The Impact of Television on Child Development

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Using Rudolf Steiner's model of the 12 Senses as a basis and linking this to recent findings in medical and psychological literature.

Should my child watch TV, play computerized games, be exposed to learning based programmes, use an iPad or iPhone? How much is too much? Will my child be deprived of vital learning if we do not allow access to these media?

These are the questions with which we are confronted in this age when visual media invade so much of our lives. It is suggested that the average child in Europe will have spent 1 year of 24 hour days, watching screen media by the time they are 7 years old and 4 years by the time they are 18. This represents a huge percentage of waking time.

There have been many books and papers written since the early 1980's including "The Plug in Drug" by Marie Wynn and "Endangered Minds" by Jane Healey, showing the disadvantages and dangers of screen viewing. It has been easy for people to dismiss this information as unscientific and not relevant to the wide range of media and computerized learning possibilities now available. Research has been continuing, however, in particular since the year 2000, especially in relation to medical and developmental concerns. A paper prepared for the European Parliament in 2010 by Dr Aric Sigman gives this as a closing statement:

> "There is a 'dose-response' relationship between the age at which children start watching screen media, the number of daily hours they watch and negative effects on physical health and well-being irrespective of the quality of the screen material. Screen time must now be considered a major public health issue and reducing screen time must become the new priority for child health".

Also in this article:

"Television viewing hurts the development of children under three years old and poses a certain number of risks, encouraging passivity, slow language acquisition, over-excitedness, troubles with sleep and concentration as well as dependence on screens.....even when it involves channels specifically aimed at them.

(High Audiovisual Council 2008)

Why is screen viewing so damaging in the first three years? New studies show specific results including changes to brain cell structure and function with health implications which span the lifetime.

The infant arrives in the world completely dependent on its care givers – In the course of the first three years three major developmental challenges must be mastered – walking, speaking and thinking (memory, consequence). Thinking and knowing brings with it the beginnings of a sense of self as separate from the world and from other people.

The young child is completely open and receptive to the sensory world. He/she cannot shut off to unwanted stimuli of any kind. The love of parents and other close caregivers surrounds children to support and shield them through the huge growth and development which takes place at this time.

When we describe the impact of the sensory world on child development it is helpful to use the 12 senses model which was proposed by Rudolf Steiner prior to 1923. He spoke of four will senses which have their most important development during the first seven years. These are the senses of touch, life, movement and balance. They are the senses which inform us

1. Paediatric Occupational Therapist, Christchurch, New Zealand. (The editors thank Robyn for this article, written on request upon her return from lecturing at the New York conference of the International Society on Early Intervention, March/April 2011. In October, 2012 Robyn also spoke at another conference run by the same International Society in Perth, in association with the Asia Pacific group)

about our own body. Then there are four senses which allow us to perceive the world around us which bring aspects of antipathy and sympathy to our experience. These are the senses of smell, taste, vision and warmth. Finally we have four senses which facilitate our interaction with other people. Our ability to learn, to share ideas, to be truly human, depends on our senses of hearing, word, thought and the sense of ego.

During the first years we develop the will senses which affirm our sense of self.

TOUCH is nurturing, calming, defining and vital to development. Babies who are not lovingly touched and nurtured do not grow or thrive. Screen viewing is passive and has no tactile component. Children are always irritable after screen viewing and need to fight and bump into the world to re find their bodily self.

The LIFE sense is the sense of well being and encompasses all the rhythmic aspects of our body and our activity. The infant's heart beat and breathing mature throughout childhood. The digestive tract must mature so that it can transition from milk to solid food; sleeping and waking need to be established. The child's brain is only gradually building connections between actions, emotions and meaning. Studies now show that children exposed to screen viewing from infancy have delayed development, sleeping is disturbed, excitably or passivity is induced and crucial brain pathways, associated with socialization and problem solving, are underdeveloped. Rhythms associated with eating and daily routines give way to the demand of the screen programme.

The results of studies also show that background TV exposure is as damaging as direct viewing.

The MOVEMENT sense arises from information from muscles and joints and is used to inform the brain where the legs, arms and fingers are so that we can learn to move with skill. The infant must 'grow down' into its limbs, down to the toes and the fingertips in the critical first year which culminates in the child walking. The interaction with significant care givers is vital in this process. As you move, the baby moves, as you speak the babies' body echo's the movement in a loving devotion to everything that you do. This loving bond is what calls the baby into activity. A person on a screen cannot do this. A baby cannot interpret movement on a screen. Our movement is ensouled and embodied with emotion. We move with love, with anger, with care. Every aspect of a gesture is taken in, later to be mirrored back as the child is the master of its own movements and its relationship to space. Studies show decreasing interpersonal contact time and ever increasing eye to screen time which is impacting on the development of skilled movement.

We stand upright in EQUILIBRIUM having mastered gravity and the challenges of balance. At birth the infant cannot even raise its head and yet, over the first year, gravity is conquered and uprightness achieved. An unobserved but vital part of this balancing process is the integration or working together of the two sides of the body – which culminates in a dominant side being established and with this specialization of the functions of each side of the brain. Recent research shows the detrimental effect of screen viewing on children's motor skills development with a reduction in motivation to move. Equally importantly amongst the changes to the brain structure are reductions in the size and condition of brain cells in the orbito-frontal (thinking) part of the brain as well in the corpus callosum which is the bridge which links and unites the two sides of the brain and is vital to integration, the establishment of dominance and speed of processing information.

The second group of senses described by Rudolf Steiner have significance in relation to the life of feeling. They are awake from birth, but become refined as conscious senses during the second seven year period. These are the senses of smell, taste, vision and warmth.

SMELL and TASTE build our first memories in relation to our closest care givers. Our essential well-being depends on knowing whether we are hungry or not, knowing if what we take in is good or not. Screen viewing means that the metabolism is slower and fewer calories are burned. Children are more likely to be overweight. Internal cues telling us we have eaten enough are not registered and over eating is likely to result. One study has found hours of television viewing to

be independently associated with percentage of body fat at seven years, every hour of additional viewing equating to an additional kilo of body weight.

VISION is represented in the brain by hundreds of thousands of light sensitive cells. Vision is a very awake sense through which we move out of ourselves to take in the form and activity of our world. Our ability to perceive depth, the form and the relationship of objects to each other, to perceive movement and to judge our own movement in relation to movement in the environment, is not innate, it must be learned. The infant learns to perceive visual space through doing – by learning to crawl, to stand, to fall and get up again, to hop, jump, run and skip and by watching the movement of important people in the environment from the earliest age. The eyes need to move in unison and independently from the head movement, for skill to develop in hand/eye integration.

Looking at a screen of any sort requires that the viewer is able to interpret what is passively seen. Infants do not have this ability, but can be fascinated by light and colour. Eyes are static in this process of looking and the eye muscles are not exercised.

Screen viewing produces minimal brain activity, moving it into sleep mode. Even playing computer games is associated with limited neurological activity. Heavy screen viewers have been found to have fewer skills in goal directed behaviour, attention, working memory, inhibition of behaviour, problem solving and self regulation; demonstrating that the passivity of viewing does not stimulate brain growth.

The ability to create an internal picture is vital to creative thought. When we listen to a story we create our own pictures. Screen viewing gives a picture which does not encourage creativity.

The sense of WARMTH relates to both physical and emotional warmth. Children grow in loving, interactive relationship; the caregiver's interest generates warmth and enthusiasm. Enthusiasm stimulates ideas and is mirrored back by the child in the two way process of learning. Studies have shown that over the last 20 years eye to eye contact in the home has gone down and eye to screen contact has gone up. People spend more time in front of a screen than interacting with other human beings. British children aged 11-15 spend 53 hours per week, 55 percent of their waking time, watching screen media.

The four highest senses are those which give us the possibility to be social human beings. These are the senses of hearing, word, thought and the sense of ego.

To HEAR we need to be inwardly still and quiet. The impact of screen media is very largely visual. For small children the sound may be captured and repeated but there is not time or space to create the inner pictures which give meaning and allow information to be understood and generalized. Story reading and storytelling allow the child to be inwardly creative. The emotional and thought content of what is spoken is integrated. The reader or the speaker can respond contingently to the listener.

Many children today have not learned to listen. They are unable to select and 'tune in' to a specific voice. Their ability to process auditory information has been affected by the dominance of visual information, ear preference is not achieved. Language development is delayed. Studies show that babies who watched programmes, such as "Baby Einstein", had 8-10 less words at 18 months than infants who did not watch visual media programmes.

The sense of WORD is developed during the first year to 18 months through interaction with significant caregivers. As noted previously, there is a delay in language acquisition in children who are both active and passive screen viewers. When TV and other media are consistently present in the young child's environment less time is spent in face to face interaction. A screen talks to you, but it does not respond contingently to every facial expression or utterance as a devoted parent does.

The sense of THOUGHT is the sense that gives us the possibility to interpret what others are saying. To understand the thought behind what is spoken and to be receptive to an others thoughts, we need to be able to stand in our own

space as individuals, to be still, balanced and receptive, we need to be able to read the words, the gestures and the emotional content of what has been said. Studies are showing a significant decrease in empathy in today's teenage population and a decrease in the ability to read the nuances of others verbal communication. We are becoming more self focused and moving towards behaviours descriptive of the Autism Spectrum.

Finally, the sense of EGO is the highest sense, through which we have the possibility of truly meeting and appreciating the individuality of another person, through which we see the Christ reflected.

The visual media is making it harder for our children to achieve the highest goal of our humanity – to be conscious, caring human beings.

Visual media induce a state of sensory deprivation – they negatively impact on development. Scientific research recognizes the first three years as especially important here. We know, however, that the development of the senses does not stop at three years and that that the journey to becoming fully human spans 21 years. The senses, all twelve, are our windows to the world and allow us connection to what is most human.

Love for the earth and love for the other – these are what will change the world. To give our children the possibility to be fully human we need to be brave enough to change the way we live to protect them and nurture their development.

The screen media have become integral to our lives and to banish them completely from our daily working is hugely challenging. As with all that we do our consciousness is needed to protect the very small and to monitor both our own, and our children's, viewing. One half to two hours is the recommended daily maximum for older children. For some, this will already feel too much, others will be challenged when adding time on computers, 'iPads' , 'Skype' connections, Facebook and TV to see that their current viewing is far greater than this level.

Developing understanding and raising awareness of the detrimental effects of screen viewing empowers us to make good decisions for our children, ourselves and for others in our care. ◆

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The research referred to in this article comes from a presentation given by Dr Aric Sigman in August 2010. The presentation is entitled *"The Impact of Screen Media on Children: A Eurovision for Parliament."*[1]

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1 Available online at: http://www.ecswe.org/downloads/publications/QOC-V3/Chapter-4.pdf