REFLECTIONS AND ACTIONS CONCERNING A GLOBALIZED EDUCATION

ANTONIO M. BATTRO

I quote from the United Nations Millennium Declaration (18 September 2000):

'We recognize that, in addition to our separate responsibilities to our individual societies, we have a collective responsibility to uphold the principles of human dignity, equality and equity at the global level. As leaders we have a duty therefore to all the world's people, especially the most vulnerable and, in particular, the children of the world, to whom the future belongs'.

19. 'To ensure by the year 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling and that girls and boys will have equal access to all levels of education'.

20. 'To ensure that the benefits of new technologies especially information and communication technologies, in conformity with recommendations contained in the ECOSAC Ministerial Declaration, are available to all'.

Seven years after this declaration there is new hope of reaching these goals because of the incredible advances in the information and communication technologies. It can be imagined as a 'digital vaccination' that will be spreading consistently amongst the children of the world, taking care of the new cohorts of students and enhancing collaboration without frontiers. It will connect and saturate thousands of communities in the most remote and isolated areas and in the poorest suburbia of the developing countries. In order to attain these goals we need to develop an international network of educators and empower them with robust computer tools, and give to the children the same opportunity. This latter point will make the great difference between the old and the new era of education.

Children are not only learners, they can be very good teachers, in particular when they use computers, as every parent and teacher knows. If we give a computer to a child that he or she can use as a pair of shoes during

the whole day the amount of learning opportunities we are opening to this child increases tremendously. Most experiences of giving computers to schools or furnishing computer labs in educational institutions have not been able to bridge the digital gap. The only way to achieve this goal is for the child to own the computer, to own a light robust portable computer, a laptop with the lowest possible energy requirements, capable of bypassing standard electrical constraints using mechanical or solar energy devices, that he or she can carry home.

The child-centered view of learning has been supported by decades of research but only now can it be put into mass practice thanks to the new digital technology. But no man is an island and children must interact and play together, without playing there is no learning. Therefore it is important for them to use these machines well before they can write or read, for instance to paint and draw, make music, talk to each other in videoconference, share the pictures or videos they have produced with their computer, etc. Later, with the help of the computer, they will develop their writing and reading skills. The learning disabled, the sensory and motor handicapped children may also have an opportunity to communicate and express themselves in ways unexpected in the old era of education where many of them stayed isolated and illiterate. And they make up something between 5% and 10% of the whole population. Offering this opportunity to all is a question of equity.

In the poor countries is it very difficult to find books. Many schools have no books at all, and the logistics to provide them with books is incredibly difficult and expensive. A way out is to use the computer as a library of hundreds of e-books. In order to be effective, the child should be able to carry the laptop under bright sun and still be able to read the book (most computers do not allow this), have a good grasp of the book and not be inhibited by the presence of the keyboard or by the weight of the computer. Good ergonomics has been the great advantage of the pocket book. Similarly we should provide a computer with a friendly interface for reading and browsing the pages. We need a good design to support e-books.

Education is about the way we humans share values and, in this sharing, communication skills are key. The digital era started with the possibility of instant communication via the network. The Internet is a good example of that. But how can we communicate in the poor regions or countries of the world where networks are nonexistent? A practical answer would be to give this laptop the power to mesh and to interact in a neighborhood, say by establishing a local network in a village where most live at a distance of 1 km or less from each other. If they live further apart, we can place small

inexpensive devices for transferring the signal from one laptop to the other. Finally, if one computer of this mesh is connected to the web, all the others in the mesh can follow use it as a gateway. It is not impossible to provide every school with a connection to the Internet, and this will suffice to connect the whole community of children and teachers to the web, in a sense to the world of knowledge.

This computer in the hands of the user, teacher or child, is also a perfect tool for health care and health education. If the computer is connected to the web, the user can ask questions and receive advice, send images and information on many health issues, use sensors to detect temperature or heart rate, etc. Education and health form a double helix and support each other. The high importance of this interaction is well known, but today it can be enhanced significantly because the information will flow instantaneously in a two-way communication between the user and the expert, the patient and the doctor, the student and the teacher.

Each of these objectives is perfectly achievable today. We have the technology to reach the Millennium Goals if we take good, fair decisions in education. An example is the model provided by The One Laptop Per Child (OLPC) initiative developed by a non-profit association headquartered in Massachusetts and with hundreds of experts working in many countries of the world (www.laptop.org), under the direction of Nicholas Negroponte, founder of the Media Lab at MIT. OLPC has designed and manufactured a new kind of laptop, called the 100 $ laptop, which has been offered to governments willing to reach the Millennium Goals, among them Argentina, Brazil, Uruguay, Pakistan, Libya and Nigeria. We expect to start the OLPC program in these nations in the course of this year, providing them with the first millions of laptops they need. Many other countries will follow.