher, design a proprioceptive stimulating activity that uses jumping. Consider the levels from which the jumping takes place and how different elevations can change the proprioceptive input. Also, think about the surfaces children are jumping onto. How do different surfaces (hard floors, soft pillows, uneven mulch) change the proprioceptive input? How do your children react to the activity? Do some children want to do it over and over again with ever increasing force? Do they enjoy landing the jump and then falling hard onto the floor? Those children may be your proprioceptive seekers. Keep that in mind the next time you see something that looks like misbehavior and put them to work with some heavy chores. Test this activity on another group of children, then share what you did on our private Facebook page so others can learn from your creativity and experience.

Self-Assessment Survey

Once you have completed the activities and collaborative assignment for this unit, return to your Welcome email and follow the link to the Self-Assessment Survey. When you complete that survey, you will receive your certificate for this unit. If you have misplaced that Welcome email, [contact us](#) to get the link to the survey.

References cited in Unit 1.6 Video

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Rockefeller, Dianne. Proprioception and Kinesthesia: what the heck is the difference? 1/24/18 Integrated Muscle Therapy

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<https://childmind.org/article/sensory-processing-issues-explained/>

Integrated Learning Strategies. Proprioceptive dysfunction causes sensory seeking and sensory avoiding behavior. 4/28/16.

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<https://ilslearningcorner.com/2016-04-proprioceptive-dysfunction-causes-sensory-seeking-and-sensory-avoiding-behavior/>

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Piller Child Development. *Vestibular Input*. www.pillerchilddevelopment.com. Accessed 10/25/18. <http://www.pillerchilddevelopment.com/vestibularInput.php>.