



The Montessori Method of Education of the Senses: The Case of the Children's Houses

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ABSTRACT

The Montessori method of teaching is founded on the idea that education should support rather than undermine a child's natural abilities. Therefore, scientific research on children and an understanding of how development and learning work should serve as the foundation for education. A psychic force or ability is active through physical organs, causing the experience. The action of the structure acting as a proper origin and determining the force is seen from one perspective; the action of the feeling, which catches the practical and formally establishes experience, is seen from the opposite perspective. The use and development of the senses are stressed in the Montessori method. Doing this a child is observed and new ideas and methods are used to develop the senses in the child. This paper is an attempt to show the methods used by Dr. Montessori in her Children's Houses to develop senses in children.

Keywords: Maria Montessori, Montessori Method, Pedagogy, Senses, Education

"In a pedagogical method which is experimental the education of the senses must undoubtedly assume the greatest importance. Experimental psychology also takes note of movements by means of sense measurements. Pedagogy, however, although it may profit by psychometry is not designed to measure the sensations, but educate the senses." – Maria Montessori (The Montessori Method Scientific Pedagogy as Applied to Child Education In "The Children's Houses").

Introduction

The Montessori method of teaching is founded on the idea that education should support rather than undermine a child's natural abilities (Adhikari & Saha, 2021a). Therefore, a scientific study of the child and an understanding of how development and learning work should serve as the foundation for education (Gentaz and Richard, 2022). The sensory emphasis of Montessori education is well-known and at the core of young children's learning. The materials, activities, and sensory equipment are all intended to improve the child's comprehension of sounds, tastes, smells, shapes, colours, and textures. The early years' curriculum in Montessori environments begins with exploration using all of the senses. Young children have the chance to acquire manipulative abilities, eye-hand coordination, and thinking and problem-solving skills through practical life and sensory experiences. Early freedom and curiosity lay the groundwork for later, more academic work as well as the framework for creative thinking (AITTA, n.d).

Senses in Montessori Method

Since the components of knowledge can be directly linked to the senses, even at the level of sensation, 'pure' sense knowledge can only be conceptualised. Instead, human intelligence, intellectual capacity, verbal communication, observation, and experiments reveal new dimensions in the value that enhance lying knowledge in general and specific fields (Haber, Liu, Seidlitz and Bullmore, 2022). The sensation, which is a psychosomatic harmony, is appropriate for the active life form (Lala and Prasad, 2020). A psychic force or ability is active through a physical organ, causing the experience. One viewpoint is how the structure acts as a correct origin and determines force; the other is how the feeling acts to formally establish sensation and capture the practical (Chen, Jiang, Lou, Chen and Shen, 2018). The portion of a material item that can be used to actuate the inherent sort of force is the prescribed object of the sense. While in the plea for conclusiveness the clear rule is the cause of physical action, the actual causality of the item leads to the logical causality production.

The purpose of the senses is an obvious yet frequently misunderstood idea. While esthesiometry procedures are not very appropriate to young children, yet, it is still totally possible to educate the senses. Montessori contends that we do not begin with the findings of experimental psychology. This means that we do not choose the educational applications we use based on our knowledge of the typical sense conditions for children of a given age (Adhikari & Saha, 2021b). Montessori began primarily as a methodology, and it seemed likely that psychology could infer its findings from teaching. The approach taken by Montessori was to conduct a pedagogical experiment using a didactic object and watch for the child's natural response (AITTA, n.d.). This approach is completely comparable to experimental psychology.

When exposed, Montessori's materials would reveal indicators related to the perception of colour, hardness, and weight. Teachers from Milan who had taken the course at the Milan School of Experimental Psychology would recognise these instruments among them and would therefore conclude that Montessori had not added anything new to pedagogy. But the two materials' biggest differences were: While Montessori's products frequently did not

allow a measure but were instead designed to encourage the child to utilise their senses, the esthesiometer had the potential for measurement within itself. An instrument must have the quality of not to tyre the youngster, but also divert them in order to achieve this pedagogical aim. This is where choosing educational resources might be challenging (Montessori, 1912). It is well known that psychometric tools are significant energy consumers. Instead, the development of energies is the goal of education.

The rules of Weber, which were actually derived from tests conducted on adults, were the basis for the preparation of psychometric instruments, or rather, the esthesiometric instruments, in their differential gradations (Smith, 1912). According to Montessori, one should start by creating trials with young children and choose the didactic materials in which they had an interest. This was accomplished by Montessori in the first year of the *Children's Houses* by implementing a wide range of stimuli, some of which she had already tried out in the school for deficient. In the teaching of the typical child, a lot of the materials utilised for deficient were abandoned or drastically changed. According to Montessori, she had chosen a group of items that represented the very minimum required for a practical sense education. Her didactic system is made up of these items. House of Labour of the Humanitarian Society at Milan then produced them (Montessori, 1912).

The variance in how children with disabilities and children without disabilities responded to graded stimuli was presented in the pedagogic content. The distinction was evident from the fact that the same didactic material employed with deficient, enabled schooling while it prompted auto-education in normal children. One of the most fascinating facts that Montessori had ever encountered, it inspired and made possible the method of observation and liberty. The purpose was to introduce the eye to alternative ways of perceiving dimensions (Montessori, 2004). It would be required to start the weak child's workouts with much stronger contrasting stimuli and to get to this exercise only after a number of other exercises had come before it. On the other hand, with typical children, the first item that Montessori provided was the game that the very young children of two and a half to three years old favoured out of all the didactic material (AITTA, n.d.). Every time the practise was performed, a typical toddler showed increasing interest (Colgan, 2020). In fact, the didactic material's educational value lied precisely in those mistakes; once the youngster confidently placed each piece in its right location, he had outgrown the exercise and the material was no longer useful to him. This self-correction encouraged the child to compare the various pieces and focus his attention on the variations in dimensions. This contrast was where the psycho-sensory exercise was found. Therefore, it was not necessary to use those pieces to teach the youngster about dimensions in that situation (Montessori, 1912).

Furthermore, it is not our intention for the youngster to successfully complete the exercises by being able to use the material provided to him without making any mistakes. That would put the materials on par with many others, such as that of Froebel (Ildiz and Ahmetolu, 2018), and would necessitate the teacher's active participation once more – the teacher who is already busy providing knowledge and rushing to correct any mistakes so that the student can learn how to use the objects (Marshall, 2017). Instead, the child's work, auto-correction and auto-education were at play in this situation because the teacher was not allowed to meddle in any manner. No teacher could give a child the agility that he or she developed via gymnastic exercises; the student must perfect oneself on his or her own. The education of the senses is extremely similar in this regard. A man is not what he is because of the teachers he had, but rather because of what he has done; this is true of all forms of education (Smith, 1912).

The goal of sensory education is to fine-tune how different stimuli are perceived through repeated exercises. There is a sensory culture that is present and influences esthesiometry but is typically ignored. A set of 10 cubes was one of the pedagogic tools available to the kids in *Children's House* for the education of the senses. The smallest cube had a base of one centimetre, whereas the others all had bases that were one centimetre smaller than the first. The practise entailed tossing the pink building blocks onto a green carpet, creating a small tower out of them by starting with the largest cube and working the way down to the smallest cube—which was one centimetre in size—at the top. The young child was required to choose the largest block each time from among the blocks strewn around the green carpet. Children under the age of two and a half found this game to be entertaining. After building the small tower, they knocked it down with gentle hand blows while admiring the pink cubes that were then strewn on the green carpet.

Therefore, both teachers and students of experimental psychology should find this teaching strategy engaging. The instructional materials enabled auto-education and allowed for a systematic education of the senses. Such education depends more on the didactic system than on the teacher's skill. This displays items that comprised a logical gradation of stimuli and, initially, spontaneously drew the child's attention. One must distinguish between the education of the senses and the actual concepts that could be gleaned from the surroundings through the use of the senses. Additionally, neither the language used to convey the nomenclature relating to the concrete idea nor the acquisition of the exercises' abstract idea should be confused in our minds with this education of the senses.

The *Children's House* director had a clear understanding of the two elements that went into her work: the child's guidance and the individual exercise (Adhikari & Saha, 2023). She could only begin to apply a method to direct the child's spontaneous education and to transfer necessary conceptions to him after she had this concept clearly entrenched in her mind. The personal art of the educator was found in the appropriateness and mode of this intervention. For instance, a month after the school's inauguration, Montessori discovered a five-year-old student at the *Children's House* in Prati di Castello, where the students had already learnt to compose any word and had learned the alphabet in two weeks (Saha & Adhikari, 2023).

The children were proficient at writing on the chalkboard, and in the free design tasks, they demonstrated that they were not just an observer but also had a keen sense of perspective by deftly sketching a house and a chair. Regarding the chromatic sense exercises, they were able to combine the eight gradations of the eight colours that Montessori employed and quickly distinguish the eight groups from the mass of sixty-four tablets, each wrapped in silk of a different colour or shade. After accomplishing this, they would easily arrange each colour series in the ideal gradation. A carpet of subtly coloured hues would almost completely cover one of the little tables in this game. Montessori conducted the experiment by bringing them to the window, showing them one of the coloured tablets in broad daylight, and instructing them to look at it carefully so that they might be able to remember it. Montessori then told them to find the tablet similar to the one they had been looking at on the table where all the gradations were laid out (Montessori, 1912). They made very minor mistakes, frequently selecting the identical shade, but more frequently the one next to it, and infrequently selecting a hue that was two grades off from the correct one. The children back then had virtually amazing powers of discriminating and colour memory. They loved the colour activities. However, when Montessori asked them what the name of the white colour spool was, they paused for a long time before mumbling, 'white.' Now, children of such intellect ought to have been able to learn the names of all the colours even without the teacher's particular assistance. Montessori found that the children had a lot of trouble remembering the names of the hues. They had also quickly acquired a command of written language, which is demonstrated

in her method through a series of issues which Montessori mentions that must be resolved. These issues were offered as exercises in common sense (Smith, 1912).

A normal child found immense joy in the linkage of the name with the stimulus. Montessori recalled teaching the names of three colours to a young child who was a little behind in her language development and was not yet three years old. Montessori asked the children to set up one of their small tables near a window, and she herself sat down in one of the children's chairs before placing the young girl in the chair to her right. Montessori had six pairs of colour spools – two each of red, blue, and yellow – on the table. Montessori asked the child in First Period to find a spool that was similar to the one she had in front of her. Montessori did this again for each of the three colours, demonstrating to her how to carefully pair them. So, for instance, it was possible to deliver hearing exercises more successfully in a setting that was both silent and dark. Montessori blindfold the child during exercises that generally educate the senses, such as tactile, thermic, baric, and stereognostic ones. This particular strategy's psychological explanations have been explained in detail by Montessori. Here, it is sufficient to note that, in the case of normal children, the blindfold significantly heightens their interest, without causing the exercises to devolve into loud entertainment or having the child's attention drawn more to the bandage than to the sense-stimuli on which we wish to focus it. For instance, Montessori utilised an empiric test that was becoming almost exclusively used by doctors when conducting medical tests to gauge how acute the child's hearing. This test was conducted by modulating the voice until it was hardly audible.

The normal child might wear a blindfold during games where, for instance, he must identify different weights since doing so helped him focus and sharpen his attention on the basic inputs that he must evaluate. He was much more delighted by the blindfold since he felt pleased with himself for being able to guess. These games had a completely different impact on children with disabilities. They frequently fell asleep or committed disorderly activities when left in the dark. When using the blindfold, children became fixated on the bandage itself and turn the activity into a game, which defeats the purpose of the practise. It is true that we talk about games in education, but it must be made clear that we mean a free activity that is organised to have a specific goal rather than chaotic noise that diverts attention. Last but not least, one aspect of the approach is the distribution of the stimuli. According to Montessori, this will be covered in greater detail when the didactic system (materials) and sensory education are described (Colgan, 2020).

Conclusion

Humans can interact with their environment in amazing ways thanks to their five senses. The functioning of each sense is intricate and fascinating. We are able to communicate with the world through each sense. The sensory emphasis of Montessori education is well-known and at the core of young children's learning. The materials, activities, and sensory equipment are all intended to improve the child's comprehension of sounds, tastes, smells, shapes, colours, and textures. The foundation of the early years curriculum in Montessori environments is sensory exploration. Young children have the chance to acquire manipulative abilities, eye-hand coordination, and thinking and problem-solving skills through practical life and sensory experiences. Early independence and curiosity lay the groundwork for later, more academic work as well as for creative thinking.

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