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Building Sensory Gardens, Rooms & Kits:

Enhance well-being, develop coping skills and reduce challenging behaviour, through Sensory Engagement

By: Corene Jonat

When considering the issue of quality of life for people with developmental disabilities, and particularly with those who have challenging behaviour, it is important to consider the role of sensory engagement in a holistic biopsychosocial approach. This can assist in developing coping skills and enhancing well-being in the daily lives of people we support. This article highlights creative strategies to develop sensory engagement in your outdoor and indoor spaces.

Sensory Engagement can be key to increasing well-being, regulating emotions, developing cognitive function, improving health, social interactions, and communication, as well as exploration. Everything we experience occurs using our senses, offering us information about ourselves, environment and relationships.

The body has multiple senses that regulate how we engage and communicate with the world around us. Our bodies gain information using sound, sight, touch, taste, smell, vestibular and proprioception to help us identify whether we are safe, secure and can trust our surroundings. This information then regulates our thoughts, feelings and behaviours. When engaging the senses, we develop more ways for information to be retrieved from our brain's learning centers to promote connection and well-being and reduce challenging behaviours.

Developing ways to communicate through increased sensory engagement has shown to decrease loneliness, challenging behaviours and symptoms of mental health, including anxiety and depression. Sensory engagement is one of the most important positive psychological strategies used to enhance a person's sense of motivation, connection and purpose. Without it, health – both physical and psychological – is at risk of deteriorating.

Editors: Dave Hingsburger, M.Ed.
Angie Nethercott, M.A., RP

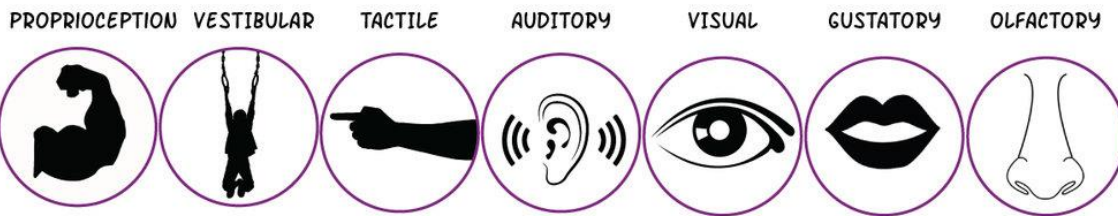


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THE SEVEN SENSORY SYSTEMS



Visual Sense: Vision is the primary data-gathering system of humans; 80 to 85% of our learning is gained incidentally through our visual sense. If the visual sense is impaired, physically or perceptually, the other senses do not have a monitoring system to ensure smooth development.

Tactile Touch Sense: The sense of touch offers pressure, light touch, tickle, and pain and temperature sensations.

Gustatory Taste Sense: There are four basic tastes: sweet, sour, salty and bitter.

Olfactory Smell Sense: The sense of smell is the most under-used sense, and yet it is 10,000 times more sensitive than taste.

Auditory Sound Sense: Sounds are vibrations that travel through air or another medium and can be heard when they reach a person's ear, offering an auditory impression or tone.

Proprioception: Our sense of proprioception is also referred to as our *sense of body position* or the awareness of where our body is in space (i.e., how much force to use, as well as muscle and joint information and deep pressure). This sense provides information to our central nervous system from within our body. Proprioception works in tandem with our vestibular sense.

Vestibular Sense: Our vestibular sense is our *sense of movement* and is closely connected to our sense of vision and proprioception. It includes parts of the inner ear and brain that process sensory information involved with controlling balance and eye movements, as well as awareness of head movement in space, speed, direction and relationship to gravity.

There are multiple ways to build sensory engagement into a person's life, including exploration of indoor and outdoor environments through **sensory gardens** and **sensory rooms and kits**.

Sensory Gardens: Planning & Ideas

All gardens appeal to the senses in many ways. Being outside in the natural environment stimulates communication to the body's nervous system to calm and regulate. Consider the following when creating your own sensory garden:

1. Decide on the location and size of your garden area. Start small so it is manageable and less likely to be seen as a chore. If space is limited, even a garden box can be beneficial.

2. Create a rough layout either with chalk paint on the ground or a rough pencil drawing. Map out, plan and choose areas of sensory interests in your garden, using various plants that stimulate multiple senses from the sense-based ideas offered below. Note: Accommodate space for mature size of the plants.
3. Incorporate hardscape elements such as paths, stepping stones, water fountains, birdfeeders, pots, and garden art that can be touched, manipulated and used as a guide to move to the next area of exploration. Provide a sensory story through visual and touch experiences.
4. Begin planting. You can start small, depending on your budget and add more on a yearly basis.
5. Once complete, establish safety protocols when individuals explore the garden. Sensory exploration requires help to identify what is safe to touch and taste.



Sight: Add visual interest by using plants with varying habits that creep, climb, trail, bush or stand upright with different leaf, bark stem colours and bloom schedules to provide visual appeal. Include interactive art experiences by hanging canvas that can be painted as a group experience. Build colourful covered gazebos, benches, sculptures of butterflies, birds, rabbits, frogs, etc. Consider things a person already likes.

Sound: To stimulate hearing, choose plant flora that make noise when the wind passes through them such as bamboo stems. Bushes that lose their leaves in the fall provide a fun crunching sound under feet and touch exploration opportunities. You can also include plants that encourage wildlife. Honeysuckle, tulips, butterfly bushes all encourage the buzzing of bees, chirping of crickets or the whizzing of hummingbirds. Include garden art that makes noise, such as wind chimes, windmills, bells, clocks, etc.

Touch: All plants provide texture in their own way – from the baby-soft feel of lamb’s ear to the cool touch of moss. It is possible to incorporate many textures into the garden. Do not plant anything that may be dangerous such as prickly roses or spiny agaves. Include garden art that provides soft and hard interest to the surrounding garden scape such as, pebbles, textured stepping stones, coloured fabrics, flags, small figurines (plastic frogs, fish, animals, flowers, tennis balls, hats, small figurines applied to existing wire and wood fences, walls or ground). Create water and art areas to engage in finger painting, sand play and water/bubble play. Jacuzzis, pools for swimming and ponds with fish also provide touch experiences.

Smell: Many sensory gardens are full of aromas that entice a wide range of emotions. Highly aromatic plants such as gardenia, honeysuckle, herbs and spices provide ample opportunity for stimulation and exploration offering information to the senses.

Taste: Edible fruits, vegetables, herbs, and spices planted in a sensory garden allow visitors an opportunity to experience their taste buds and build cooking experiences of the vegetables they grow together. It is possible to develop kindness, empathy and purpose through caring for other things such as growing plants and vegetables.

Proprioceptive & Vestibular: Swings, flags, hammocks, stationary bikes secured under shelters, gazebos or tents, slides, meditative Zen patterns painted or mapped out with stones or painted on the grass to encourage movement. Offer activity areas under shaded areas that encourage community movement and friendship such as: water play, sand play, art making, exercise with balls, sports or table tennis.

Sensory Room/Stations: Planning & Ideas

Offering dedicated indoor rooms or stations to engage in sensory stimulation and calming activities provides communication to the body's nervous system to calm and regulate. Consider the following when creating a sensory room:

1. Decide on location and size of your sensory room or station. Either dedicate one room or offer sensory stimulation stations (sense-specific) in multiple rooms.
2. Plan areas of sensory interest, using the ideas you choose from below.
3. Incorporate colour, shape and textures that distinguish different stations to explore and engage the senses. Embellish existing walls with changing colourful items as described below to identify each sensory area and offer new information and opportunities for exploration.
4. Decide on your ideas based on each sense and add them to your chosen areas.
5. Rotate activities weekly to develop and maintain interest in indoor spaces.
6. Ensure safety is considered before engaging in the sensory room/station. Sensory exploration requires assistive supports and help to identify and maintain boundaries for safe touch, smell and taste.

Offer scheduled sensory engagement on a regular basis to encourage routine and structure. It can be difficult for individuals with sensory sensitivities to try new things. Incorporating new experiences with structure and routine can reduce associated anxiety and increase predictability, encouraging trust and cooperation to explore and engage. It can also be helpful if caregivers engage with individuals when exploring different sensory activities. It may take a very long period for an individual with sensory sensitivities to feel secure to engage in an activity. Patience will be important when exploring new things together.



Sight: Add colour that evokes calming and/or stimulating states. For example, choose green- or blue-based colours for the walls to provide a calm space and add brighter colours in artwork and other accents, such as flowers, that can be changed or moved. For those with visual impairments, provide artwork with bold and vibrant colours and/or black and white colours. Photographs incorporating personal interests, such as animals, cars, or trains can enhance the sensory experience. Create experiences that stimulate visual engagement using:

- Projection of colours, shapes, landscapes, oceans, fish, or animals that reflect on the wall or ceiling, using a lava lamp or bubble tubes
- LED strings attached to ceiling, wall or floor to manipulate and move through
- Visual books and magazines, art, colouring, tracing outlines of shapes
- Match pictures, colours, checkers, blocks, sorting cups/plates
- Dart Ball Game with Velcro

Sound: To stimulate hearing, provide sounds that offer invigorating and calming effects. Have different styles of music to choose from and play on DVD players, record players, tapes, iPad or computer. Include play lists that individuals prefer but also add new and different sounds.

Engage in experiences together such as:

- Drumming, listening to radio, CD, sound machine, etc.
- Listen to calming or stimulating music, (e.g., rock, jazz, blues, classical, children's songs, songs of interest)
- Listen to animal, bird, nature sounds, a story on DVD or tape
- Play musical instruments together (e.g., keyboard, guitar strings, bells, rain stick, shakers, etc.)
- Play musical echo games (e.g., chanting, tapping, clapping)

Touch: To encourage touch, provide different textures for exploration on walls, floors, activities and interactions. Be mindful and respectful of a person's experience of touch, both positive and negative. Offer patience when there is tactile defensiveness. Gentle hand-over-hand assistance can offer the support, trust and safety needed when engaging in new activities.

- Finger painting - use a variety of mediums: shaving cream, whipped cream, pudding, Jell-O, etc.

- Textured mats or boards hung on the floor and wall. Can include different shapes and reflective materials (securely attached knobs, hard and soft fabrics, door handles, plastic flowers, animal shapes, and fidget pieces)
- Textured and/or weighted balls to be thrown back and forth
- Sand play - not just sand - dry macaroni, popcorn, rice, beans, flour, nature items (leaves, dried flowers), etc.
- Objects hidden in sand, hair gel, pudding, rice, sealed in large freezer bags or bins and play 'Can you find it?' Place items in the freezer to experience temperature changes
- Short back rubs and hand hugs or hand sandwiches
- Firm pressure roller-type massagers, combs and different hair brushes
- Tactile books, bubble wrap, Theraputty, Play-dough, Model Magic Fusion, Floam, homemade dough
- Box or bag filled with items of contrasting tactile information, such as different types of balls, soft fabrics, feathers, sandpaper, etc.

Smell:

- Books with different smells, spice rack, scented lotions
- Water bottles or other containers full of various scents (e.g., cotton balls with essential oils, coffee beans, cinnamon sticks, basil leaves, vanilla, cocoa, soap, etc.)
- 'Smelly' guessing game where the individual guesses the object/smell (e.g., coffee bean bags, food smells, smelly markers, perfume samples)
- Run room mist diffusers with stimulating scents in the morning (e.g., orange, cinnamon, rosemary, peppermint) and calming scents in the evening (e.g., lavender, jasmine, sandalwood, lemon) to communicate time of day

Taste:

- Guess the taste game. Provide small samples of favourite foods to identify.
- Explore small samples of sour, sweet or salty (have readymade kits available). Create cookie dough, pudding, and taste and bake together.

Vestibular sense: Consider safety before engaging in motion-related activities; consult with a health care provider (Occupational Therapist)

- Single point suspension seat (e.g., hammock-type chair and/or cuddle swing) which provides deep pressure and vestibular motion
- Short bursts of motion/movement activities throughout the day
- Office chair to spin (e.g., five rotations in each direction) or short linear movement rides, move on a glider rocker chair or pushing a cart
- Therapy ball to rock (with support if necessary)
- Stationary exercise bicycle or treadmill
- Mini trampoline with safety bars for stabilization

Proprioceptive sense:

- Activities that involve carrying heavier loads (e.g., books, pails, bean bags, sand bags, stacking heavy pillows, etc.)
- Squeezing gel balls, soft balls, calming balls
- Tug-of-war while sitting, standing or kneeling, arm wrestling
- Leapfrog games, bear hugs, pushing and pulling a vacuum, doors, boxes
- Ripping paper, stuffing garbage bags with newspaper, pressing bubble wrap

Sensory Kits: Planning & Ideas

Sensory kits can be used when engaging in day-to-day activities in an individual's home, day program and community when needed. Portable sensory kits allow sensory activities to be readily available to help with self-regulation regardless of where the individual is. Consider the following when creating a sensory kit:

1. Use a large nylon duffel bag or backpack as portable storage for sensory activities.
2. Collect different-sized plastic boxes and freezer bags relevant to store various sensory activities. Seal freezer bags with duct tape.
3. Decide on your ideas (refer to sensory room/station ideas above) based on each sense. Start adding them to your sensory kit.
4. Rotate activities on a regular basis to develop and maintain ongoing interest and promote new experiences.
5. Ensure safety is considered for all those engaging in sensory kits.

Sight: Bubble tubes, sparkle wands, flashlights, magazines, books, eye mask, kaleidoscope, snow globe, small figures (animals, people, dinosaurs, cars), colouring books, games (checkers, snakes & ladders, cards), photo album

Sound: Audio books, noise-cancelling headphones, small instruments, bells, drums, tambourine, noisemakers, MP3 player or CD player

Touch: Rubik's cube, wooden/metal puzzles, crafts, LEGO, bag of tissue paper to rip, fabric scraps, spinning top, bubbles, blocks

Smell: Scratch and sniff stickers, scented markers, calming essential oil spray

Taste: Appropriate snacks with various textures

Vestibular sense: Engage in yoga poses, stretches, walking, jumping

Proprioceptive sense: Weighted toys/balls, mini massager, stress ball

The results of creating sensory engagement experiences by dedicating areas in our environments to include **sensory gardens, rooms and kits**, offers needed information and interest about our surroundings, not only for those living with cognitive and physical disabilities, but for everyone. Incorporate sensory engagement into your regular routines to help regulate challenging emotions and behaviours, reduce stress and increase overall well-being.

About the Author

Corene Jonat is a Behaviour Consultant with the Family Counselling Centre of Brant, as a member of Hamilton Brant Behaviour Services, consulting with adults with developmental disabilities living in the community. She has over 10 years of experience facilitating sensory integrated programming and developing behaviour support strategies that offer adaptive, preventative and response solutions for individuals experiencing challenging behaviours.

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