

Montessori and its next generation

What do we want to give our children – our next generation?

We want to give children the best start in life. How does the latest scientific knowledge, most modern technology, the most up-to-date information fit in?

Many feel the newest scientific gadgets are the way of the future, so many want to introduce children to them as early as possible.

Is this the best decision? Well, if we don't do it, the children will get exposed via friends and other families. So we ignore what is not convenient; do what it seems everyone is doing. The days of giving car keys to children has been taken over by giving children our smart phones to play with. We are reassured that this is fine, normal and forward thinking. Who is reassuring us? Advertisers. Advertising is also based on science – a lot of psychology – and it works.

Let's take disposable diapers – the claims are that babies are drier, more comfortable and happier and we believe it. But urinating or having a bowel movement is supposed to have consequences and give feedback. Paper diapers don't do this and it can cause a change in body scheme.

We listen to someone who seems knowledgeable. We are being successfully manipulated - mostly without realizing it. So, from love, we put obstacles in front of our children.

Montessori believed that children should learn the way nature intended children to learn, using the potential they are born with:

Absorbent Mind –permanent connections to form or shape the psyche or mind.

Human Tendencies that guide them to adapt to the world.

Sensitive Periods – focus - to become a “person of one's time and place”.

90 milliard neurons - connecting through active experience in the environment.

She said when we thwart or obstruct this natural development it puts the child's psyche in danger and threatens the learning process.

Montessori urged active experience in the environment. She also insisted on Sensorial Experience.

DO things, Touch, Handle and Manipulate, Smell, See – sensorial exploration. Prepare the Environment, children need safety and experience.

Does this mean we must arrange every space in our homes and our lives to suit the tiny child, no of course not. But wherever they are welcome in our lives we can arrange to be safe and educational.

Movement is scientifically recognized to be the key to learning and also to good health. Babies that are put on the floor develop movement which helps develop the muscles for breathing and even improves digestion. Putting the baby regularly on her tummy encourages slithering and crawling necessary for optimal brain development and lateralization.

Putting a child on the floor puts them in the right position for important milestones like rolling over and crawling and walking.

Yet, what do we adults who so passionately believe in giving our children the best start in life do? Put them in cages. Prevent experience in the environment instead of encouraging it.

We have devised a series of cages and traps, completely acceptable to society to put our children into, to “keep them safe”. But these traps also keep them sensorially limited and motorically restricted.

One thing Maria Montessori suggested in this regard is to make the room the child sleeps in and perhaps plays in and certainly spends much time in, SAFE. A space for the child. And in this room, a low bed, resting on the ground, without

bars or restraints to keep the child in. Is this science? well if it's connected to the understanding that movement is important, yes, it is.

Many parents shake their heads, no, too dangerous. It's as dangerous as we make it. If you make the room safe, the room is safe; the child should be allowed use of this safe space.

But, parents complain, the child can get out and travel the house and come to our bed and wake us up. Close the door. Close the child in the room!? Well, would you rather be in a closed room or a cage? And baby phones/monitors exist if you want to monitor the child or hear his calls.

When you can't sleep at night, or awaken early in the morning and want to read or move about you are allowed to, why don't children receive this same courtesy? A mat to sit on, a few toys that are interesting at this moment, and the child can leave the bed after sleeping and go quietly and play.

But here in Europe it's too cold, the children cannot have a bed on the floor! There are drafts.

Put something to stop the draft by the windows and attach anti draft door seals to the door if you worry, but don't use this as a valid excuse to keep a child in a cage.

One other consideration. A Child Ophthalmologist told me that one of the worst things we can do for a newborn's eyes is to put him in a position where he is stuck focusing on something near to his eyes like crib bars. Eyes in the first few years, she told me, need to move, exercise and use the muscles or the child will have eye problems and glasses later.

By the way, if you are now interested and thinking about a floor bed for your child start by letting the little one nap on the low bed, then when he's happy getting up by himself and understands the situation you can get rid of the crib.

SCREENS

When we put children in their daytime cages, we often put them with a handy, very modern up-to-date babysitter, a SCREEN.

These days giving even babies under a year old a computer or especially a tablet like an iPad or a smart phone is very fashionable. 'Preparing the child for the future' people claim. But are we taking enough aspects of being human into this decision?

NATURE

Human beings exist for somewhere between 2 and 4 million years. Let's say 3 million to make it easy. 200 years ago approximately only 3% of the human population lived in urban area, out of nearly one milliard people only about 3 million lived in cities. For 2 million - 9 hundred 99 thousand, 800 years humans were people of the land, people of and with nature.

Even now, in most countries, when people have a chance and the means (money) they go to the outdoors to get in touch with nature.

This is part of our human development, our legacy as creatures on this planet and being in touch with this side of human nature is important for normal development. Children need to be outdoors. Screens keep them indoors. Every hour spent on a screen means an hour less of movement, play, interaction with others.

Besides this there are other considerations.

The American Academy of Pediatrics issued guidelines recommending that children under 2 have NO screen time – TV, video, computer, tablet, smart phone, nothing – at all because these adversely affect brain development. They claim that this media has no known positive effects for children of this age.

France has banned TV aimed at children under 3, and Australia and Canada have similar guidelines. In fact France has recently banned wifi in nursery schools for children under 3 because of the potential dangers of radio frequencies for health, the World Health Organization (WHO) classified them as “*possibly carcinogenic*,” and the National Agency of Health, Safety of Food, Environment and Labour (ANSES) recommended “*limit exposure of the population to radio frequencies – especially mobile phones – especially for Children and power users*”.

Dr. David O. Carpenter, M.D is the Director of the Institute for Health and the Environment at the University at Albany and an Electromagnetic Field (EMF) subject matter expert. He claims those more vulnerable include children, pregnant women, the elderly, and those with preexisting illnesses and/or impairments. Children especially are vulnerable to exposed, because of the susceptibility of their developing nervous systems. Radio Frequency (RF)/Microwave (MW) radiation, he points out, more easily penetrates children’s heads. Children absorb more of the Radio Frequency (RF)/Microwave (MW) energy in their tissues than adults at WiFi frequencies. Children’s skulls are thinner, their brains are smaller, and their brain tissue is more conductive.

I checked and checked and there are so many articles on this subject that one can only conclude that findings are inconclusive. But there may be a risk.

The first 3 years of a child's life is under close scrutiny these days. Many authors, scientists, and neuro-scientists claim that what happens in the child's first 3 years is what the child will have to live with for the rest of their life.

There are several problems with screens for human beings and especially for the little ones.

First there is the kind of light that most, of these screens create. It's called radiant light. There is, basically radiant light, like the light from the sun - it's light from the source - and reflective light, light that is reflected off of things, like the light we are using to see each other. Radiant light appeals to our lowest brain system, the R system, responsible for our basic survival. When the sun came up, we rose, when it went down, we slept.

Radiant light gives us some problems when we use it. Televisions, computer screens, tablet screens all these monitors use radiant light. And the light source flickers, no matter what kind: CRT (cathode ray tube), LCD (liquid-crystal display), TFT (thin-film-transistor liquid-crystal display) , IPS (In-plane switching).

When we look at this radiant, flickering light our brain waves change. We go (often from Beta waves which are the brain waves of alertness and learning) to low Alpha waves. Alpha waves are produced as quickly as after only 30 seconds of watching TV.

Alpha waves are associated with unfocused, lack of attention state. There is nothing wrong with them, we have some great insights in Alpha. They also put the brain into a particularly receptive state for what the person is seeing.

What are the children seeing that they are being receptive to? Well, the Television is the source of many types of information.

First we have the commercials. Children under 6 years old, maybe even up to 8 years old don't understand the commercials are for selling a product, they take the information seriously. And it's no secret that children are being targeted by advertisers. If you can hard wire consumerism into the brain, why not? seems to be the attitude.

Then there is the violence. Anger is an emotion, Aggression is a learned behavior. Children who see aggression on TV may become desensitized to violence and become more aggressive.

Aggression is also a prominent feature of video games. Many violent acts are done by the "good guys" the heros, so even when parents try and teach peaceful, polite behavior it may seem OK to kick or bite or hit because the good guys do it. Children - definitely those in the 1st plane of development and well into the second plane – are trying to learn and understand what is right and what is wrong. These images do not give the right impressions.

Dr. Craig Anderson, a professor of psychology at Iowa State University and co-author of the new book, "Violent Video Game Effects on Children and Adolescents," is widely regarded as one of the foremost experts on violent video games. In his research on their effects on childhood development, in one recent study he found that "it didn't matter if the games the children played were outwardly violent. Even with cute characters and happy music, children were 40% more likely to exhibit aggressive behavior after playing."

FAST PACE

Besides the violence there is also a very fast pace on TV and many video games. There are lots of close-ups, pan ins, zooms, quick movement, loud noises that are there to keep the attention of the children. This fast pace, over time

seems to diminish focus. Children don't stick with tasks as long and concentration seems to be more difficult.

We all know our brain is where we hold and process information and add new information – this is learning.

In order to do this our brains need to be in a state of 'chaotic disequilibrium'. This means there has to be a flow of communication between all areas of the brain – this is how we form complex ideas. Chaotic brain activity is present during reading, writing, doing math equations, but not while watching TV.

DOPAMINE

The fast pace and special edits may increase the amount of dopamine the brain produces. Dopamine is produced when we see something interesting or new and it is also the neurochemical involved in most addictions, it's the *reward chemical*. Continual computer gaming could change the reward circuitry in the brain. This means the children could develop a dependency on screen media when they are older. Video gaming taps into this system. One study showed that the area of the brain related to dopamine in video gamers was similar to that of compulsive gamblers. But to be fair, children that get addicted may have this tendency in their genetic make-up. Now, the question, are you willing to take the risk for your child?

Besides the dopamine, when you watch TV brain activity switches from the left hemisphere to the right hemisphere.

Basically the left hemisphere, where we organize, analyze and judge incoming information, is numbed. The right brain is more holistic, does not divide or categorize the information, is less critical. It leads to more emotional responses. This is not a bad thing when you are listening to music, getting a

massage, enjoying many good things in life. But it doesn't retain facts well. A study of 2700 people showed that 90% misunderstood what they saw on TV only minutes before.

Crossover also releases endorphins, the body's natural opiate. Endorphins and opiate derivatives, morphine, codeine and heroin lock onto the opiate-receptor sites on nerve endings in the brain. Like these drugs, activities that release endorphins are habit forming. Things like cracking your knuckles, strenuous exercise, sex and eating chili's and chocolate – but one doesn't need to do them necessarily together.

In some cases the "endorphin addicted" person can even have withdrawal symptoms when they stop the behavior, even migraine headaches.

People have had withdrawal symptoms when they "quit" TV too. In studies in South Africa and Germany people tried to stop watching TV and failed, even when they were offered money.

By the age of 7 years the average child will have spent a full year watching TV.

OBESITY

We know there are other health issues, lack of exercise and too much snack food which goes with TV viewing and video gaming. Moreover, with TV viewing the children are bombarded with ads that encourage them to eat unhealthy food like potato chips and drink sugary, empty calorie soft drinks.

This is not new information, I just need to put in into the prospective that it's only one of the problems that too much screen time can cause.

TECHNOLOGY

It may be that a brain calibrated to technology is the next step in human evolution, an inevitable change of the brain structure brought about by our own

doing and on purpose. Still, this should be a change that happens in the second plane of development, when children understand the basics, the realities of the world and can be part of their own choices.

I don't want to say that science has no role in Montessori, the Montessori method is based on science. As science progresses there will be interesting new ways to use it in the Montessori classroom.

But everything has its moment. Very young children need to have more time to play outdoors, explore real things, build a good knowledge of how things work. This way when they use the latest scientific ideas they will understand them and use them wisely.

Remember it's not only WHAT we give our children, it's also WHEN we give it that makes modern science and ideas really work.

Books and articles:

Lise Eliot, *What's Going On in There? The First 5 Years*

Sue Palmer, *Toxic Childhood*

Dr. Jane Healy, *Endangered Minds*

Joseph Chilton Pearce, *Evolution's End* and *The Biology of Transcendence*

American Academy of Pediatrics

UK Guardian article: *Ban Under 3's TV*

Now let's go to practical solutions. There are some basics parents and teachers, anyone working with young children should take into consideration.

The first is the extra time children need to process information. We often express several ideas, quickly, for example, "It's time to go" "Put on your coat" "Get your boots on" "Hurry, grandma's in the car waiting" "Come on, hurry up" but the child is still processing, "It's time to go". They stand there doing nothing and then we get impatient. "What's wrong with you, I said hurry up". With a smaller vocabulary and less practical experience children are not as fast as we are when processing information. The best way to communicate is:

- ✚ Get their attention. Lower yourself to their level, make sure you have their attention, maybe touch their cheek.
- ✚ When you are sure, then give one piece of information, wait until you see understanding, then give the next piece of information. This allows for the extra time they need.
- ✚ When children realize they are being addressed, they start to pay more attention and the processing time decreases.

Don't give orders or yell at a child, get their attention first and follow through!

Model how to do anything they are not familiar with. For example, let's wash the potatoes, this is how you hold it, this is the scrubber, watch, rub like this, then swish it in the water. Now you do one.

It may seem strange, but children don't always analyze the movements they see us doing daily, they often need a demonstration and then some encouragement to participate. This means YOU have to analyze your movements, separate them, examine how you can demonstrate them and then do things a little bit slowly.

Correct in a positive way, "Let me show you again" "It's easier if you hold the potato like this" "I'll have another turn, watch"

Stop anything dangerous or anti-social. Maria Montessori herself said this in her book "Child in the Family". When a child's behavior is incorrect, correct it.

“We don’t throw the potato, watch how carefully I put it into the water”. Children respect adults who show them the right behavior. They want to be accepted, they don’t really want to be yelled at.

✚ When you see a behavior, like throwing things into the water, it may be that the child is trying to see if the result is always the same. Children find out about the world through experience. Have you ever experienced a child dropping a spoon over and over until you get irritated? It could be that she is trying to see if the result is always the same. What can we do? Find an acceptable replacement. Perhaps going to a pond and throwing stones in, they always sink, now try a leaf, look it floats. Have you ever tried to pick up a suitcase you think is empty and it’s full, or the other way around? Children need to push, pull, carry and find out how much effort is involved with daily activities.

Practical Ideas:

Child: school, asleep, with partner

Adult:

Cook in advance and freeze what you can

Vegetable spaghetti sauce

Chicken or meat in pre-cut and ready to cook portions

Shop – do your big shopping so you have time to walk or read or cook together

Toddler & Adult:

Put away groceries together.

Clean vegetables for dinner

Bake together

Set the table for dinner, even in the afternoon. Make placemats so the child can help.

Do laundry together

Fold clothes from the laundry, child hands adult the clothes. Watches and learns.

Gardening

When we do things together at a very young age it's easier to get children involved. If you wait too long, they are not as interested.