

Appraisal of Teaching-Learning Aids in Montessori Method for sensory training of Learners with Autism Spectrum Disorder

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Abstract

Madam Montessori believed that training and sharpening of the child's senses are crucial for their continued learning; she, therefore, developed specific sensorial materials to be used in Montessori preschools for such a purpose. The Montessori Method of education is a system of education for young children that seeks to spread natural interests and activities rather than use formal teaching methods. Maria Montessori exhibited Various Teaching-Learning Aids for refining the senses called sensorial materials. Sensorial training/learning is a teaching approach that stimulates the child's five senses; taste, touch, smell, sight, and hearing. It allows children to use their senses to explore and understand the world around them. It includes activities that assist them to study objects, colors, textures, tastes, numbers, and situations. This article addresses the knowledge and understanding needed by teachers working with children on the autism spectrum. Montessori methods are very operative in developing effective teaching-learning aid for sensory training. Effective practice depends largely on an understanding of autism and of the individual child rather than on specialist skills. It will explain how children with autism develop the sensory issues in various Teaching-Learning Aids and to boost children express, classify and enlarge their sensory experiences with the help of the Montessori Method.

Key Words- Sense, sensory material, Autism Spectrum Disorder (ASD)

Introduction

Autism is a lifelong developmental disability that affects the way a person communicates and relates to people around them. Autistic spectrum disorders three areas of common difficulty, known as the 'Triad of Impairment' (Communication, Socialization and Flexibility Impairment) are sometimes accompanied by difficulties with: Physical coordination; poor physical and visual-motor skills, and clumsiness. Behavior; challenging, unpredictable and disruptive behaviors. It is a complex procedure for a parent to approach conditions with the reality that their child may have a shape of autism. Some parents are tuned in to the fact that their child may have some form of developmental disability and may suspect that their child is different or has developmental delays. In general Piaget's Cognitive development Stages (Sensor motor - birth to 18-24 and Preoperational - 2 to 7 years) is the most important factor in the development of the sensory issue. So when the child is diagnosed with a developmental delay with help of identification of early intervention about child behavior it should be starting in the Montessori Method of teaching for developing sensory issues. The American Psychiatric Association added sensory sensitivities to the list of symptoms that help diagnose autism in 2013. If you have a child that is dealing with sensory issues, you might want to try bringing home some sensory toys for them to play with. Because of traditional teaching and learning methods and the predictable daily routines. But Montessori learning environments provide stability for learners with the autistic spectrum. Montessori admits in the child a natural curiosity and desire

to learn. Montessori materials awaken the desire and channel his/her curiosity into a learning experience which the child enjoys and also these materials assist the child to understand what he/she learns by associating an abstract concept with a concrete sensorial experience.

About Sensory

There are two types of sensory issues that may affect a child with autism. These are hyper-sensitivities and hypo-sensitivities. Both types of sensitivities affect how the child processes and reacts to different types of stimuli. These are Sights, Sounds, Smells, Tastes, Touch, Balance and Body Awareness

Hyper-Sensitive Children	Hypo-Sensitive Children
Children who are hypersensitive are overly responsive to stimulants. This is often called "sensory overload." Both regular and extreme stimuli, like bright lights or strong smells, can affect hyper-sensitive children, leaving them feeling overwhelmed. There are a number of strategies that can be used to help children with sensory hypersensitivity. In order to ensure appropriate support is in place, parents should consult with an occupational therapist or professional to determine the best way to support their child with hypersensitivity to sensory stimuli.	As opposed to hyper-sensitivity, some children with autism are actually under-responsive to senses and stimulants. One example of this is a low sensitivity to pain. A child who has hypo-sensitivity also may be under-responsive to body signals that affect balance control and physical coordination. Some accommodations that can be made for children who are hypo-sensitive include weighted blankets, strong tasting or textured foods, and activities that practice physical skills such as dancing, jumping, running, and catching.

Literature Review

- In a study, Bahatleg, R.O.(2011), Mario Montessori famously designed her own materials to support children's development. Thus far, the literature which focuses on Montessori Sensorial education - and on creativity, problem-solving and creative problem solving- has not investigated connections between these matters. This study investigated the effect of using the Montessori Method on ASD children's skills, especially in creative problem-solving.
- In a study, Lillard, A. S. (2005), Montessori classrooms vary in the degree to which they adhere to Maria Montessori's model, including in the provision of materials. Specifically, some classrooms use only Montessori materials, whereas others supplement the Montessori materials with commercially available materials like puzzles and games.
- In another investigation Hoyt, J.(2018), notes The Montessori Children's House includes a variety of materials to meet the many different needs of children in the classroom. However, some children exhibit challenging behaviors in the classroom that make it difficult for them to attend to and complete work. These behaviors also disrupt the other children that are working and engaged in the classroom. The child who exhibits challenging behavior requires extra attention from the teacher, making it difficult for him/her to be independent and develop positive peer relationships.
- Sensory integration was defined by Jean Ayres as "the neurological process that organizes sensation from one's own body and from the environment and makes it possible to use the body effectively within the environment. Marshall, C. (2017), narrates "The Montessori educational method has existed for over 100 years, but evaluations of its effectiveness are scarce.
- Chan, J. M., Lang, R., Rispoli, M., O'Reilly, M., Sigafos, J., & Cole, H. (2009), discussed that specific goals (e.g., fine motor, coordination) paired with social goals are necessary for children with ASD to interact with their peers. For instance, one of the children who are ASD was working with making Tiffin, and part of this practical life activity was the direct social goal of offering/sharing the Tiffin to his classmates.

- Diamond, A (2012) stated that children with ASD to participate in activities that are part of the practical life curriculum, such as setting the table and cooking, provides the child with a sense that they are a valuable and contributing member of the community. In these examples, adaptations were not discussed, but the value inherent in the Montessori Method is already an adaptation from many other traditional educational methods for children with ASD.

Rational about Montessori Method for sensory training in Learner with ASD

Dr. Montessori designed the Sensorial materials. With the help of these materials, we are designed the activities to help ASD children develop sensory issues in various ways and to boost children express, classify and enlarge their sensory experiences, The Sensorial materials into eight groupings basis on which sense was being used: Visual, Tactile, Baric, Thermic, Auditory, Olfactory, Gustatory, and Stereognostic. The Montessori Method inspires self-directed learning through exploration and play. We aid children to learn through a variety of specially developed teaching-learning aids. These aids may help to develop ASD learner sensory issues in different dimensions.

Foci of the paper

All of the previous studies have shown that Teaching-Learning Aids in Montessori Method plays a vital role and will have a significant impact on the sensory training of learners with ASD. That is why some of the objectives are very helpful and to help you work with children with ASD regarding sensory training. Because this objective is based on the sensory issues on concepts of Teaching-Learning Aids in the Montessori Method with practices that can be worked into everyday routines. Each objective describes Sensorial materials is to aid the child in refining the child's pitch, temperature, and weight and is utilizing language in describing these qualities. That is why foci of the present's paper-

1. Understanding the Teaching-Learning aids in Sensory Mats
2. Understanding the Teaching-Learning aids in Chew Toys
3. Understanding the Teaching-Learning aids in Sand or Putty
4. Understanding the Teaching-Learning aids in Pin Art
5. Understanding the Teaching-Learning aids in Rainmaker Toys
6. Understanding the Teaching-Learning aids in Fidget Spinners
7. Understanding the Teaching-Learning aids in Vibrating Cushion
8. Understanding the Teaching-Learning aids in Body Sox
9. Understanding the Teaching-Learning aids in Reflective Balls
10. Understanding the Teaching-Learning aids in Trampoline

Methodology of the study

The study was purely theoretical based. Descriptive method was applied for development of paper. This study has been conducted in a collection of data from books, internet, published paper in the journal etc.

Focus: - 1- Understanding the Teaching-Learning aids in Sensory Mats

A great sensory toy for children with autism is a series of sensory mats. These are small mats that each utilizes a different texture. Children can then use their hands or feet to feel and play with the different types of textures. You can even have your child close their eyes and go through the different mats while you ask them to describe what they feel. Ayres and Tickle (1980) investigated "hyper-responsively to touch and vestibular stimuli as a predictor of positive response to Sensory Mats about Sensory Integration procedures by autistic children."

Focus: 2- Understanding the Teaching-Learning aids in Chew Toys

This toy made of a non-toxic silicone material and can be hand-held objects or jewelers-like pieces worn around the neck or wrist. They come in a variety of textures, from dots, ridges, and patterns, or they can be smooth as well. Chew toys are meant to develop biting and chewing skills, as well as

provide sensory stimulation maxillofacial region and reduce the tics (Tourette syndrome). Logemann (2000) noted several treatment strategies for promoting swallowing, including posture changes (e.g., positioning the chin up to promote swallowing); alterations of the bolus via taste (e.g., adding a flavor), volume, temperature, or viscosity; manipulation of the feeding environment (e.g., increasing the time between bite presentations); and oral-motor exercises.

Focus- 3- Understanding the Teaching-Learning aids in Sand or Putty

Another type of sensory toy that might be beneficial for your child is sand, slime, or putty. These allow your child to play while also developing fine motor skills and tactile seeking behavior. Children can play with the substance alone or they can incorporate other objects as well. Also, the substances are often brightly colored, appealing to their visual senses. Baranek,(2006), Tactile hyper-responsiveness consistent with prior work collapsing across sensory modalities and demonstrating that the hypo-responsiveness pattern best differentiates ASD from other developmental disabilities.

Focus: 4- Understanding the Teaching-Learning aids in Pin Art

Pin art boards are great for both kids and teens with autism. These toys feature steel pins that allow a child to make and look at trajectory in the pins. You can use your hands and fingers to make trajectory as well as other objects and toys. The unique feeling of the pins when touching the pin art board makes it a great no-mess sensory toy for children with autism. Rudy (2010) and American Art Therapy Association (2008), art therapy can stimulate ASD individuals use of their visual and creative abilities to effectively communicate to others, promote emotional and social skills along with reduced anxiety. Moffitt (2011) reported art therapy was able to provide opportunities for the client to improve fine motor skills and recognition of facial expressions such as cueing on body language. Since there is a lack of high quality research that supports art therapy, art therapy should be used minimally or not at all for a positive intervention with individuals with ASD.

Focus- 5- Understanding the Teaching-Learning aids in Rainmaker Toys

To appeal to a child's sense of hearing, try a rainmaker. A rainmaker is fun toys that can help a child with autism relax when playing and listening to the soothing sounds of "rain." The bright colors and cascade of falling beads are another bonus with this toy, allowing a child to engage with multiple senses at once without it being overwhelming. Eberle,(2014). recommended that toy is a roomy subject, broad in human experience, rich and various over time and place. He classified toy into six elements which are anticipation, surprise, pleasure, understanding, strength and poise in his study, as to cover the field of toy play.

Focus-6- Understanding the Teaching-Learning aids in Fidget Spinners

It is a new gadget and latest craze a few years ago. These toys help a child focus by keeping their hands occupied. Not only great for children with autism but also children with attention deficit disorder (ADD) and attention-deficit/hyperactive disorder (ADHD). The smooth and fast rotation of the spinners are enjoyable for many children, and with many different designs available, you are sure to find one that your. Thielking M, Hogan,(2017) Fidget spinners are devices/toys that have gained a lot of popularity recently amongst people of different age groups, especially school going children. They are believed to be good for conditions like ADHD and autism due to their fidgeting property which has been noted to dispel nervous energy or psychological stress, since fidgeting with an object in the hand has been proven to be helpful in retaining and contributing to an individual's attention while carrying out a long task.

Focus- 7- Understanding the Teaching-Learning aids in Vibrating Cushion

This vibrating cushion is a great way to help calm your child by its smoothing motion and calm sound. Additionally, this vibrating sensory toy can help improve verbal initiations and responses in children- prompting them to engage in social interaction. Alam MM, Khan AA, Farooq M.(2018)found that whole-body vibration improved gait speed and over motor function. The therapy may have positive effects on some elements of movement and posture.

Focus- 8- Understanding the Teaching-Learning aids in Body Sox

Body Sox helps the children with autism pressure helps to relieve anxiety and initiate relaxation.

Focus- 9- Understanding the Teaching-Learning aids in Reflective Balls

These sensory reflective balls help children with autism by helping them develop a visual sense. Most of the time children with autism have less of the ability to process visual sensory information. This is a great solution to help get your child started.

Focus- 10- Understanding the Teaching-Learning aids in Trampoline

Children with autism can be stressed and uncomfortable when sensory input becomes overwhelming. The physical up and down motion of the trampoline helps kids make a mind-body connection and helps these children develop better balance skills.

Conclusion

Montessori teachers sometimes worry about the children in their classes who do not choose to use some pieces of teaching- aid, however, autistic girls and boys always benefit from watching others participate, perhaps many times, before getting involved themselves. It is perfectly possible for boys and girls to acquire and consolidate learning concepts through 'third party participation' in this way. Also, the Montessori learning environment is a boon for children with thought processing and imagination difficulties. That is why various sensory training teaching strategies can be put in place to help prevent the triggers of inappropriate behavior for learner with ASD. Also, this training develops nerve connections in the brain's pathways which lead to the child's ability to complete more complex learning tasks, enhance memory, promotes critical thinking and problem-solving. It also supports language development, cognitive growth, fine and gross motor skills, and social interaction.

Recommendation

It has always been recognised that sensory issues is a difficult for children diagnosed with Autism, but with the help of Montessori methods for develop in sensory issues of Learners with Autism Spectrum Disorder is very crucial for develop in social competence and making teachers more aware of their role and teaching practices to ultimately improve the quality of inclusive education in Montessori early childhood education environments. Also develop in multi-sensory, interactive Montessori teaching/learning approach and this approach continuously stimulated and practically involved with the learning process.

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