Technology in a Montessori Classroom

Introduction

"Children today are surrounded by technology, just like how they are surrounded by nature. Therefore, why shouldn't technology be integrated into the incredibly successful method of education that is Montessori?" – *Graham Glass*

Technology is more than just computers. Technology in preschool classrooms includes interactive media such as computers, projectors, interactive smart boards, digital storytelling, internet resources and many more.

Maria Montessori stressed that the environment must be a living one and that little children must be in control of their learning. She envisioned education through advocating that children should be able to explore their world freely, to understand and respect all aspects of it including technology.

Since technology (computers) today is a defining factor in the reality of our world, we must ask the two questions – First, should technology be represented in a Montessori classroom? Second, how should technology be introduced in class?

Cosmic Education: Global Citizens

Today, computers are found everywhere; at homes, offices, departmental stores and schools. With a click of the button, the world is at our fingertips. We are instantaneously connected. Computers and digital devices are part of our children's world today and therefore helping them engage with these tools in a positive way is important.

"What purpose would education serve in our days unless it helped humans to a knowledge of the environment to which they have to adapt themselves?"
                                        - Maria Montessori

Maria Montessori saw children as global citizens who need to learn real-world concepts and therefore the Montessori classroom is built around the concept of reality. Children are actively engaged in real-world learning, giving them the foundation upon which they can develop their maturity.

The introduction of technology is no exception. The main argument for

Technology in the classroom is that children should be able to apply classroom concepts to daily life, and a large part of daily life revolves around technology.

Our task as Montessori educators is to prepare children for the technological advancements they may encounter, not just today but in the future. In order to do so, we need to introduce technology strategically and appropriately in the classroom using the developmental milestones of young children as our guide. Children between the ages of two and four need more hands-on sensory and motor skills for brain development. By pushing computer use too early, we are depriving our children the environment for optimal growth

In Montessori classrooms, it ensured that technology used with children is age and content- appropriate, which facilitates the developmental needs, interests and abilities of young children.

Use of Technology in a Montessori Classroom

Computer skills are introduced to children at the age of five, as it is the period that children are transiting to learn abstractly. In Montessori, we do not formally "teach" technological skills, instead, we set the stage for successful experimentation, using computers and digital devices as learning tools. This provides children with the materials, and support required to explore technology safely in a classroom setting.

How do Montessori schools introduce technology?

Computers and digital devices act as a supplement rather than a substitute, for teachers or materials in Montessori classroom.

In the practical life area, children are first taught to how to use various technological devices such as a mouse, keyboard, digital camera, "iPad" and printer. These early lessons equip children with the skills necessary to apply technology to their daily lives.

Technology is used to broaden, reinforce and support children's learning. This is evident in many classrooms, where Montessori teachers use educational videos to support children understanding of abstract concepts. For example, when teaching "Photosynthesis in Plants", a teacher may use a five-minute video to engage children and stimulate their curiosity. Children may raise questions, thus providing the teacher with the opportunity to follow the interest of the children. The use of a carefully chosen video can bring aspects of the world that are too far and too small for the child in ways that are so much more meaningful than books and charts.

Reinforcement is key to learning and technology can be deployed to creatively reinforce the various concepts of the Montessori curriculum. Mathematical concepts are reinforced through games and quizzes, using developmentally appropriate computer programmes. Technology is very malleable and can easily be integrated into other area of the curriculum such as sensorial, language, botany, geometry and geography. Children can use the click-and-drag software to learn more about shapes, colors, sizes, and dimension as a follow up exercises to the hands-on sensorial activities.

Technology is used to support children in their project work. For example, if children are working on a project where they learn to make a 'Photocopier', they may use technology to research about photocopiers before committing to building one. Through researching, a young child may raise questions and start thinking about the different ways to design a photocopier.

Not only does technology aid in children's learning, but also allows for better communication between parents and teachers. There are a variety of ways to communicate with parents such as using email, text, WhatsApp or a classroom management software. Through these technological means, parents can receive live updates of their child's activities, feedback on child's performance and assessments. Such communication sets the platform for parents to have a more meaningful role in their child's education.

Parents are vital partners in education. They influence their children's attitudes about learning, and support learning at home. Various learning platforms or digital devices adopted by schools can allow parents to access children's work and activities.

Administratively, Montessori schools make use of technology to document child observations and compile them into portfolios to present to parents. It helps them to keep a record of a child's attendance, daily health check records, children particulars and other relevant information.

Nevertheless, there is a need to balance the use of technology in our children's environment. Our Montessori children must emerge from their schools well-versed in the use of technological tools in order to prepare them for life in the 21st century.

Hazards of excessive use of technology for young children

Technology has brought us information, helps us to perform things easier and faster. However, there are some negative impacts from excessive use of technology too. The impact of technology on young children cannot be underestimated. Infants, toddlers do not learn much from digital media as they have limited understanding of what they see and hear on screen. When children are constantly exposed to technology during early years, they face high risk of problems with attention, social and emotional development. Technology changes the way children socialize and interact. It can have huge impact On their mental and emotional well-being. Excessive use of technology with young children could result children in:

- Poor social and interaction skills
- Unable to develop meaningful relationships with others
- Less ability to remain focus
- Lack of coordination skills
- Unable to think critically or to be creative
- Imbalanced mental and emotional well-being
- Lower self-esteem

Technology is not bad for young children. However, it is very important to balance the quality and quantity of time children spend with technology. When you use technology with children, do it purposefully. Children see, children do. As adults, we also bear the responsibility to limit our use of technology in front of children. Instead of keeping ourselves busy with technology, we must spend meaningful time with children and engage in purposeful activities with them. We can keep ourselves engaged with children to foster a strong and healthy relationship.