

Multisensory Environments in Early Childhood Intervention

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Specific stimuli in a prepared environment

Specific components of white rooms:

➔ **Musical water bed** – spreads vibrations through the body, stimulates active movement, relaxes the body and mind

➔ **Leaf chair** – stimulation of the vestibular system, perception of body scheme, follows the movement in the uterus

➔ **Bubble tube** – visual stimuli with mirror effect, stimulation of visual and motor skills

➔ **Fibre optics** – visual stimulation, tactile stimulation

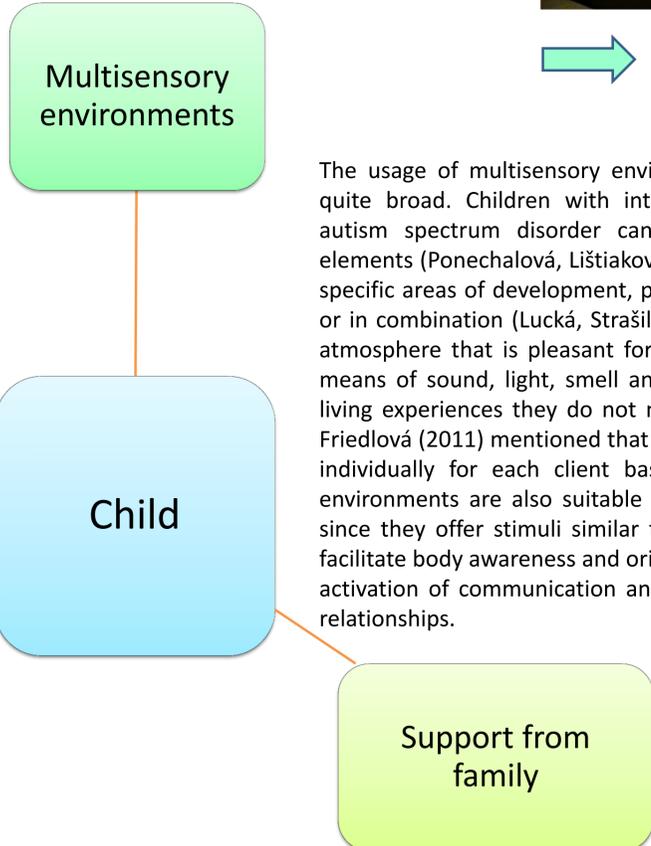


➔ **Mirror ball** – stimulates active movement, visual and auditory stimulation



Perception is a complex phenomenon consisting of sensations, such as visual, auditory, tactile, vestibular, proprioceptive stimuli, and their processing (Goldstein, 1984). Ayres (1972, 2005) described the function of brain to process stimuli in an adaptive way as sensory integration. It is necessary for effective behavior in the environment. Children with ASD, learning disabilities, mental retardation or ADHD may have issues in sensory processing. Kranowitz (2005) mentioned several categories of sensory processing disorder affecting areas of modulation, discrimination and motor skills. In children with ASD hyper- or hypo-sensitivity to certain sensory inputs can be observed.

According to Pagliano (2001), multisensory environment is especially suitable for assessment because it allows professionals to observe children in stimulating surroundings. Early childhood intervention in multisensory environments is based on the plasticity of the nervous system. Providing appropriate stimuli from the outside contributes to building neural connections and thus promotes improvement in participation in life and general higher quality of life of people with disabilities. Stimulation happens through prepared safe environment that triggers reactions of children with developmental delays. Parents often observe increase in interest and motivation of their children to play and engage in interactions.



The usage of multisensory environments in early childhood intervention is quite broad. Children with intellectual disabilities, multiple disabilities, or autism spectrum disorder can benefit from its relaxing and stimulating elements (Ponechalová, Lištiaková, 2010). In case of children with challenges in specific areas of development, particular components can be used individually or in combination (Lucká, Stražilová, 2011). In multisensory therapy, providing atmosphere that is pleasant for the client is a crucial principle. Through the means of sound, light, smell and touch, clients are given an opportunity for living experiences they do not meet in everyday life due to their disabilities. Friedlová (2011) mentioned that the goals of multisensory interventions are set individually for each client based on their particular issues. Multisensory environments are also suitable for using the techniques of basal stimulation since they offer stimuli similar to pre-natal development in the womb. They facilitate body awareness and orientation in the environment. The main focus is activation of communication and interaction in the physical world and social relationships.

In behavior of children, parents and professionals can observe specific patterns connected with sensory perception preferences and issues. These behaviors are often registered as inappropriate in situations when they occur. For example, throwing oneself on the ground, pushing other children with great power, taking off clothes, avoiding certain materials, shouting or making sounds, flickering fingers in front of eyes, rocking, smelling or touching other people and materials. It can be explained through sensory craving, under- or over-responsiveness in vestibular, proprioceptive, tactile, visual or auditory system. Early intervention strategies include exploring and fulfilling sensory needs in a safe space.

Support from professionals

Support from family

In prepared stimulating environment children naturally seek sensory-motor activities that they need most for their next development. The environment offers a challenge but it is manageable so children can experience a feeling of success and empowerment. All the senses are stimulated. Children have a chance to explore and feel the impact of their individual actions. For example, the piano mattress requires coordination of vestibular and proprioceptive systems. It can be pushed by hands or feet. Children operating the piano mattress are rewarded by the sounds that appear as a result of their action in the environment. It is useful for hypoactive children or children who suffered from neglect, deprivation or hyperprotective environment. In multisensory rooms, they can explore and experience themselves in interaction with other people and the physical world.

➔ **Adventure room** – suitable for sensory integration therapy offering stimuli to vestibular and proprioceptive system

➔ **Dark room** – special equipment for people with visual impairments

