CHILDREN OF THE INFORMATION AGE:
A REVERSAL OF ROLES

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A personal note

My late mother used to play hopscotch and jumped a rope during school breaks, and she enjoyed playing hide and seek, with her friends. I grew up playing the same games. So did my daughter and my son. My grandchild plays using "Comfy" (a computer accessory for very young children), she is 4 years old.

A few days ago when she heard her mother saying that she was going to send a letter, she asked: "by the post office or via e mail?"

In a beautiful poem, written by our late poet laureate, Yehuda Amichai, the poet says:

I don't know if I'll have a share in the next world,
But I want have a share in the world of my children
Their nostalgia for the future
And mine for the past
Pass parallel to each other
Never meeting
As if in a huge mistake
Caused by a tunnel engineer…

My childhood and my grandchild's childhood will never meet. My daughter's childhood and her daughter's differ substantially.

Who are the Children of the Information Age?

The impact of technological inventions and especially ones connected with information and communication, are far reaching on socialization, ways of thinking and modes of learning.

In light of the changes which have taken place mainly since the second half of the 20th century, one wonders who the new Child of the Information Age might be.

There are those who might think of the youth of the Information Generation as the children of television[1], of the computer games and video games as Neil Postman does. Postman's child is a child who lost his childhood but never reached maturity. Postman is describing a society in which children and adults watch the same movies, tele- romances, listen to the same pop music and play the same computer games.

The adults in such a society become more and more childish as they try to pursue the youth culture, whereas the children, to whom all the secrets of adulthood are revealed, and especially those concerning violence and sex, become seemingly , mature. Seemingly, because they are mature like only externally, but not emotionally.

Postman believes that it's the adult who should unfold gradually the world of adulthood to the young ones. The content, the dosage and the timing, should be determined by the

adult, or else the very essence of childhood, will disappear.

As the differentiating line between the child and adults becomes blurred, concepts that distinguish the adult from the child, such as independence and responsibility become unclear too.

Postman is describing a society at risk, living in a sinking world without books, without any order, a chaotic meaningless world.

The world depicted by Postman brings to mind another world, described by the Israeli Nobel Prize winner S.Y. Agnon. In his story "IM KNISAT HAYOM",("At the Outset of the Day"), (2)Agnon describes the destruction of the Jewish spiritual world. This destruction is a result of having abandoned the sacred books.

A world without books is an empty one. "Wherever I directed my eyes there was emptiness". Agnon is describing a world in which one can't find even fragments of books, and the naked human soul has no garment [made of torn book leaves] to cover itself with. "when books were read they were rent; but now that books are not read , they are not rent" .

According to Postman, the world of electronic communication is a world without books and order. This is especially true of the world in which television reigns. From the kingdom of television order and values are missing.

In his writings Postman is describing children who live in a "twilight zone" between illusion and reality. It's a world in which parents and teachers as well, have lost much of their authority. In this land without borders and no hierarchy, children are lost. In such a world the young children are only seemingly mature, but in reality they are ever-dependent and rarely grow up.

Postman's child resembles much Ehud Babai's thirty years old child (Banai is an Israeli song writer and a singer). Banai's thirty years old young man is the eternal child still living at his parents home at the age of thirty, a child who refuses to take responsibility and to grow up.

Another view of the New Child : Don Tapscott and the Net Generation

Postman places television at the center of the life of our youngsters. Postman blames television for many of the illnesses of today's youngsters. Unlike Postman Don Tapscott(3) thinks of the new child as the Computer and Internet child, he finds these children very different from the one described by Postman. Tapscott points out that whereas the TV child is passive the Computer and Internet children are active and creative.

Tapscott's youngsters master technological skills; they love to learn; they are curious, inquisitive, studious and responsible. Tapscott's children might be learning in less orthodox ways than the ones we are familiar with. These High –Tech children don't necessarily study what the curricula written by adults, require. The High-Tech children learn differently: they take responsibility over themselves and their learning, are full of initiative and are willing to give of their knowledge to others. Tapscott's children are caring, outspoken, and aspiring towards improving reality..

One thing, I believe, both Postman and Tapscott will agree about; that the children of the Information Age, differ substantially from the children of previous generations: the hierarchy and authority which adults once had upon children are disappearing.

Postman thinks that this change in negative, Tapscott finds it to be positive.

In the book "Growing up Digital" Tapscott examines" the first generation to be bathed in

bits since birth. Tapscott also says that he believes that "these millions of children are combining demographic muscle and digital mastery to become a force for social transformation. "(4)

Tapscott claims that because of their access to the digital media these young people learn, work, think, shop and create in ways different from those of their parents. The Computer and the Internet are the play ground of these children. For them the Internet is the land of new unlimited possibilities and opportunities. From different parts of the Globe people and these youngsters are coming to the new land, in which sound, music, picture, animation and text are intertwined .In lands of immigration , the young ones are the first to integrate in the new society and to speak its language, very often they teach their parents and even grandparents the new language (5) and the customs of the new land.

Much of the net population is comprised of youngsters in their teens and early twenties. A survey conducted by Pew in June 2001, reveals that 73% of American youth, ages 12-17 are Internet users.(6)

The Internet, according to Tapscott, is the Antithesis of the TV kingdom. Tapscott explains that whereas TV is controlled by adults, children control much of their world on the Net. "They", The N-Genres as Tapscott calls them, "do not just observe, they participate."

"This makes the Internet fundamentally different from previous communications innovations such as the development of the printing press or the introduction of radio and television. These are hierarchical technologies - inflexible and centralized. By Contrast, the new media is interactive, malleable, and distributed in control. The new media will do what we command of them. And tens of millions of N-Geners around the world are taking over the steering wheel. "

Tapscott characterizes the N-Genres, the Children of the Computer and the Net, as tolerant, inquisitive and eager to learn. Advanced Network & Services harnessed this inquisitive element and desire to research combined with a willingness to give, to the building of subject matter oriented Internet sites. The company initiated a competition , geared to school children, on Internet site building. By now students have constructed more than 5000 such sites for students, teachers and Netizens.
http://www.thinkquest.org/library/index.html

The N-Genres are a caring and sharing generation. They often create new Internet sites for the common good. Jason Fernandez (15) from Mumbai in India built such a site. Jason's site gives support to children with LD and their parents and teachers. The site, in ten languages!, contains thorough and valuable information on the various types of learning disabilities.http://www.ldkids.f2s.com/index1.htm

The N- Genres, so we are told, are direct and outspoken. By being exposed to unlimited information and to contrasting ideas the young Netizens do not hesitate to voice out loud their opinions and ideas. Junior Daniel (16) and Noel Morillo (15) voice loudly their harsh, hard reality: they are using the Internet to teach the world about the plight of the street children in South America. Noel was kicked out of his home when he was seven and soon enough he became a member of the Ias Maras street gang , until he was rescued by the Casa Alienza ngo. The Casa Alienza has an Internet site. It's there that the street children can make their voice heard .At this site one can find letters, dreams and fears of these street children. http://www.casa-alianza.org/EN/voices/cartas/managua/francisco.shtml

The following poem, describing the cruel life of the street children, appears at the Casa Alienza site.

Child of the Dump
By Cristina Felman, and dedicated to the Brave children of the dump, 1998

I am the child that wakes and moves
like ravaged animal, claw through waste
on rubbish dumps where vultures breed
on rotted stench, await daybreak.
Running feet, the truck arrives
mass of garbage, the rise of smoke
young and feeble, breath to spare
delve to find sustenance to life prolong.
Grip of fear, forever move where
vermin squat, ghosts in darkness pounce
putrefying filth whilst fingers probe
malnourished mouths greedily devour.
This life is NO life. Just despair
I exist in vacuous body, empty mind
when will it end, when running will cease?
When debris and excrement bury me alive?
Must not give in…hunger…pain
body doubled like aged, gnarled torso
I am hijo. someone's son
but venture alone to lonely tomb.
Sackcloth in hand, feet that squelch
slice of glass, ooze of blood
open sores, putrefactin, flies that swarm
tormented eyes dulled and already dead
Running, running…must not stop
contracted belly, hunger burns
push and shove, must be first
looters all…on life´s rich slime.
Dine with vulture, share the feast
sour and acrid sweat that dries
in seering heat, hot winds rise
hermanos search the earth´s lost cause.

Battered, tattered, in rags that gape
emaciated body, ribs protrude
I am like a dog, I claw and defecate
upon this filth, mi casa…my home.

Tapscott claims that the N-Genres are independent and critical of manipulations, especially of the tycoon companies. They strongly believe that much of what they hear on radio or watch on television is manipulated by the big companies, whereas much of what is written and displayed on the net, is created by ordinary people who would like to share their world and knowledge with others. The N-Genres are using the net to express their opinions, independence and their protest against the big companies and the controlling establishment.

The new technologies assist us in general, and the youngsters in particular, in getting independent; many of the professions, held in the past solely in the hands of adults such as printing, publishing, graphic design and more, are now at the tip of the fingers of

youngsters and anyone possessing the skills of the computer and of building websites.

The new land , the Internet, is a mega- publishing house. Unlike the more traditional publishing houses where a chosen group of people decides whether a poem, a story an essay ,an article are fit to print or a work of art fit to display, on the net, such decisions are not made. Everyone regardless of age, gender, education can publish their work. The children of the net know that. They eagerly upload their ideas and works to the Internet. These independent, very active, innovative children are about to change, according to Tapscott , our ways of learning, working and our social structure.

Computer and Internet activities , outside the net

The children of the computer and the Internet are active on line and off line as well. They are willing to give from their vast knowledge in computers to others, in face to face meetings.

It's the first time in history that children master knowledge much needed by adults. Therefore it's only natural to train these " new masters" in imparting with their knowledge and in teaching others. The new era is also an era of role reversal. In 1999, Dorit Bachar then the computer coordinator, at the Bar Lev Junior high in Kfar Sava, initiated her own version of the "Computer Trustees "national educational program. Once a week, in the evening, students tutor their teachers at computer and Internet Skills. In addition to these youngsters being at the same time learners and teachers, they also serve as Information officers during classes, assisting teachers in searching for sites most appropriate to the subject matter being taught, and solve computer and internet problems. These youngsters also serve as a telephonic help desk in the afternoon and give computer support to the public via the telephone.

In other schools, "The Computer and Net Children" tutor other children, both intra-school and inter-school, in the computer and internet skills.

In a nationwide project the Net Children tutor seniors at Internet and Computer skills

For the last 5 years I have been implementing a program I initiated and started: The Intergeneration Program and the New Technologies. In this program young students, ages 10-15, tutor seniors at computer and internet skills and learn from their older students, a chapter in the latter's personal history.

Together they write a digital version of the story; together they scan pictures, albums, documents; search for information on the net as well as in other sources and soon will upload these stories to a designated site, on the internet.

An African proverb says that when an old person dies an entire library is set on fire. In the intergeneration program we preserve whole libraries, treasured in the minds of the elderly, by the means of the new technologies and mostly through the assistance and effort made by the "Computer and Internet Children."

Summary and Discussion

Observing the abilities and the activities of the Computer and Internet Children, one can't but realize that the old hierarchical structures of parents and children and teachers and children have disintegrated.

In 1997 a proposal was submitted by The Education 2000 Trust to Prime Minister Blaire.

"The aim of the Trust is to demonstrate how significant improvements in the performance of young people could be achieved by mobilizing the full resources of the community, the power of new technology, and the most recent research on effective learning."

In their proposal these leading educationists pointed out to the need of teaching for weaning child's dependence on teachers and outside source, for learning:
"All good parenting is directed towards giving the child an ever increasing set of competencies that gradually enable the child to act more and more on his or her own. Good parenting is essentially about "letting go," in the confidence that the skills learned in the past will be more effective in dealing with novelty, than would prescription. The same weaning principle has to be applied to the child's intellectual development. Schools, and parents, have therefore to start a dynamic process through which young people are progressively weaned from their dependence on teachers and institutions and given the confidence to manage their own learning, collaborating with colleagues as appropriate, and using a range of resources and learning situations."(7)

In the new reality dictated in part by the new technologies we can't expect the "Computer and Internet Children" to adhere anymore to the old rules of time and place. We can't expect them to be satisfied with predetermined content material and subject matter. In this reality many of the concepts we , the adults and especially the teachers amongst us, grew up on are undergoing a major shift.

The meaning of "difficult", "easy", "first", "important", "unimportant", "graded learning", is changing. The teacher is accustomed to a certain order, to learning in installments ; the teacher's concepts are based on adults knowledge and ideas as to what is easy and what is difficult to learn . According to these notions curricula are built, books written.

Our Computer N-genres live ,work and perform in a complex, ungraded, multiage, interactive and dynamic environment. In this environment the Computer Children decide for themselves what is easy and what is appropriate. The N- Genres learn and research thoroughly what they find interesting. They are the decision makers as to pace, rate, content and the time element involved in the learning process.

Nicholas Negroponte, points out that learning via the computer and the Internet is a new type of learning as it involves doing. Negroponte is talking about new forms of learning: playing with information, learning through research because of learners desire to reveal new things and in ways most appropriate to the individual learner.(8)

In his book,(9) Flow, Csikszentmihalyi tells us that in order for the individual to build a strong complex ego, one has to invest ones energies and attention in new innovative and challenging goals.

"Flow" says Csikszentmihalyi, is "the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at a greater cost, for the sheer sake of doing it."

The Computer Children who tutor other children , adults and seniors, who build amazing Internet sites, act according to the principles of Flow : they do what they are doing not because they are looking for a reward or for monetary compensation. Their compensation lies in the experience itself.

This is the realization of the educational dream; learning and researching out of self motivation and interest , without being told to. In Power Shift (10)Alvin Toffler foresaw what we are experiencing right now. He foresaw that knowledge well kept in the hands of experts will get out of their hands. Toffler spoke also of the weakening of authority and power, of the disintegration of old structures.

The computer and the Internet have revolutionized the balance between the power of the adults and the status of children. The loss of authority on the part of the adults on the one hand and the new power held by the Computer Children on the other, is ever changing the adult- children relationship in schools and at homes. This reversal of roles and "Power Shift" give us new opportunities:

- As teachers we are given an opportunity to re-think our pedagogical beliefs and concepts. To re-assess the theories we base our work on and whether they are appropriate to the Information Age.
- We are also given the new opportunity to take advantage of the unique features of the computer to further develop and create new learning modes, most appropriate to the developing and changing abilities of the Computer Children.
- We are given the unique opportunity to re- examine our criteria as to who is "a good learner".
- We, teachers and parents alike, are given the responsibility, the need and the opportunity to educate these youngsters who have been endowed with new power , in such a way that they'll use this new power only for the good.

Footnotes:

(1) Neil Postman, The Disappearance of Childhood, 1982

(2) S.Y.Agnon, Twenty One Stories, Ny: Schoken books, 1970

(3) Don Tapscott, Growing Up Digital: The Rise of the Net Generation, NY: McGraw-Hill, 1998

(4) www.growingupdigital.com

(5) Roni Aviram, in Ha-Hinuch Bemivhan Hazman , Tel- Aviv: 1997 (in Hebrew)

(6) http://www.pewinternet.org/reports/toc.asp?Report=36

(7) http://www.21learn.org/publ/tonyblair.html

(8) Nicholas Negroponte, Being Digital, NY: Alfred A. Knopf, Inc 1995

(9) Csikszentmihalyi, Flow the Psychology of Optimal Experience:Steps towards Enhancing the Quality of Life.NY:Harper Perennial, 1991

(10) Alvin Toffler, Powershift Powershift: Knowledge, Wealth, and Violence at the Edge of the 21st Century , Mass Market Paperback , 1991

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