

In what way does  
using the sensorial  
materials help the  
child's whole  
development...



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ASSIGNMENT TOPIC: In what way does using the sensorial materials help the child's whole development? Give examples "All knowledge comes through the senses" – Aristotle The word sensorial is derived from the words sense or senses. The conventional five senses, attributed to Aristotle, are classified as sight, hearing, touch, smell, taste. However, humans have at least nine different senses including interoceptive senses such as thermoception (heat, cold), nociception (pain), equilibrioception (balance, gravity), proprioception & kinesthesia (joint motion and acceleration) and sense of time.

Maria Montessori believed that sensorial experiences started in the womb and continued after birth and that through his senses the child is able to learn and work in his environment. Through being a 'sensorial explorer' the child begins to understand his environment. The discrimination of size, colour, sound, smell and taste are achieved by using sensorial material. Sensorial material provides the links to future work in the areas of Mathematics, Language, Geography, Botany, Zoology etc. Concrete and tangible experiences are provided by the materials to help classify the impressions received from the senses.

Children learn to develop sensory impressions of the world around them. The materials are not intended to give new impressions, but to allow for the ordering, classification, refinement, exploration and realisation of the sense impressions that the child has perceived. The sensorial material allows a child to make use of all his various senses and therefore assists in the holistic development of the child. Sensorial materials are seen as tools for development. Maria Montessori believed that there is nothing in the intellect that was not first experienced via the senses.

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Children are able to build cognitive effectiveness and efficiency and learn to order and classify impressions. This is done by touching, seeing, smelling, tasting, listening, and exploring the physical properties of their environment through the use of specially-designed materials. The aim of the sensorial material is an inner one - the child trains himself in the art of observation and through this he is able to make comparisons between objects, reason and make decisions. Sensorial materials allow for individual work and repetitions.

The child can then work independently without fear of making mistakes. The sensorial exercises include a control of error section which helps the child become comfortable with the fact that error is an essential part of the learning process. What is the purpose of sensorial materials? - Learn classification and organisation of the environment - this gives clarity to the mind and consciousness - Strengthen the powers of discrimination - this brings about the refinement of the senses. The material allows for the isolation of specific senses and focuses on one sense at a time.

This enables the child to discriminate, identify differences and appreciate the distinctions - Establish greater mental order - the development of neurological pathways as a child grows is enhanced by the ways things are presented. Learning under the pretext of context enables the child to understand more and remember more. A 'power or a potential given to the child by nature' which is meant to aid their development; this is how Maria Montessori refers to the senses. A child's senses are active at all times, and in order to support the development of the senses we must be cognisant of this.

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Our greatest responsibility should be to help the child develop that potential given to him by nature, and we need to do this in a logical manner. If the importance of sensorial activities and exercises is understood properly then the child will be able to develop outside the school environment as well. In order for a child to understand his environment, sensorial experiences must be provided. If a child is deprived of this during certain sensitive periods of development he may be unable to speak, distinguish sounds or form relationships between objects.

The Montessori sensorial exercises are designed to help the child sharpen his senses and form an understanding of the impressions he receives through his senses. It is not only the development of the senses that happens during the exploration and discovery process, but most importantly it is the development of the entire personality that occurs; this includes the mind, body and spirit of the child. The sensorial materials and exercises encourage and guide the development of character, and ensures that all else follows naturally.

This includes the intellectual and spatial skills as well as an understanding of context. This development that occurs helps the child to become a unique individual - a member of his time, place and culture. Therefore it can be said that sensorial materials and exercises assist in the holistic development of the child in all spheres of life. Sensorial materials were designed by Montessori to include every concept that could be conveyed by the senses such as size, shape, composition, texture, loudness, softness, matching, weight, temperature etc.

The exercises cover a wide range of senses and were categorised by Montessori into eight different groups, namely Visual, Tactile, Baric, Thermic, Auditory, Olfactory, Gustatory and Stereognostic senses. The Tactile sense: The child learns through his sense of touch. Example: Through the use of rough and smooth board sets, the child's hand is prepared for writing. The contrast between rough and smooth is introduced in the first board. The co-ordination and the building of dexterity is achieved by use of the second board. The graduation of texture from fine to coarse is introduced in the third board.

The Tactile boards teach about texture, Fabric boxes contain paired swatches of fabric that the child must match. The Visual Sense: These exercises assist with the discrimination between similar and differing objects. The Pink Tower exercise assists in the development of the visual discrimination of sizes in three dimensions. The preparation of the child for mathematical concepts such as the decimal system, geometry and volume is achieved through the exploration of this material. The Thermic Sense: The refinement of the sense of temperature is worked on through the use of the Thermic tablets.

Each of the tablets has a different sense of temperature when touched. The different reflective properties of the tablets are used to cultivate the ability to discriminate between thermic qualities. The Baric Sense: The feeling of the different pressure and weight of different objects and the heightening of the senses through the use of blindfolds or the closing of ones eyes is introduced using baric senses exercises such as the Baric Tablets. The child is encouraged and endeavours to discern the weight of the wood tablets.  
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Error is controlled through the colour of the wooden tablets, the lightest colour being the most light and the darkest colour being the heaviest weight.

**The Auditory Sense:** The matching, grading and preparation for language is developed and refined through auditory exercises. The refining of the auditory sense and the sensitivity to the sounds in the environment is brought about by the discrimination between different sounds through exercises such as the sound cylinders. This is two boxes containing six closed wooden cylinders, one box with red tops, one with blue.

The child shakes the cylinder near his/her ear and listens to variations in volume, pitch and intensity. Each red cylinder has a matching sound in the blue set. The cylinders may be simply enjoyed, matched or graded. The Montessori Bells may be used in similar fashion and exercises such as the Silence Game also help in the development of the sense of hearing. This is an indirect preparation for language. **The Gustatory Sense:** The gustatory sense is developed by exercises that encourage the discrimination of taste. An awareness of the sensitivity to different tastes in the environment is achieved through exercises such as the ' Tasting bottles. Other opportunities for exercises in the development of the sense of taste occur throughout the year at snack, lunchtime and in the garden. Directresses may also create tasting exercises to explore the experience of sweet, salt, sour and bitter.

**The Olfactory Sense:** These exercises encourage the discrimination of scent and the awareness of the sensitivity to different smells in the environment.

This material is similar in appearance to the Sound Cylinders in that it is two boxes each containing six bottles with paired smells. The aromas may simply be enjoyed or they may be matched. **The Stereognostic Sense:** This is the

sense by which form and solidity are perceived. This involves the feeling of objects and the ability to recognise what his hands and arms are feeling when they are moved around an object. This encourages the enhancement of muscular memory and is an indirect preparation for geometry and the awareness of sensitivity to different shapes in the environment. Examples of this type of activity is the Stereognostic Bag, the idea is to identify objects through touching them and not being able to see them.

Many of the sensorial exercises prepare the child for Algebra and geometry. Montessori said, " we think of our sensorial material as a system of materialized abstractions or of basic mathematics". (Montessori, the Discovery of the Child, pg. 231) Algebra – the knowledge of the subconscious algebraic formula  $(A+B)(A+B)(A+B)$  is represented by the cubes of the prism in the Binomial cube and prepares the child for maths and algebra. The Binomial Cube is a tangible representation of the above formula and the portions of the equation is represented by cubes and prisms.

The primary montessori child experiences the Binomial cube as a sensorial activity of visual discrimination of colour and form. This indirectly prepares the child for algebra. The Trinomial cube represents the tangible version of the algebraic formula  $(A+B+C)$  The portions of the equations is represented by the cubes and prisms. The discrimination of colour, patience, concentration, judgement and memory is also encouraged. The primary Montessori child experiences the trinomial cube as a sensory activity of visual discrimination of activity and colour form.

This indirectly prepares the child for maths and algebra. Geometry - Sensorial activities where attention is drawn to placing things in place and activities that encourage an awareness of ones own body in space assists indirectly in preparing the child for geometry. The establishing of language terms when relating a story or event is encouraged. The child is introduced to solid geometry and the naming of geometric solids. The awareness of various geometric solids that are found in the environment is encouraged. This also improves a child's stereognostic sense.

An example of such an exercise is the Geometric solids; this introduces the child to geometry. The set contains a cylinder, cube, ellipsoid, cone, sphere, square-based pyramid, triangular based pyramid, ovoid, rectangular prism and triangular prism. The child learns pincer grip, develops language and has eye to hand co-ordination, learns fine motor skills, visual perception and memory. This allows for the preparation for later geometry and an awareness of different shapes in the environment. Tracing around the shapes is preparation for later writing.

The Geometric Cabinet offers the child shapes found in his world and the classification for labelling them. The child's tracing of the shapes reinforces the visual image and many a times the child will remember that he also did this same movement with the dressing frames or with the knobbed cylinders. The constructive triangles affords the child an opportunity to experiment with the different shapes, aids in the discovery of the various ways of dividing and combining shapes to form other shapes and teaches patience, concentration and judgement.



The constructive triangles are used to demonstrate that all plane geometric figures can be constructed from triangles. What is the impact of the sensorial material on the child? Montessori said, " The senses are points of contact with the environment". " Everything appertaining to the child's higher energies becomes a stimulus, setting his creative powers to work and extending the interests of his exploring mind". (Montessori, The Absorbent Mind) The sensorial materials allow the child to make increasing sense and order out of the materials in his world.

It prepares him visually, audibly and tactually to move into mathematics, language, geography and science. All of the sensorial exercises and activities mentioned above are used to develop and refine the basic senses without which further development in that area, or other areas if life, would be stunted or even impossible. It would be impossible to live, in any ordinary way, without the use of our senses, it is imperative that each of the senses are developed, refined and used to the est of their abilities in order for a child to reach his inherent potential. The development of the senses is pivotal in teaching the child any life skill. The child's inner drive to understand their environment pushes him to make logical connections between things. The Montessori sensorial materials are designed with an inherent logical order enhanced by colour coding and other clues that appear as the child makes use of them. This process of the refinement of the senses provides a solid base for the intellectual development of abstract reasoning.

As the conscious ordering of sense impressions occur: the body, mind and brain start on the journey towards independent thinking and the ultimate accomplishment of intelligent decisions and conclusions. Bibliography Maria <https://assignbuster.com/in-what-way-does-using-the-sensorial-materials-help-the-childs-whole-development-give-examples/>

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