

INESCO area Norld Summit on the Information Society (WSIS)

Towards

Societies

Geneva, Switzerland 10-12 December 2003

EDUCATION AND KNOWLEDGE SOCIETIES

Round Table Discussion
11 December 2003





UNESCO at the WORLD SUMMIT ON THE INFORMATION SOCIETY (WSIS

Education and Knowledge Societies ROUND TABLE DISCUSSION

Geneva, Switzerland 11 December 2003



Towards Societies

Geneva, Switzerland 10-12 December 2003

EDUCATION AND KNOWLEDGE SOCIETIES TITLE

TYPE ROUND TABLE DISCUSSION

9:30 - 13:00

Geneva Palexpo, Room C

DATE 11 December 2003

TIME

PLACE

ORGANIZER UNESCO Institute for Information Technologies in Education (IITE)

PARTNERS Club of Rome (CoR) International Federation for Information Processing (IFIP)

International Council for Open and Distance Education (ICDE)

International Association of Universities (IAU)

University of Mauritius, Virtual Centre for Innovative Learning Technologies (VCILT)

and Lifelong Learning Cluster (LLC)

Food and Agriculture Organization of the United Nations (FAO)

NGO-UNESCO Liaison Committee

The event aims at attracting the attention of the Summit Stakeholders to the significance of education in the construction of knowledge societies and tasks of education in knowledge societies. Recent undertakings in the field of ICTs being a vehicle to develop Education for All, as well as cooperative efforts of UNESCO and NGOs building up education for and in knowledge societies will be reviewed.

The participants in the Round Table discussion (decision-makers and policy-makers in education, representatives of UN agencies and NGOs, educators, scientists and students) are invited to identify principles and recommendations, which can help the world community meet the challenges of knowledge societies.

TABLE OF CONTENTS

Agenda	6
Welcome address/DANIEL, John	9
Introduction: Education for Evolving Societies/KINELEV, Vladimir	10
Preamble to the Round Table discussion/CORNU, Bernard	17
ASSECTION CONTROL OF THE PROPERTY OF THE PROPE	
SESSION I: EDUCATION FOR KNOWLEDGE SOCIETIES: TRENDS, CHALLENGES AND POLICIES	23
Preamble to Session I/CORNU, Bernard	25
Education and Knowledge Societies/ADAMKUS, Valdas	27
Knowledge Sharing and International Cooperation in Science Education/WEI, Yu	
ICTs as an Innovator for Sustainable Development/WEILER, Raoul	30
	278
SESSION II:	
EDUCATION IN KNOWLEDGE SOCIETIES: STRATEGIES, TOOLS, TEACHING AND LEARNING	33
Preamble to Session II/MOREL, Raymond	
Education for Knowledge Societies: Learning to Work with Insecure Information & Communication	
Technologies/BRUNNSTEIN, Klaus	37
Teacher's Training: Central Challenge for Knowledge Societies/LOING, Bernard	39
Lifelong Learning in the Knowledge Society: Is There a Role for Higher Education?/WEERT, Tom J. van	41
Facilitating Lifelong Learning in Universities: the Role of ICTs/LANGLOIS, Claudine	44
Technology-Enhanced Education, Open Educational Resources and Non-formal Approaches to Lifelong Learning for Sustainable Development/SENTENI, Alain	
	47

Towards Societies

Geneva, Switzerland 10-12 December 2003

Preamble to Session III/BOLLERSLEV, Po	eter	
	lge in the Information Society/SENDOV, Blagovest	
	for Information and Knowledge Management/RUDGARD, Ste	
ICTs in Knowledge Societies: a Tool for Acc	cess, Equity and Quality/FOUILHOUX, Monique	
ADTICIDATING ODG ANIZATIONS		
	ologies in Education (IITE)	
Club of Rome (CoR)		
International Federation for Information Pr	rocessing (IFIP)	
International Council for Open and Distance	ce Education (ICDE)	
International Association of Universities (L/	AU)	
University of Mauritius, Virtual Centre for I and Lifelong Learning Cluster (LLC)	Innovative Learning Technologies (VCILT)	
Food and Agriculture Organization of the U	Inited Nations (FAO)	

AGENDA

9:30 Opening of the Round Table "EDUCATION AND KNOWLEDGE SOCIETIES"		Mr John Daniel, UNESCO ADG/ED; Mr Vladimir Kinelev, Director, UNESCO HTE	
SESSION I	"Education for Knowledge Societies: Trends, Challenges and Policies"	Chair and moderator: Prof. Bernard Cornu (France), Director, La Villa Media — the European Residence for Educational Multimedia; Vice-Chairman of the HTE Governing Board	
	General introduction	Prof. Bernard Cornu	
Paper I	Education and Knowledge Societies	Mr Vuldas Adamkus (Lithuania), UNESCO Goodwill Ambassador for the Construction of Knowledge Societies; Former President of the Republic of Lithuania	
Paper 2	Knowledge Sharing and International Cooperation in Science Education	Dr Yu Wei (China), Director, Research Center of Learning Sciences, Southeast University; Vice President of China Association of Science and Technology; Former Vice President of All China Women's Federation; Former Vice-Minister of Education of the People's Republic of China	
Paper 3	ICTs as an Innovator for Sustainable Development	Prof. Raoul Weiler (Belgium), Professor, University of Leuven; Member of the Executive Committee (International) of the Club of Rome (CoR)	
New London	Debate	Audience	
10:35 SESSION II	"Education in Knowledge Societies: Strategies, Tools, Teaching and Learning" (During the session: video link with the International Conference on Open and Online Learning organized under UNESCO's sponsorship in Mauritius)	Chair: Prof. Bernard Cornu Moderator: Prof. Raymond Morel (Switzerland), Director, Geneva Educational Technology Centre (CPTIC)	
Device Control	General introduction	Prof. Raymond Morel	
Paper 1	Education for Knowledge Societies: Learning to Work with Insecure Information & Communication Technologies	Prof. Klaus Brunnstein (Germany), President of the International Federation for Information Processing (IFIP)	
Paper 2	Teacher's Training: Central Challenge for Knowledge Societies	Prof. Bernard Loing (France), Intergovernmental Liaison Officer and General Delegate of the International Council for Open and Distance Education (ICDE) at UNESCO	

Towards Societies
Geneva, Switzerland
10-12 December 2003

Paper 3	Lifelong Learning in the Knowledge Society: Is There a Role for Higher Education?	Drs. Tom van Weert (The Netherlands), Chair "ICT and Higher Education", Professional University of Utrecht	
Presentations on Lifetong Learning	Facilitating Lifelong Learning in Universities: the Role of ICTs	Dr Claudine Langlois, Director, International Association of Universities (IAU)/UNESCO Information Centre on Higher Education	
	Technology-Enhanced Education, Open Educational Resources and Non-formal Approaches to Lifelong Learning for Sustainable Development	Prof. Alain Senteni (Mauritius), Director, Virtual Centre for Innovative Learning Technologies (VCILT), University of Mauritius (via video link)	
	Open Educational Resources	Dr Sally M. Johnstone (USA), Executive Director, Western Cooperative for Educational Telecommunications (WCET), Western Interstate Commission for Higher Education (WICHE) (via video link)	
Debate		Audience	
11:50 Session III	"UNESCO as a Key Actor in the Development of Education for and in Knowledge Societies"	Chair: Prof. Bernard Cornu Moderator: Prof. Peter Bollerslev (Denmark), Director and Editor-in-Chief at SAXO Publishers	
	General Introduction	Prof. Peter Bollerslev	
Paper I	The Challenges for Education and Knowledge in the Information Society	Mr Blagovest Sendov (Bulgaria), Ambassador of Bulgaria to Japan; Former President of Parliament of the Republic of Bulgaria	
Paper 2	FAO-UNESCO Partnership on E-learning for Information and Knowledge Management	Dr Anton Mangstl, Director, Library and Documentation Systems Division, Food and Agriculture Organization of the United Nations (FAO);	
		Dr Stephen Rudgard, Chief, WAICENT Outreach, Library and Documentation Systems Division, FAO	
Paper 3	ICTs in Knowledge Societies: a Tool for Access, Equity and Quality	Mrs Monique Fouilhoux, President of the NGO- UNESCO Liaison Committee, President of the International NGOs Conference	
	Debate	Audience	
Discussion and adoption of the final document		Prof. Bernard Cornu	
Closure of the Round Table		Mr John Daniel, Mr Vladimir Kinelev	
13:00	End of the Round Table		

Societies

Geneva, Switzerland 10-12 December 2003

DANIEL, John

Assistant Director-General for Education, UNESCO (2001 - Present)

Field: International educational administration

Professional Career:

1990 – 2001: Vice-Chancellor, The Open University, UK 1984 – 1990: President, Laurentian University, Canada

1980 - 1984: Vice-Rector, Academic, Concordia University, Canada

1978 - 1980: Vice-President, Athabasca University, Canada

Educational Background:

1996: Master's degree (Educational Technologies), Concordia University, Canada

1969: Doctoral degree (Physical Sciences), University of Paris

1965: Undergraduate degree (Metallurgy), Oxford University

Born: 1942



On behalf of my colleagues in UNESCO's Education Sector around the world it is a pleasure to welcome you to this Round Table discussion on Education and Knowledge Societies. UNESCO believes that our aim must be to evolve, in reality not in mere terminology, from information societies to knowledge societies. Then the ultimate goal for the whole world is to become a learning society with the purpose of bringing peace, prosperity and fulfillment to the humankind. We are still in the early stages of this process — indeed, we often talk of information and communication technologies (ICTs) as new technologies. For this reason I am less exercised than many observers about the digital divide. While the richer countries may be better equipped than the poorer countries, all are at much the same stage when it comes to using ICTs in education. Various parts of UNESCO's Education Sector, notably our Institute for Information Technologies in Education in Moscow and our Regional Bureau for Education in Bangkok, are following these developments closely with the intention of allowing all countries to share the benefits. I hope that you enjoy the discussions at the Round Table.

DANIEL, John 9

KINELEV, Vladimir

Director, UNESCO Institute for Information Technologies in Education (UNESCO IITE) (1998 — Present)

Professor

Academician of the Russian Academy of Education Academician of the Russian Academy of Engineering

Field: Information and communication technologies in education, educational administration, space technologies



1996 - 1998: Minister of General and Professional Education

of the Russian Federation

1993 — 1996: Chairman of the State Committee of the Russian Federation on Higher Education, Vice-Chairman

of the Russian Government

1990 – 1993: First Deputy Minister of Science, Higher Education and Technologies of the Russian Federation

1972 - 1990: Assistant Lecturer, Assistant Professor, Professor, Vice-Rector, Moscow State Technical University n.a.

Bauman

Educational Background:

1982: Doctoral degree (Dr. Sc. – Space Technologies), Moscow State Technical University n. a. Bauman 1972: Doctoral degree (Ph.D. in Technical Sciences), Moscow State Technical University n. a. Bauman

1968: Master's degree (Space Technologies), Moscow State Technical University n. a. Bauman

Born: 1945

EDUCATION FOR EVOLVING SOCIETIES

'Education is a truly special State, the influence of which cannot be defined by single person, and even national authorities are unable to delimit its frontiers: the sphere of its influence is immense, it is infinite...

Ch.M. Talleyrand

Globalization and the Main Trends in Education for Evolving Societies

The World Summit on the Information Society is taking place in the period marked by an active phase of intensified globalization process which includes not only economics and finance, but virtually all spheres of human activity. The development of new information and communication technologies transgresses the territorial borders of national states and makes geographical boundaries inadequate as delineations of jurisdictions. These technologies constitute a truly international and global realm of activity, where it is practically impossible to successfully impose national laws and regulations. Information and communication technologies based on the Internet, telecommunication networks and intelligent computer systems open up new and exciting opportunities for new generations and for dissemination of knowledge across national borders. They give us an opportunity to speak about global knowledge above and beyond local and indigenous contexts. It is cross-cultural, characterized by the diversity of sources, grounded in global information infrastructure, and depends on the following global domains of human activity; science and technology; politics and economics, humanities, social sciences, culture and education.

Towards Societies

Geneva, Switzerland 10-12 December 2003

Globalization process coincides with a fundamental transition to the information society - a new worldwide community based on information. Evolvement of the information society entails dramatic changes in production and business, as well as in a broader social context. Rapid development of the information sphere of society is drastically altering the structure of work and employment, and produces new occupations and jobs. More and more people are being drawn into the information society as learners, workers and consumers. People all over the world have high hopes that new technologies will lead to healthier lifestyles, greater social freedoms, increased knowledge and more productive livelihoods. It will not be an exaggeration to say that future generations will face the challenge of adjusting to a new social environment, where information and scientific knowledge will replace matter and energy as pivotal factors and will define both society's strategic potential and prospects for its development.

Scientific and technical progress and the global dissemination of technologies developed in the most advanced countries of the world constitute one of the main arguments in favour of the leading role played by education in the 21st century. The level of technological development is indicative nowadays not only of the economic power and living standards of a particular country. but also of the place and role of this country in the global community and the scope and prospects of its economic and political integration with the rest of the world. At the same time, the level of development and usage of modern technologies in different countries is determined not only by the development of their material resources, but, to a large extent, by the degree of society's ability to produce, consume and apply new knowledge. These developments, in turn, are closely linked to the level of educational development. All these processes are largely driven by information and communication technologies, where scientific knowledge and information increasingly determine new patterns of growth and wealth creation and open up possibilities for more effective poverty reduction.

In spite of the fact that at the turn of the century literacy for all - children, youth and adults - is still an unaccomplished goal and an ever-moving target, all of us should concentrate on the next steps towards creating information society. New social demands and the new world around us shaped by the new information technologies and models of action call for New Literacy for the Information Society. As a substitute for the old meaning of basic literacy (reading, writing and arithmetic), new ones may be presented as finding information by searching written sources, observing, collecting, recording, etc.; communicating in hypermedia and involving all types of information and media; designing objects and actions; creating hypermedia essays on the basis of all types of information technologies.

The great saga of human knowledge contains pages that are unique, and I would first list among them those, which contain examples combining the potentials of the human mind and technology. The invention of printing raised the institutions of general education to a previously unattainable height. It is the first and perhaps the highest ever stage in the information revolution. But I presume that it will not be an exaggeration to contend that considering the amazing standards and prospects of application offered by information and communication technologies in education, we are on the threshold of the next stage of the educational revolution, which will entail a dramatic shift in all spheres of human existence.

Education for the Information Society

The Report of the International Commission on Education for the 21st Century 'Learning: The Treasure Within' submitted to UNESCO emphasizes the crucial role of fundamental and thorough knowledge in allaying some major tensions which, although far from being novel, will pose a formidable challenge in the 21st century. These tensions include: the tension between the global and the local, the universal and the individual; between tradition and modernity. The tension between, on the one hand, the necessity of competition, and on the other hand, the concern for equal opportunities; the tension between the extraordinary expansion of knowledge and human beings' capacity to assimilate it.

Leaders of virtually all countries striving to prepare their citizens for adequate response to the challenges of the 21st century have professed their desire to transform their countries into learning economies and learning societies, inasmuch as the information society needs competent and knowledgeable citizens. The age of new information and communication technologies does not eliminate the most difficult problems that the world of education is facing today and that have to be resolved irrespective of whether the new technologies are adopted or rejected. Nevertheless, training and development, social and professional requirements, globalization of communication, economy, and political projects for building a new society, rely heavily on the introduction of information and communication technologies into education. The alternative is to lag behind these developments chronically and, in effect, to fail to meet the challenges of the 21st century.

Presently, most governments put tremendous efforts in modernizing educational systems in their countries on the basis of information and communication technologies viewed as a key to such modernization. Some countries consider information and communication technologies as a vital component in upgrading the quality of education through changes in curricula, introduction of training in new skills and a wider scope of knowledge. In other countries information and communication technologies are used mainly to facilitate access to education by various population groups or for a narrower purpose of assisting self-education through programmes broadcast on radio and television. Yet other countries emphasize their reliance on technologies as a means of transforming educational environment or satisfying specific needs of different categories of students.

Education for emerging information society requires information and communication technologies to meet large-scale learning needs arising from social and economic developments. For the first time in history, information and scientific knowledge are not simply means of improving society, but are becoming the main products of the economy. Moreover, knowledge is the main asset and the main product of the information society upon which continuation of economic well-being and societal development depends. Information and communication technologies are at the core of this development. Information and communication technologies and the information society are both dealing with creating, acquiring, and sharing, disseminating, delivering, aiding and appreciating knowledge. Information and communication technologies serve as the means of providing access to learning and assisting in continuous learning process necessary for successful integration of all population groups into information society.

Education in the Information Society

Learning issues are of central importance to the evolving information society. Developing information and communication technologies create an environment of rapid and ongoing changes. The current pace and magnitude of changes breaks the traditional framework of historical gradations. For the first time in the history of our civilization, generations of products and ideas come and go faster than generations of people succeed one another. Even in private life, change tends to oust continuity and stability. Moreover, change reveals itself through previously unparalleled diversity, making it impossible to define our ern through any single event or development. This environment demands a fundamentally new approach to learning. Individuals need new skills and understanding; they must develop the ability to continuously improve these skills and understanding. In other words, humanity must embrace and promote a culture of lifelong learning. New information and communication technologies exceed the traditional framework of the learning process. Learning can no longer be viewed as a ritual that one performs only in the earlier part of life. Information and communication technologies are being used to cross the barriers of age, time and space, bringing lifelong learning to all. People of all ages, in all places and in all different environmental contexts are learning all the time. Therefore, regardless of what activities they are performing — they comprise the learning society.

The amazing standards and prospects of applicability offered by information and communication technologies in learning and teaching processes show that humanity is on the threshold of a new stage of educational revolution which will entail a dramatic shift in all spheres of human existence. These circumstances and new social demands, the new world community shaped by the new information and communication technologies and activities call for a new literacy in the information society. The new literacy requires, in principle, creating of new technology for obtaining scientific knowledge, new pedagogical approaches and new school curricula and methodology for teachers and students. All of the above should stimulate students' intellect and creativity and enable them to develop a holistic view of the world that would allow them gaining a footbold in the information society. Thus, it will be a mistake to think that applying new information and communication technologies would automatically raise the quality of education. In order to exploit effectively opportunities provided by information and communication technologies, such fields as computer psychology, computer didactics and computer ethics should be better developed, explored and employed by educators. It is worth keeping in mind that despite the variety of information sources and teaching technologies transforming information into knowledge, there is only one way to convert knowledge into education. This conversion takes place in human consciousness. It is the most interesting and mysterious interaction between the psychic space and cyberspace. A human personality emerges and develops as a result of this interaction. It allows us to contend that no two educations evolving as a result of this interaction can be treated as completely congruous, inasmuch as no two human personalities are the same because each individual is unique. Establishing human personality as a priority was the main accomplishment of the past century. Maintaining human personality as a priority is the main imperative of the 21st century.

Towards Knowledge Society

It should be emphasized that the development and transformation of the information society into the knowledge society can be accomplished only on the basis of fundamental, scientific knowledge that, in its turn, requires a 'fundamentalization' of

Societies

Geneva, Switzerland 10-12 December 2003

education content based on fundamental natural, social and human laws; reflecting scientifically grounded trends in their development and interdependence; shaping human ability to use these objective laws effectively for the benefit of society and nature. I would compare the future content of education with 'Ariadne's clew' that may lead an individual out of the labyrinth of daily demands and pressures.

The main reasons which stipulate the necessity of fundamentalization of education content, in my opinion, can be divided into two groups. The first group of issues refers to the global problems in the evolution of human civilization.

It may be relevant to consider the fact that in the process of their development, individuals, societies, the world community, and civilization as a whole reveal their essential or fundamental characteristics. In this context, it is important to set up on the basis of scientific picture of the world, an educational system, which could be able to identify and transfer to students the most recent scientific developments. Moreover, students' attention should be drawn to the most essential — fundamental, stable and lasting knowledge that lies at the core of the currently available scientific picture of the world. This includes the world of outer space, the world of a human being and society, and the world of human civilization as well as fundamental global processes unfolding therein.

There is, however, another group of reasons pointing to the need of fundamentalizing education content. It is derived from an understanding, increasingly shared by the world community, that an educated personality has the top priority in the knowledge society. In line with modern thinking, to nurture a broadly educated personality a number of interconnected problems should be solved. Firstly, it is crucial to harmonize an individual's relations with nature by helping him/her obtain a scientific picture of the world. Secondly, it is important not to lose sight of the social nature of a human being, and therefore harmonious socialization should be accompanied by cultural assimilation through the study of history, literature, art, law, philosophy, and economics. Thirdly, modern people live in a highly saturated informational environment. So, the task faced by the educational system is to teach students how 'to navigate' through this environment. And, last but not least, it is necessary that an individual should achieve a kind of inner balance, or harmony. Thus, the task of both solving the global problems of humankind and meeting the vital needs of an individual, points to the idea of fundamental education content.

The following question would seem to be relevant: What lies at the basis of fundamental education content? Apparently, the emphasis is on fundamental sciences. However, before we get to the issue of fundamental education content, it appears necessary first to develop a holistic perspective on fundamental sciences per se. The fragmentation and differentiation of sciences in the 20th century have reached a point where specialists working in different areas of what used to be a unified field of science no longer understand one another. So, the task of scientists and educationalists is to identify the sum total of each fundamental science, then try to reveal the internal unity of natural sciences as a whole an the entire body of human sciences and, finally, at the next stage, to synthesize the principles of holistic fundamental education content.

It is worth mentioning that scientific knowledge cannot be automatically assimilated by students. Nor can it be simply passed on by the teacher to an inactive student, for it is generated by the student himself or herself as a result of his/her inner creative activity. It is a product of evolution and self-organization of human intelligence. The teacher's role is to awaken the student's intellect, to shape an individual's creative potential and holistic world outlook, to show him or her models of holistic thinking.

Thus, the educational paradigm for knowledge societies can be defined as a logically connected triad 'From holistic world to holistic knowledge, and via it to a holistic personality'.

The large scope of the processes of building knowledge societies, a growing role of scientific knowledge, fundamental education and information in shaping the present and future image of humankind prompt us to search for analogies in the previous centuries.

As Ecclesiastes said:

'Is there any thing whereof it may be said, See, this is new? it hath been already of old time, which was before us.'

Looking back and assessing the achievements of the past centuries, I shall venture to single out one very important thing: the concept of relativity formulated by Albert Einstein, Sigmund Freud and Karl Marx for — respectively — physical, mental and social domains. Brilliant insights of these scholars gave humankind the possibility to realize that the world is not what it appears to be, that we cannot trust our empirical perception of space and time, of good and evil, of law and justice, and of the nature of people's social behavior. They made people realize that natural laws and intellectual concepts reflect not only the objective reality of the physical world, but the realities of the social world as well. Unfortunately, the past century has given us many examples of how these fundamental truths can be overlooked, which caused severe damage to nature, the world of living things and humankind per se.

All of the above confirms that humankind is still at the very beginning of a long and difficult road towards the knowledge society, and only by pulling together intellectual, technological and economic resources can we reach the end of this road.

ICTs and Quality of Education

It goes without saying that emergence and successful development of the evolving societies is not possible without improving quality of education of individuals and consequently improving quality of education of a given society as a whole. In the absence of common formal definition of the term 'quality' in education I believe that it is possible to include into this definition such abilities of an individual as: keeping abreast with the modern ideas and discoveries in the areas of science and technology; acquiring skills required by the latest technologies and the market; developing his or her resourcefulness through self-education. So, scientific knowledge and professionalism as products of quality education should provide a successful participation of an individual in the development of the evolving societies.

In my view, necessary and sufficient conditions can be identified in the process of improving education quality that allows meeting this important final objective of education. The necessary conditions would include such educational components as well equipped class rooms and lecture halls, highly professional administrators in managing positions at the educational institutions, highly qualified teaching personnel, easy access for students and teachers to quality textbooks and professional literature, as well as to modern teaching aids and supplementary information.

The sufficient conditions are related to a person's ability to transform knowledge and skills received into education, i.e. into customized system of ethical, cultural and professional values, and also to the ability to apply this system in various areas of intellectual and practical activity. The quality of education in my view is defined precisely by a person's ability to meet the demands of contemporary society.

The unique role played by information and communication technologies in improving education quality is based on their ability to effectively facilitate the fulfilment of both necessary and sufficient conditions for receiving quality education.

Modern level of ICT development significantly broadens opportunities available to students and teachers for gaining access to educational and professional information; improves operational ability and management effectiveness at specific educational facilities and the educational system in general; facilitates integration of national information educational systems into the world network; considerably assists in accessing international information resources in the areas of education, science and culture.

At the same time it is worth mentioning that the present level of development of information and communication technologies permits their successful application in education to release the creative potential of student owing to more efficient organization of students' cognitive activities through the use of computers with their very important didactic characteristic of individualizing the classroom work without disrupting its entirety, via programmed and adaptable curricula.

New information and communication technologies brought about dramatic changes in the educational technologies of obtaining knowledge, converting knowledge into education and applying education in practice. Moreover, when we speak about the role played by information and communication technologies in education, we should proceed from the understanding that these technologies not only facilitate educational opportunities but assist an individual in perfecting his/her perceptions, too. Modern information and communication technologies provide learners with richer information objects such as images, videos, complex structures of knowledge and their combinations, available via the Internet or other intelligent computer networks. Information and communication technologies radically extend possibilities for visualization, including

Societies

Geneva, Switzerland 10-12 December 2003

visualization of the invisible, visualization in changed colours and shapes. Colourful images of architecture, sculpture or painting, grouped thematically and accompanied by well-written texts and beautiful music have a strong emotional effect on the student, develop his or her artistic taste and at the same time enable the student to learn more about culture, art and nature.

It is worth mentioning the words said by O. Wilde: 'For the good we get from art is not what we learn from it; it is what we become through it'.

At the same time we should take into account that parallel to education as a means of preparing students to life, cyberspace, as another educational milieu, is developing. The seminal works of Vygotsky, Piaget and Bruner gave rise to the term interiorisation of physical objects, which suggests our creating 'psychic' equivalents of the latter as 'conceptual' models to be further used to construct variants of our own internal reality or virtual realities. Cyberspace prompts a reverse process, which could be called exteriorisation: models of the physical world constructed in the human mind are let out into cyberspace. So, we should proceed from the understanding that it is necessary to develop in an individual a particular perception of his or her habitat, which comprises both: objects of the physical world and the ideas of these objects in the human mind, as well as the system of ideas in information space. Thus, information and communication technologies do not merely enhance intellect; they designate new dimensions of the human mind, produce an orderly system of a new global culture and open up vast and exciting perspectives of their use in improving quality of education.

It should also be stated that if the first approach to human interaction with the environment arose through many centuries of our species' evolution, the second approach has introduced amazing changes into human consciousness in a brief period of just a few decades. We can only guess what the nature of these changes is, what is the scope of their impact and future implications. So, I can only hope to be right in suggesting that one of the most complicated problems that have to be solved in the evolving societies is the problem of a human being in the changing world. Today, a human being has become the main factor in development of civilization as well as its main risk factor. Which of the two will prevail depends largely, if not decisively, on education and educational institutions.

Learning without Frontiers

The present level of ICT development offers a real opportunity for creating an educational milieu without frontiers. I find it is necessary to note that, in my view, there are two main obstacles that a human being should overcome in order to create an educational environment without boundaries; geographical distances and varying capacity of different people to transmit and perceive the same information, particularly of people with special needs, who, owing to various reasons, are unable to obtain education through standard methods. Due to rapidly developing global system of distance learning, new information technologies, regardless of the physical distance ensure the kind of direct and interactive communication between the teacher and the student that has always been the main characteristic and undeniable advantage of full-time education. There is no doubt that in the near future, the development of information and communication technologies will result in a broad dissemination of digital libraries, laboratories with remote access, open virtual universities and global virtual campuses as the basis for a universal educational and scientific environment serving the world community. New information technologies as well as the man-made intellectual environment have the capacity to give back, at least in part, to many people the kind of abilities and communication possibilities that they may have been deprived of by nature, environmental disasters, military conflicts, or human violence. I am confident that this is a two-way road since, after the barriers of interhuman communication are demolished, the so called 'ordinary people' will be able to obtain a broader understanding of the nature of a human being and the surrounding world. Probably, this is the major humane tendency connected with the use of information and communication technologies in education and other spheres of practical and intellectual human activities.

Ethical, Psychological and Legal Issues

The penetration of information and communication technologies into educational settings requires in principle, the formulation of new ethical, psychological, legal and moral aspects of applying such technologies to learning. New information and communication technologies offer wonderful opportunities to reach out to our fellow human beings, but the darker side of human nature finds its way into cyberspace, too. The full spectrum of reprehensible or outright debased moral behaviour is represented online: aggression, violence, crime, deception, brutality, rudeness and so on. The global nature of new information and communication technologies not only opens up broad opportunities for dissemination of knowledge, but also increases the danger of conflict between values and standards espoused by different cultures. For such a global information community

KINELEV, Wadimir.

to become a reality, an effective mechanism of information exchange should be developed to inhibit the erosion of national and cultural identity. The past century has clearly demonstrated that in the great history of times and peoples, no culture or nation is small — only together they constitute the supreme value of the world civilization and the basis for the sustainable development of the world community.

UNESCO's Mission

In the new millennium, information and communication technologies will provide tremendous opportunities to narrow the socio-economic development gaps between communities and nations. They serve as an opportunity for the increased exchange of knowledge and know-how, for the promotion of intercultural dialogue, and for greater understanding among nations. Information and communication technologies give all nations a new chance that should not be missed. However, for these purposes, the key problems of the digital divide that exclude entire groups and countries from the potential benefits of digital opportunities in networked-knowledge societies and lead to a global gap between information 'haves' and 'have-nots' should be addressed urgently. Main UNESCO's programme document, namely, Medium-Term Strategy 2002-2007 stresses that that bridging the digital divide between developing and developed countries and within countries thus becomes a prime strategic challenge throughout UNESCO's activities. This entails activities aimed at strengthening national capacities and professional skills of individuals, creating a new content of education, broadening access to information, fostering scientific research and sharing scientific knowledge and information through networking and the communication media and information systems. It is UNESCO's mission to promote the free flow of information, knowledge and data, to encourage the creation of diversified education contents and to facilitate equitable access to information and the means of sharing scientific knowledge while at the same time giving attention to institutional capacity-building. The Organization seeks to encourage international debate and reflection regarding the impact of globalization on access to information services and communication processes. UNESCO strives to foster the application of information and communication technologies in education at all levels, to reinforce national potential in ICT application for the development of education, to contribute to peace and human development in the globalization era through education, the sciences, culture and communication. As Koichiro Matsuura, UNESCO Director-General, noted that 'The field we have yet to explore is a broad one, and there will no doubt be a long way to go, as there is for any standard-setting action, before we arrive, in each of the areas so requiring, at instruments meeting with the approval of all. I am thinking in particular of the promotion and use of multilingualism and universal access to cyberspace, where the debate revealed that we had still to amplify our reflection and needed to engage in further consultation.' At present there are all the reasons to hope, that the endeavours of UNESCO in conjunction with political guidelines of UNESCO Member States and on the basis of international cooperation will be able to forward creating of necessary conditions for sustainable development of the evolving societies.

Societies

Geneva, Switzerland 10-12 December 2003

CORNU, Bernard

Director, La Villa Media — the European Residence for Educational Multimedia (2001 — Present)

Vice-Chairman of the HTE Governing Board (2003 - Present)

Field: Information and communication technologies and education, teacher training, educational

policies



Professional Career:

2000 - 2002: Advisor at the Ministry of Education, France

1990 - 2000: Director, University Institute for Teacher Education (IUFM),

Grenoble, France

1991 – 1994: President of the Conference of IUFM Directors.

1988 - 1990: Head of MAFPEN (in-service training of education personnel), Academy of Grenoble, France

1984 — 1986: President of the Assembly of the Research Institute on Mathematics Education (IREM),

Grenoble, France

1982 – 1986: Director, Research Institute on Mathematics Education (IREM), Grenoble, France

1969 - 1999: Assistant then Lecturer, University Joseph Fourier, Grenoble, France

Educational Background:

1983: Doctoral degree (Mathematics, Informatics), University Joseph Fourier, France

1970: Masters' degree (Mathematics), University Joseph Fourier, France

1968: Undergraduate degree (Mathematics), University Joseph Fourier, France

Born: 1948

PREAMBLE TO THE ROUND TABLE DISCUSSION

Information and Communication Technologies (ICTs) have brought profound changes in society and education. They are so huge that new concepts of the society appeared: information society, communication society and knowledge society. The changes are not only technological: they address the fundamental values and concepts of societies and raise new essential questions. The aim of the Round Table is to consider these questions and try to formulate some core principles and concrete recommendations for Education in Knowledge Society.

This must be done taking into account the reflections already led at the international level, particularly, by UNESCO. Speaking about the society we need to state and agree on core values, the values of humanism, peace, equal dignity of human beings, the values of solidarity — these values our countries share and want to promote. We could take as a basis for our deliberation some main principles and documents.

Education for All: Access and Quality

First, the affirmation of "Education for All" is to be studied. UNESCO and its Member States committed themselves to the promotion and development of "Education for All", considering that education is a major need for humanity, a major investment to prepare the future of humanity, that all human beings have the right to receive education, and that all countries have the duty to provide education for all. Of course, a strong and efficient international cooperation is needed in this respect. "Education for All" includes two main aspects: access (make education accessible for all) and quality (provide a quality education for all). Access and quality must be aimed at simultaneously; it would be a mistake to decrease quality in order to improve access.

"Four Pillars"

There may be difficult debates about what education is. Is it just the transfer of certain knowledge? Is it more linked to the development of human beings? We can take as a basis the Report to UNESCO by the International Commission on Education for the Twenty-first Century, chaired by Jacques Delois ("Learning, the Treasure within", UNESCO, 1996). It describes the "four pillars" of education: "If it is to succeed in its tasks, education must be organised around four fundamental types of learning which, through a person's life, will in a way be the pillars of knowledge: learning to know, that is acquiring the instruments of understanding; learning to do, so as to be able to act creatively on one's environment; learning to live together, so as to participate and cooperate with other people in all human activities; and learning to be, an essential progression which proceeds from the previous three. Of course, these four paths of knowledge all form a whole, because there are many points of contact, intersection and exchange among them".

The Dakar Framework for Action

The "Dakar Framework for Action", adopted during the World Education Forum, in Dakar, Senegal, April 2000 stated some principles in order to enhance "Education for All": "...we hereby collectively commit ourselves to the attainment of the following goals: [...] ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality."

And the framework gives some hints for strategies, taking into account ICTs:

"Harness new information and communication technologies to help achieve Education For All goals:

- ICT must be harnessed to support EFA goals at an affordable cost. These technologies have great potential for knowledge dissemination, effective learning and the development of more efficient education services. This potential will not be realised unless the new technologies serve rather than drive the implementation of education strategies. To be effective, especially in developing countries, ICTs should be combined with more traditional technologies such as books and radios, and be more extensively applied to the training of teachers.
- The swiftness of ICT developments, their increasing spread and availability, the nature of their content and their declining prices are having major implications for learning. They may tend to increase disparities, weaken social bonds and threaten cultural cohesion. Governments will therefore need to establish clearer policies in regard to science and technology, and undertake critical assessments of ICT experiences and options. These should include their resource implications in relation to the provision of basic education, emphasising choices that bridge the 'digital divide', increase access and quality, and reduce inequity.
- There is a need to tap the potential of ICT to enhance data collection and analysis, and to strengthen management systems, from central ministries through sub-national levels to school; to improve access to education by remote and disadvantaged communities; to support initial and continuing professional development of teachers; and to provide opportunities to communicate across classrooms and cultures.
- News media should also be engaged to create and strengthen partnerships with education systems, through the promotion of local newspapers, informed coverage of education issues and continuing education programmes via public service broadcasting."

IFIP Montreal Youth Declaration and Vilnius Declaration

More recently, two major texts provided key principles and stated recommendations:

- The participants in IFIP World Computer Congress, Montreal, Canada, 2002 adopted "Youth Declaration". It highlights the importance to sensitize authorities and the society about the necessity to include the development of ICT infrastructures and ICT skills for young people as a high priority in policies and agendas. It affirms the commitment to ensure a youth-oriented digital inclusion. A set of concrete recommendations is then provided.
- The participants in First World Information Technology Forum (WITFOR), in Vilnius, Lithuania, 2003 adopted "Vilnius Declaration" inviting national governments to give priorities to national socio-economic development plans to create ICT infrastructures, urging national governments to guarantee the application of the principles of freedom of expression and privacy, ensuring a continuous process of education on the rights of citizens as a fundamental element of poverty alleviation, facilitating knowledge and information sharing, encouraging international cooperation, empowering all communities through programmes aimed at developing literacy, including ICT literacy, etc.

Societies

Geneva, Switzerland 10-12 December 2003

World Summit on the Information Society

Ministerial Round Table on "Towards Knowledge Societies", Paris, October 2003 adopted a communiqué, reminding of some fundamental principles for the development of equitable knowledge societies: freedom of expression; universal access to information and knowledge; respect for human dignity and cultural and linguistic diversity; quality education for all; investment in science and technology; understanding and inclusion of indigenous knowledge systems. This communiqué must be considered an essential input to the work of the World Summit on the Information Society (WSIS).

Finally, two documents gather a set of principles and recommendations, to be addressed during WSIS: "Draft Declaration of Principles", and "Draft Plan of Action". The declaration of principles recognizes, that education, knowledge, information and communication are at the core of human progress, endeavour and well-being. A vision of Information Society for all is presented, and access to knowledge is quoted as a key principle. The plan of action gives concrete recommendations several address access to knowledge and capacity building: "Everyone should have the necessary skills to benefit fully from the Information Society. ICTs can contribute to achieving universal education worldwide, through delivery of education and training of teachers, and offering improved conditions for lifelong learning, encompassing people that are outside the formal education process, and improving professional skills. "The plan recommends to "develop national policies to ensure that ICTs are fully integrated in education at all levels, including in curriculum development, teacher training, institutional administration and management, and in support of the concept of lifelong learning."

From Information Society to Knowledge Society

Some years ago, we were talking about computers and informatics, and their influence on learning, teaching, and education. The new technological tools brought new resources for the teacher, and were considered a supplementary aid for teaching, like other technologies had been before. Information technologies then developed processing digitalized information. At the same time, communication technologies transporting digitalized information, developed as well; both merged leading to new tools known as information and communication technologies. The concept of Information Society appeared: information has become a valuable good, that one can buy and sell, and information has acquired a major place in economic and social matters. The organization of societies evolves being based more and more on information and access to information. Information is very easily accessible, in any place, at any time. But new questions appeared; how to sort and categorize information, which is abundant and untidy? How to evaluate and assess information, how to distinguish between accurate and wrong information? New ethical questions about information, access to information, and distribution of information were raised. Information is like raw materials: it must be processed before used.

Information is not knowledge. Information, even if it is digitalized, interactive, dynamic, has no human dimension. The next step, the major step, is now to move toward Knowledge Society. Information Society is based on technology; Knowledge Society is based on human beings.

Knowledge is a good that can be stored, circulated, exchanged. But it is an evolving good, continuously changing and enriching. Knowledge has a human dimension; it is linked with what human beings do and think; knowledge is created and developed in and by human beings. Knowledge is both an individual and collective matter. Knowledge is linked to culture and technology; there exists not one knowledge society, but, certainly, many knowledge societies. Some have a lot of knowledge and can produce knowledge; others are poorer; there are conflicts about knowledge, territories, and borders. In knowledge societies, our geographical and political borders are no longer accurate, new borders are appearing, as well as new territories, new powers, and new conflicts.

Knowledge societies must not be reduced to knowledge economy: it is not only a matter of buying and selling knowledge, but, more fundamentally, to analyse the social changes due to the advent of knowledge societies.

We are used to describe knowledge in terms of subjects, disciplines: mathematics, history, literature, languages, etc. But knowledge is getting more and more composite; the questions addressed in society, that knowledge must keep answering, are more and more transverse and complex. Edgar Morin has shown that the necessary knowledge cannot be listed in the terms of disciplines, and he has suggested "Seven complex lessons in education for the future": detecting error and illusion, principles of pertinent knowledge, teaching the human condition, earth identity, confronting uncertainties, understanding each other, and ethics for the human genre.

Knowledge and Education

So, new challenges are raised for Education in the knowledge societies: transforming information into knowledge, identifying accurate knowledge, transmitting knowledge ...

Accessing knowledge takes new forms. Knowledge is no longer accessible only in books and in the teacher's head! Knowledge is now available in many different places, and attainable from any place, at any time. Education has a new role in terms of making knowledge accessible for pupils, and guiding pupils in getting knowledge. However, it is not enough to access knowledge; knowledge must be actually acquired. Since there are profound changes in the knowledge, there are changes in learning and acquiring knowledge. These changes we must try to identify.

There is, of course, a strong link between knowledge and education. Education is the main process dealing with knowledge. So, in a knowledge society, education takes a central role and is a major stake for future and evolutions. Education takes the characteristics of an economical activity in such a society. But it is a political and social responsibility of decision-makers to ensure that everyone can access and acquire knowledge. The question of education as a public service is raised in a new form, in a context where knowledge is a good and education — an economic activity.

Education for and in Knowledge Societies

At the Round Table, we will address two main aspects of education and knowledge societies; education FOR knowledge societies, and education IN knowledge societies.

Education for knowledge societies, because knowledge societies expand progressively, and we must educate pupils and students for this kind of society: preparing the knowledge societies, preparing citizens of knowledge societies, preparing people to understand knowledge societies and to act and behave is such societies. Education must take into account the main trends in the changes toward knowledge societies, identify the main challenges to overcome; educational policies must be designed in the context and framework of knowledge societies. Education and educational policies must follow the changes and evolutions, as well as anticipate and, therefore, help decision-makers and the civil society impact the evolutions to master them.

Education in knowledge societies, because in such societies, knowledge has changed, access to knowledge is different; learning in knowledge societies, and teaching in knowledge societies, include new components, new concepts, new pedagogical approaches, and need new resources and new tools.

Networks

Knowledge societies are networked societies. We are used to hierarchical structures, to pyramidal or tree-type organizations. Knowledge societies are structured by networks. A network is very different from a pyramid or a tree: there are edges and nodes, the edges linking the nodes; from one node to another one, there are several possible paths. There may be lots of subnetworks. There is no natural hierarchy, but new types of hierarchies may appear. The Internet is the clearest example of such a network. One can circulate in a network, but this needs to be mastered, tools and rules are necessary. Accessing information is, mainly, made through networks now. The network structure of such societies will, certainly, have huge consequences on the organizations. A school, an educational system, cannot stay organized as hierarchical and pyramidal structures in a society where knowledge and people are networked. This can lead to profound and unexpected changes in our societies.

Competencies

Knowledge societies need new types of competencies. We have already mentioned that the educational needs of societies can be considered through the four "pillars" of education: learning to know, learning to do, learning to live together, learning to be. In knowledge societies, knowledge is not static, it evolves and it is permanently enriching. Education cannot be reduced to the transmission or acquisition of a set of definite knowledge; it would be soon obsolete. Learning to learn is a necessary ability that education must provide. It is the content as well as the processes that education must transmit. The ability to evolve, to adapt, is essential in knowledge societies; education must take it into account. Knowledge societies are lifelong learning societies, and education must prepare to lifelong learning.

Towards 🛸

Societies

Geneva, Switzerland 10-12 December 2003

Collective intelligence

Knowledge societies need virtual communities and collective intelligence. We were used to educational systems aimed at acquisition of individual knowledge and development of individual intelligence. But more and more, society needs collective kinds of competencies. In knowledge societies, knowledge and processes are mainly collective. This requires collaborative work, teams and communities. The concepts of virtual communities and collective intelligence are essential in knowledge societies. Virtual communities are communities of real human beings made possible and activated through information and communication technology tools; ICTs implement new kinds of communities, enable to overcome usual barriers and borders, create new communities who can communicate, work together, act together. Collective intelligence is not a mere sum of individual ones: there is an "added value", a kind of intelligence, which is communal, which no one could have alone.

School in Knowledge Societies

When we speak about knowledge societies, we mean that we do not want to reduce them to technology societies or information societies. The role of schools and education is essential in knowledge societies. Of course, education must focus mainly on knowledge, not on technology. Every educational policy must address knowledge, not only technology and communication. The role of school in knowledge societies raises new questions: schools for the knowledge society, schools in the knowledge society. However, information and communication technologies change the status, mission, role, and action field of schools. What will education be, and what will the school be in future, in knowledge societies? OECD has published a very interesting study about the school of the future, imagining six different scenarios. Such scenarios are not the guessing what the future will be, it makes us aware that there is no fatality in the future: we must decide where we want to go and act within the appropriate parameters in order to master our future, the future of schools. The scenarios are of three types:

- 1. Attempting to maintain the status quo:
 - · Bureaucratic school systems continue.
 - · Teacher exodus; the "meltdown" scenario.
- 2. Re-schooling:
 - · Schools as core social centers.
 - · Schools as focused learning organizations.
- De-schooling:
 - · Learning networks and the network society.
 - · Extending the market model.

Such scenarios can help policy-makers and decision-makers design appropriate policies for the future. They can help anticipate, not only follow!

The question of anticipation is a crucial one. Technology evolves very quickly, and changes are so fast that most of the time we just try to catch up with our delay, to adapt our old strategies and habits to the new tools and technologies. It is not enough, and may even be wrong. There is a need to re-think the main paradigms of education in knowledge societies. Innovation must not only follow the evolutions of technology and the evolutions of society; it must anticipate, be pro-active.

Pupils and Learning in Knowledge Societies

The pupil and the student are at the centre of education in knowledge societies. The pupil is the learner, but cannot be reduced to the one who acquires knowledge. The pupil is a citizen in the knowledge society, and the pupil must be prepared and educated as a citizen of the knowledge society. We have to reflect on this new "knowledge citizen", so that the fundamental values of the knowledge society can be described and respected: equity in access to knowledge, solidarity, equal dignity of human beings, etc. The relationship between individuals and society has new characteristics in the knowledge society, particularly because of virtual communities, of collective intelligence. We have to invent a citizenship for knowledge societies.

Lifelong learning is an important component of Knowledge Society. Since knowledge is at the core of such a society, learning is an essential process, and it must go on all life long. Knowledge societies are lifelong learning societies.

Knowledge societies and ICT make possible and need new learning methods. ICT enables to take into account space and time in education differently; we are not bound to the "same place — same time" aspect of school classes; it becomes possible to have school activities at different times and different places. Distance education does not address only the ones who are in particular situations; it becomes a component of Education for All; we have to invent a good articulation and a good balance between class and distance education activities, in order to improve education and learning.

Teachers in Knowledge Societies

Being a teacher in the knowledge society is a new challenge. Of course, there are new teaching methods, new pedagogies, new tools, and new resources available for a teacher. However, the role of a teacher is changing, and the expectations of society toward teachers are evolving and increasing. The role of a teacher in the learning process is essential. Whatever the technology can do, the teacher remains the only one able to be the necessary human mediator between the pupil and the knowledge. The teaching profession is evolving, because access to knowledge is changing; the teaching profession is evolving in its everyday activities, in the way teachers work with others. Although the core role of a teacher remains, being the one who makes the pupil acquire knowledge, and preparing future citizens.

The role of a teacher is essential; in societies changing quickly toward knowledge societies, the teacher is the main actor, the main agent of the evolution of education. Teacher education is, therefore, fundamental, and a key issue in every educational policy. In the projects, action plans, reforms of education, teacher training is a central issue. It is clear that in order to help countries overcome the digital divide teachers' education is one of the most important tools. Teachers' education has become a major stake in national policies and at the international, worldwide level.

In 1966, the UNESCO Special Intergovernmental Conference on the status of Teachers adopted "Recommendation Concerning the Status of Teachers". This set of precise and concrete recommendations for action is still very vital, and most of them have not been completed yet. It would be useful to check these recommendations and evaluate to which extent they have been put in action, and to update them, taking into account the new kind of society we live in, and the integration of information and communication technologies. Recommendations concerning the status of teachers in the knowledge society are very useful nowadays!

Need of Policies

So, our Round Table has a lot of questions to address. Our main issue is Knowledge Society: what is it, what are the new trends in such societies; what are the place and the role of education in knowledge societies, how central education is realized in such societies. Education for knowledge societies and education in knowledge societies will be our main topics. We will see that there is a need of strong and concrete policies in order to develop education for and in knowledge societies. It is not a matter of unavoidable evolutions; political choices and decisions must make us master the evolutions and the future. Principles and recommendations for educational policies in knowledge societies will be the main outputs of our Round Table.

We are in the context of globalization. This may have negative aspects, possible risks, and this leads to essential ethical questions about the digital divide, our local cultures, risk of merchandization of knowledge and education. But let us look at it from the positive side: an opportunity to develop a real international dimension in education, a real cooperation between our countries. The knowledge society does not have the same borders our geographical and political countries have; let us take this as a new chance to reinforce international cooperation in a way that respects and enhances cultures and identities.

Knowledge societies need education, and education has a much more important role in such societies. Let us use the opportunity of the knowledge societies to promote and enhance Education for All, give access to education for everyone in the world, in particular, to quality education for everyone.

Societies

Geneva, Switzerland 10-12 December 2003

SESSION I

Education for Knowledge Societies: Trends, Challenges and Policies

Societies

Geneva, Switzerland 10-12 December 2003

ADAMKUS, Valdas

UNESCO Goodwill Ambassador for the Construction of Knowledge Societies Former President of the Republic of Lithuania

Field: Environment protection, ICTs and policy-making

Professional Career:

1998 - 2003: President of the Republic of Lithuania

1983: Chairman of the Organizing Committee of the World Lithuanian Games

1972 - 1997: Administrator at the U.S. Environment Protection Agency (EPA)

1970 – 1972: Deputy Administrator at the U.S. Environment Protection Agency (EPA) Region 5 (Great Lakes Region) 1967: Chairman of the SANTARA-SVIESA (Accord-Light), Association of Lithuanian students in the USA

1961 – 1964: Member of the Board of the American-Lithuanian Community (LC), Vice-Chairman of the Board, member of the American-Lithuanian Council (ALC)

1958 - 1965: Vice-Chairman of the SANTARA-SVIESA (Accord-Light)

1957 - 1958: Chair of the Board of the Santara (Accord)

1949 — 1996: Secretary General and Chairman of the Physical Education and Sports Committee

1946 - 1948: World YMCA organization

Educational Background:

1960: Master's degree (Engineering), Illinois Institute of Technology, USA

Undergraduate degree (Natural Science), Munich University

Born: 1926

EDUCATION AND KNOWLEDGE SOCIETIES

Education and knowledge societies are linked with each other on a fundamental basis. Knowledge societies may be neither built nor developed without education. Education is a keystone of building the knowledge society as well as of its existence.

Developed knowledge societies first of all mean a quality education accessible to everyone. They build on well-educated people, able to use their knowledge independently. Also knowledge societies focus on lifelong learning that makes the knowledge society work. In the era of rapid changes, where up-to-date information so quickly becomes out-of-date information, it is impossible to learn things "once and forever". Only continuous learning makes us feel safe in the fast changing world of information. Hence, it follows that the knowledge society is a learning society by definition.

The Lisbon European Council's conclusion that "the move towards lifelong learning must accompany a successful transition to a knowledge-based economy and society" is applicable to all countries, which have chosen to build a knowledge society.

Transition towards the knowledge societies is inseparable from the essential education reforms. Therefore, continuous learning and lifelong learning should become a paradigm of renewed education.

What are these particular changes that would help people to establish themselves and then successfully integrate into the knowledge societies? In many countries this question is a matter of theoretical discussions as well as an issue of practical implementation of the education policy. The actions taken toward building the knowledge society are two-folded.

ADAMKUS Valdas



Societies

Geneva, Switzerland 10-12 December 2003

WEI, Yu

Director of Research Center of Learning Sciences, Southeast University, Nanjing, China (2002 – Present)

Vice President of China Association for Science and Technology (2003 - Present)

Vice President of All China Women's Federation (1988 - 2003)

Academician of Chinese Academy of Engineering

Field: EE, Biomedical Engineering, Learning Science



1993 - 2002: Vice-Minister of Education, China

1986 - 1993: President of Southeast University, Nanjing, China

1966 - 1993: Assistant Lecturer, Association Professor, Professor and Dean of BME, Southeast University, Nanjing, China

Educational Background:

1981: Doctoral degree (Electrical Engineering), TH Aachen, Germany

1965: Master's degree (Electronics), Nanjing Institute of Technology (now Southeast University), China

1961: Undergraduate degree (Electronics), Nanjing Institute of Technology (now Southeast University), China

Born: 1940

KNOWLEDGE SHARING AND INTERNATIONAL COOPERATION IN SCIENCE EDUCATION

Rapid development of science and technology as well as the globalization of economy are driving the world from the knowledge-based economy towards the knowledge-based society. This tendency poses serious challenges to education sector, that is, how to offer more people the opportunity to join this development and benefit from it. A top priority is to provide the chance to every citizen, especially our children, to leap onto the platform of the Internet or the Internet alike, and link to the information society pushed by the information waves.

China is a vast developing country with great diversities between cities and countryside. In order to narrow the digital division among areas, the Chinese Ministry of Education has set up a network infrastructure popularly known as "heaven and earth combined" IT-based distance education system covering cities and remote areas as well. Using this infrastructure, two projects "The Project of Training Female Teachers for Tomorrow" and "The Project of Modern Distance Education in Primary and Secondary Schools in Western China" have been successfully carried out in cooperation with LI Ka Shing Foundation in Hong Kong. 10,000 sites have been put into operation. Its supporting system, including universities, local authorities and institutes of distance education, has been developed. In the next five years, the Chinese government has planned to popularize this infrastructure in more areas. It is proven that, if we can take teachers into serious consideration and offer concrete help to them, teachers in the countryside, including women teachers, can meet the demands of IT technology and join the development of the information society.

The changes of education in the knowledge-based society indicate not only the building of new hardware infrastructure, but the changes in the learning methods, even the living styles. A joint effort in science education, called "Hands on Inquiry-Based Leaning", initiated by the international scientific society has spread from the U.S.A. to France, and now to many developing countries like China, Brazil, Malaysia, etc. This education innovation is expected not only to improve the knowledge acquisition, though it is important, but also guide our children to a better way to learn and a correct way to learn.

Building infrastructure, innovating learning philosophy and process, as well as knowledge sharing require joint efforts of governments, international organizations, NGOs and private sectors. UNESCO can take its leading and important role in accomplishing the goal of quality education for all with equality and equity.

WEI, Yu 29



WEILER, Raoul

Member of the Executive Committee (International) of the Club of Rome
President of the Brussels-EU Chapter of the Club of Rome
Vice President of the European Academy of Sciences and Arts, Salzburg, Austria
Professor of the University of Leuven, Faculty of Agricultural and Applied Biological Sciences,
Center for Ethics on Agriculture, Life Sciences and Environment (1997 — Present)
Consultant in ICT and management



Field: Study of and teaching on the relation between society and technology

Professional Career:

1970 - 1996: Chemical Industry as researcher, engineering and ICT manager

1966 – 1969: Post doctoral Fellow at the University of North Carolina at Chapel Hill, USA;

The Catholic University of America, Washington DC, USA; Université Paris V, France

Educational Background:

1966: Doctoral degree (Applied Biological Sciences), University of Leuven, Belgium
 1962: Master's degree (Bio-Engineering, Chemistry), University of Leuven, Belgium

Born: 1938

ICT AS AN INNOVATOR FOR SUSTAINABLE DEVELOPMENT

Introduction

The contributions of ICT to sustainable development are manifold, and all sectors of the daily life will be affected. Futurologist Ray Kurzweil pictures a "time line" till the end of this century in his book The Age of the Spiritual Machines, Viking (1999). In about twenty years a computer device of about \$1,000 will have the computational ability approximately of human brain. Computers will be largely invisible and embedded everywhere, paper books and documents will be rarely used, and most learning will be conducted through intelligent, simulated software-based teachers, etc. (page 278). Even when these forecasts have a prophetic character, nobody doubts that ICT is at the edge of revolutionizing our society profoundly, therefore, frequently designated as a paradigm shift.

Does this technology possess the potentiality to become a major innovator for sustainable development and for reaching a sustainable world society? This is, in fact, a major question in the light of this World Summit. Sustainability is an overarching issue for the mankind and cannot be put aside during the summit.

Reaching a sustainable global society implies that fundamental aspirations, expressing the desire to share a descent living of all people on earth, have to be fulfilled. This means in concreto: fast alleviation of extreme poverty, sufficient food supply and shelter, improved basic heath care, reduction of adult as well young illiteracy, correct use of the ecological system, including its resources, by industrial societies. This world "problématique" has amplified with almost doubled world population during this century.

ICT has the potential to cope with these situations as well as intrinsic power to bring about "quantum jump" solutions: ICT is a part of the "résolutique "for these global problems. Sustainable societies will be attained only when the alleviation of powerty is made convincingly apparent. Several international conferences have stated that education of people is the best way, if not the only one, to realize its eradication. ICT is a new tool for "leapfrogging" to this objective as well as it is the key to bring

30 WELER, R

Societies

Geneva, Switzerland 10-12 December 2003

SESSION II

Education in Knowledge Societies: Strategies, Tools, Teaching and Learning

Towards 🕒

Geneva, Switzerland 10-12 December 2003

MOREL, Raymond

Director of the Geneva Educational Technology Centre (CPTIC) (1987 — Present)

Expert for the Swiss ICT Task Force (2000 - Present)

Member of the Scientific Advisory Board of the Swiss Academy of Engineering Sciences (SATW)

(2001 - Present)

Chairman of the SATW ICT Committee (2002 - Present)

Special consultant of the TC-3 (Education and ICT) of the International Federation for Information

Processing (IFIP) (2003 - Present)

Field: ICTs and education, teacher training



1975 - 1992:

1967 - 1992:

Lecturer at the College of Geneva

Educational Background:

Mathematics, Astronomy and Mathematical Statistics, University of Geneva, Switzerland

Born: 1944



The speakers at this session will address the question of Education in Knowledge Society. In such a society, education takes a specific dimension and particular forms. For instance, OECD has published a study about the school of the future, with six possible scenarios for the place and role of schools in future societies. How can UNESCO and other national and international bodies in the future promote and facilitate the development of education for and in such new type of a dynamic society.

According to the discussion of the first session and taking in account some main priorities of UNESCO for 2004-2005 (as decided two months ago, i.e. education for all, ethics in sciences and technologies, cultural diversity and access to information and to the knowledge), four speakers with their experience will present their opinions about some urgent questions such as:

- What is learning in a knowledge society? Are there specific new forms of learning?
- What means teaching in a knowledge society? What are the place and role of a teacher in a knowledge society and how to facilitate this evolution?
- How can ICTs help teaching and learning in a knowledge society?
- Which new tools and resources should be available for teaching and learning in a knowledge society?
- What should be the specificities of educational policies in the ICTs context and in a knowledge society?

The session will regard the "Youth Declaration" adopted at IFIP WCC in Montreal (2002), as well as the output of WITFOR 2003 Conference.

In this session the speakers will consider a number of specific themes coming from their fields of competence:

 From a ministerial point of view what is a national educational policy in a knowledge society and how can it contribute to new forms of teaching and learning? How to formulate core principles of educational policies in knowledge societies and to suggest possible actions?

Chairman of the Swiss group of coordination for ICT

Towards 🗬

Societies

Geneva, Switzerland 10-12 December 2003

BRUNNSTEIN, Klaus

President of the International Federation for Information Processing (IFIP) (2002 — Present) Professor for Application of Informatics, University of Hamburg, Germany (1973 — Present)

Field: Social implications of computing, esp. ethics

Professional Career:

1969 - 1973: Secretary, commission for the foundation of Institute for Informatics at Hamburg

university, working group on "Informatics aspects of Computer-supported Learning"

1965 - 1973: Computer Center, coordinator of system and networks for High Energy experiments,

German Electron Accelerator (DESY), Hamburg

1962 — 1965: University of Hamburg, Institute for Shipbuilding, doctoral work on theoretical hydrodynamics

of ship propulsion

Educational Background:

1967: Doctoral degree (Dr. rer. nat. in Theoretical Physics/Applied Mathematics)

1962: Diploma in Theoretical Physics

Born: 1937

EDUCATION FOR KNOWLEDGE SOCIETIES: LEARNING TO WORK WITH INSECURE INFORMATION AND COMMUNICATION TECHNOLOGIES

Only now, 60 years after the advent of first computers in universities and enterprises, modern Information and Communication Technologies (ICTs) have invaded many areas of education, enterprises, organisations and government, as well as individual and social life, at least in the developed spheres. At the same time, modern computer and communication devices have contributed significantly to reshape structures, tasks and requirements in all kinds of institutions with the benefits for new fields of production and service but with the losses of traditional jobs and enterprises. There is no doubt that the next generation of computing and communication devices will keep invading many — if not all — areas, and their application will continue to change contemporary structures and tasks further.

With special focus upon the development of interoperable and distributed applications, traditional ways of computing will be modified in favour of innovative infrastructures where computing devices are a commodity deeply embedded and hardly distinguishable from devices, services and functions. Consequently, such systems will become even more complex, difficult to understand and control. As this development will take place on a global scale, its pace and direction can hardly be controlled by local or regional mechanisms such as laws and regulations.

It is well known that today Information and Communication Technologies are so complicated that even experts have difficulties to understand their work, and especially to recognize why and when such systems misbehave. Every computer user knows that contemporary ICT systems rather often fail to work properly and even crash, and that these systems tend to misbehave, especially in instances least suited for a user (well known as "Murphy's laws"). While many regard the Internet as an infrastructure to support human hopes for more democracy and self-determination, most — if not all — users have experienced the invasion of malicious software — viruses, worms, Trojan horses — and other malign content — spamming, spyware, unwished marketing — in their local systems. It is also broadly known that most of these problems are based on the insufficient quality of software, and that some are deeply inherent in design faults, e.g. of the Internet Protocol, which permits address spoofing, content sniffing and many forms on attacks on useful e-services.



Societies

Geneva, Switzerland 10-12 December 2003

LOING, Bernard

Intergovernmental Liaison Officer and General Delegate of the International Council for Open and Distance Education (ICDE) at UNESCO

President of Canal EF, the digital satellite radio channel for French-speaking Africa Chairman of the Institute for Information Technology at the Francophone Agency

Expert for the implementation and the applications of ICT in education and training:

- · at the Conference of European Rectors;
- at the European Union;
- · at UNESCO.



Professional Career:

1990 — 1993: Rector of CNED (Centre national d'enseignement a distance), France

Member of the High Council for Information Technology, Ministry of Industry, France

Expert in Educational Technology

1986 — 1990: Inspector General and CEO of French Post & Telecommunications Company for Overseas Territories

1981 – 1985: Deputy Minister of French Post and Telecommunications

1965 - 1985: Professor at the universities of Caen and Tours

Educational Background:

1998: Doctoral degree

1959: Undergraduate degree, Ecole Normale Supérieure, La Sorbonne, Paris

Born: 1932

TEACHER'S TRAINING: CENTRAL CHALLENGE FOR KNOWLEDGE SOCIETIES

By stepping forward from the stage of "information" to that of "knowledge" society, human communities choose to put the teacher back at the core of their system. Being a central figure in a "knowledge society", the teacher has to fuel it with vital substance by assimilating, expanding and disseminating knowledge through various educational channels. In this capacity, no machine can substitute him. Whereas huge amounts of "information" can be efficiently stored and delivered by means of ICT systems, no such system, however sophisticated, can fully take over the role of a teacher and knowledge mediator. The central function of the human teacher is even more obvious in less developed countries where technologies are rare.

Yet, if they cannot replace the teacher, ICT can, nevertheless, provide powerful tools to support education, either in specialised learning environments, or in open and distance education facilities. In countries where teachers are scarce and often lack proper training, such environments and systems, as available, must be used in priority for teachers' training, to enable them to upgrade their competence and qualification.

Obviously, in such a process the situation of "digital divide" must be taken into account, for digital development can be very different from one country to another. But even in those parts of the world where ICT is less developed, an adequate resort to available resources, such as radio or TV channels, satellite network, and adequate programmes and software, can prove remarkably efficient and economical. They can help train, qualify, and empower the generations of teachers, tutors and trainers; they can comfort those who sometimes have to work in precarious situations.

OING Bernard 39



Societies

Geneva, Switzerland

WEERT, Tom J. van

Associate Professor holding the Chair "ICT and Higher Education", Hogeschool van Utrecht, the Netherlands (2002 – Present)

Field: Higher education ICT-integrated learning environments for Lifelong Learning

Professional Career:

1998 - 2002: Director of Cetis, expert center for educational innovation and ICT,

Hogeschool van Utrecht, the Netherlands

1990 – 1998: Director of the University School of Informatics, Faculty of Mathematics and Informatics,

University of Nijmegen, the Netherlands

1985 - 1990: Coordinator of the programme "Informatics for Alpha- and Gamma Sciences"

of the Department of Informatics, University of Nijmegen, the Netherlands

1972 – 1985: Member of staff and member of the board of the Institute for Teacher Education "Ubbo Emmius",

Groningen, the Netherlands

1971 — 1972: Vice-head of the computer section of the TNO Physical Laboratory, the Hague,

the Netherlands

Educational Background:

1971: Master's Degree (Applied Mathematics), the University of Amsterdam, the Netherlands

Born: 1940

LIFELONG LEARNING IN THE KNOWLEDGE SOCIETY: IS THERE A ROLE FOR HIGHER EDUCATION?

The Knowledge Society and Lifelong Learning

The growing importance of Lifelong Learning must be seen against the background of profound changes, reflected in all aspects of our living environment. These changes concern the global environment, as well as our personal, economic, social, cultural and political environments. Knowledge creation drives innovation in the emerging Knowledge Society. Working and learning come together just as living and learning. The Knowledge Society is 'an enterprising' society in which one's initiative and personal fulfillment are important driving forces. ICT is integrated in all aspects of the Knowledge Society.

Lifelong Learning is a 'must' in the real-life context of the Knowledge Society and covers "all purposeful learning from the cradle to the grave" of very diverse groups of learners in professional, community, or individual context. The Lifelong Learning environment has specific characteristics and is strongly supported by Information and Communication Technology.

Moving from industrial to knowledge-intensive economies there is in the professional context a need for modern professionals: knowledge workers with new qualifications. For the modern professional, lifelong working is identical to lifelong learning; the modern professional is a learning professional. Innovation is the driving force in a knowledge-intensive economy and for innovation new knowledge is needed. The modern professional, therefore, is a knowledge creating professional or knowledge worker.

ICT-integrated Knowledge Society

"The concepts of 'knowledge economy' and 'knowledge worker' are based on the view that information and knowledge are at the centre of economic growth and development. The ability to produce and use information effectively is, thus, a vital source for skills of many individuals (OECD 2000b).

WEERT, Tom J. van



LANGLOIS, Claudine

Director of the International Association of Universities (IAU)/UNESCO Information Centre on Higher Education, Paris, France (1989 – Present)
Rapporteur of the IAU Working Group on Information and Communication Technologies

Field: Education, information sciences

Professional Career:

1970 – 1989: Librarian, International Association of Universities, Paris
 1968 – 1970: Junior teacher, Université de Montréal, Québec, Canada

1965 - 1967: Secondary school teacher, Rouen, France

Educational Background:

1970: Librarianship, Université de Montréal, Québec, Canada

1969: Master of Arts (English), Université de Montréal, Québec, Canada 1965: Undergraduate degree (English), Université de Caen, France

Born: 1943



FACILITATING LIFELONG LEARNING IN UNIVERSITIES: THE ROLE OF ICTS

Higher education institutions are facing tremendous challenges because of the requirements of an emerging knowledge-based society closely linked to the pressing need of lifelong learning (LLL).

There are several definitions of lifelong learning, the one of European Commission being considered the most comprehensive: "All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence within a personal, civil, social and/or employment-related perspective."

Changes in Knowledge

- Knowledge and economic development
 It is now recognized that economic development is increasingly linked to the accumulation of knowledge; therefore, more and more funds are allocated to training and research. User's demand for training and retraining throughout life is also growing everywhere. Consequently, particular attention has been paid on lifelong learning by governments predominantly in Europe (European Commission 2003) many of which have developed policies in this area.
- Need for higher level skills
 In knowledge-driven economies, individuals need more specialized skills of higher level. To update skills, continuous retraining is necessary. The traditional approach of graduating in a certain field in early adulthood to get a job is changing for lifelong learning practices.

Consequences for Universities

These changes profoundly affect universities. It is commonly held that they have to become more flexible and adopt new methods to cope with the evolution of needs, particularly those of new types of students (working, mature, stay-at-home, etc.) who wish to update and refresh their knowledge — sometimes very specialized — to change career or to broaden their education without being constrained in time, location and even finance. For UNESCO (World Conference on Higher Education, 1998), the role of universities and higher education goes further than training students: the central task of higher education is "training

Towards 🗬

Societies

Geneva, Switzerland 10-12 December 2003

SENTENI, Alain

Director of the Virtual Centre for Innovative Learning Technologies (VCILT), University of Mauritius (2001 - Present)

Field: ICT in education, e-learning, computer-mediated communication and pedagogy, pedagogical engineering, visual communication, multimedia, activity theory, collaborative approaches, CSCW, CSCL, ICT for development



Professional Career:

1996 – 1999: Professor, School of Fine Arts and Visual Communication, Réunion Island 1989 – 1995: Professor, Faculty of Education Science, University of Montreal, Canada

Educational Background:

1995: H.D.R. (Habilitation à Diriger les Recherches en Informatique – Enabling to Conduct Research in Computer Science, Institut National Polytechnique de Toulouse (INPT), France

1989: Ph.D. in Computer Science, Institut National Polytechnique de Toulouse (INPT), France 1969: Computer Science Engineer, Ecole Nationale Supérieure d'Informatique, Electronique,

Electrotechnique et Hydraulique de Toulouse (ENSEEIHT-INPT)
Masters' Degree in Computer Science, Université Paul Sabatier, Toulouse, France

Born: 1947

1968:

TECHNOLOGY-ENHANCED EDUCATION, OPEN EDUCATIONAL RESOURCES AND NON-FORMAL APPROACHES TO LIFELONG LEARNING FOR SUSTAINABLE DEVELOPMENT

Keywords: Technology-Enhanced Education, Open Educational Resources, Open Systems, Educational Virtual Communities

"Wiring itself as a global hub for information and communication technology" (quoting TIME Magazine, July 2002), Mauritius today finds itself at the convergence of major research, development, social and cultural issues. Questions are now raised about the future of education in the knowledge economy regarding the access to technology, sharing of knowledge, synergy of human resources and approaches that will help developing countries become producers and active players in the knowledge building process.

Departing from an "e-learning vision" that puts technology at the centre of the development process, Technology-Enhanced Education intends to propose a systemic and evolutionary view of education, through pragmatic approaches in which sustainable human resource development remains central. Capacity emerges from the synergy between availability of resources and technologies, commitment to meaningful projects and building up of communities to bring these projects to life.

Technology-Enhanced Education relies on Open Educational Resources (OER) initiatives based on a philosophical view of knowledge as a collective social product to become a social property. A year ago, UNESCO in association with the William and Flora Hewlett Foundation and WCET, the Western Cooperative for Educational Telecommunications, convened a forum on the Impact of Open Courseware (OCW) on Higher Education in Developing Countries. The OpenCourseWare initiative of the Massachusetts Institute of Technology, a principal point of interest at the forum, consists of providing educational resources for free consultation and non-commercial usage by university and college faculty members as well as students, with permission to produce adapted versions. It also includes the technology to support an open access to and meaningful use of these resources.

SENTENI, Alain 47

Societies

Geneva, Switzerland 10-12 December 2003

JOHNSTONE, Sally M.

Executive Director, Western Cooperative for Educational Telecommunications (WCET), Western Interstate Commission for Higher Education (WICHE), Boulder, CO, USA (1989 – Present) University of Texas Telecampus, Advisory Board (2002 – present)

Open Learning Journal, Editorial Board (2001 – present)

Field: National, regional and institutional policies relating to the integration of technologies into colleges and universities (including quality assurance, non-academic and academic services, costing issues, and management issues)

Science Support Advisory Board, Raytheon Polar Services



Professional Career:

2001 - 2002:

2000 - 2002:	The Leadership Group, Southern Regional Education Board's Distance Learning Policy Laboratory
1999 - 2001:	Consortium for the Advancement of Private Higher Education Advisory Board
1998 - 2002:	Board of Directors, American Association of Higher Education
1998 - 2002:	Board of Directors, United States Open University
1998:	Co-chair of the National Postsecondary Education Cooperative (NPEC)
	Working Group on Ramifications of Technology for Current Surveys
1996 - 1999:	Advisor to the Executive Committee of the Western Governors University Board of Trustees
1986 - 1989:	Director, Center for Instructional Telecommunications, University of Maryland University College,
	College Park, MD
1984 - 1986:	Assistant Dean, Undergraduate Faculty, University of Maryland University College, College Park, MD
1984 - 1989:	Faculty, Psychology, University of Maryland University College, College Park, MD
1982 - 1984:	Lecturer (Psychology), European Division, University of Maryland, Heidelberg, Germany
1977 - 1978:	Instructor, Department of Psychology, Radford College, Radford, VA
1976 - 1977:	Instructor, Social Sciences Division, New River Community College, Dublin, VA

Educational Background:

1982: Doctoral degree (Ph. D., Experimental Psychology), University of North Carolina, Chapel Hill, NC
 1976: Master's degree (Psychology), Virginia Polytechnic Institute and State University Blacksburg, VA
 1974: Undergraduate degree (Psychology), Virginia Polytechnic Institute and State University, Blacksburg, VA

Born: 1949

OPEN EDUCATIONAL RESOURCES

The Massachusetts Institute of Technology is posting the substance of more than two thousand courses on the Web. It will make them available to anybody, anywhere in the world, at no cost. That is OpenCourseWare program.

In his report for the academic year 2000—2001 Charles M. Vest, MIT President, considered a straight question: "How is the Internet to be used in education, and what is your university to do about it?" Part of MIT response is to declare that ". . . inherent to the Internet and the Web is a force for openness and opportunity that should be the bedrock of its use by universities." The OpenCourseWare initiative results from a recognition, that "we now have a powerful opportunity to use the Internet to enhance [the] process of conceiving, shaping, and organizing knowledge for use in teaching."

JOHNSTONE, Saly M. 49

Massachusetts Institute of Technology, Report of the President For the Academic Year 2000-2001: Disturbing the Educational Universe: Universities in the Digital Age — Discours or Prometheans?

Societies

Geneva, Switzerland

SESSION III

UNESCO as a Key Actor in the Development of Education for and in Knowledge Societies

Societies

Geneva, Switzerland 10-12 December 2003

BOLLERSLEV, Peter

Director and Editor-in-Chief at SAXO Publishers (2003 - Present)

Field: Mathematics and informatics in teacher education

Professional Career:

2000 - 2003: Chief Consultant in Gyldendal Education (Publishing House)

1998 – 2001: President of the International Federation for Information Processing (IFIP)

1970 - 1993: Her Majesty's Inspector for Teacher Education, Ministry of Education, Denmark

1962 - 1999: Professor in colleges of education

Educational Background:

1959: Mathematics, University of Copenhagen, Denmark

Born: 1936



PREAMBLE TO THE SESSION III. UNESCO AS A KEY ACTOR IN THE DEVELOPMENT OF EDUCATION FOR AND IN KNOWLEDGE SOCIETIES

Three speakers at this session will contribute the ideas on how in the future UNESCO can best engage in and stimulate the development of education for and in the new kind of society we are building.

With the experience from the past as a background they will present the opinions about how Information Society can respect and at the same time overcome such obstacles as cultural diversity, linguistic diversity, digital divide, gender disparities, illiteracy, different economic opportunities, etc.

With their visions of the future in mind the speakers will recommend certain important items to be included in a strategic plan of action for mutual development toward the realization of Knowledge Society as a society where citizens are prepared for life through education, where the conditions are at their optimum.

The power of ICTs in the process will be defined and described as well as how ICTs can benefit the world and, particularly, be used to improve the quality of life for the majority of peoples who live in LDCs, despite the digital divide between the rich and the poor, urban and rural societies, men and women, and different generations.

In this session they will consider and comment on a number of specific themes, which are the suggestions that UNESCO should undertake a specific role and responsibility for action within its field of competence:

- UNESCO should establish an information bank where experiences in the use of ICTs in education are collected and grouped according to comparable environments and circumstances.
 - As a part of this approach a "Handbook of Good Practices and Success Stories" could be developed and launched, based on compilation of contributions from all stakeholders, in a compelling format. The handbook could be re-issued periodically and turned into a permanent experience-sharing exercise.
- In collaboration with other international agencies UNESCO should set up models of in-service training and professional
 development of teachers who make effective use of the approaches, facilities and opportunities provided by ICTs.
 This is in line with the spirit of the "Education for All" action plan.
 - It will help define, which education is needed in Information Society and, what is learning and teaching in Knowledge Society.

BOLLERSLEV, Peter 53

Societies

Geneva, Switzerland 10-12 December 2003

SENDOV, Blagovest

Ambassador of Bulgaria to Japan (2003 – Present) Academician of the Bulgarian Academy of Sciences

Field: Computer science, mathematical modeling, approximation theory

Professional Career:

1994 - 2003: President, Vice President of the Bulgarian Parliament

1989 — 1992: President of the International Federation for Information Processing (IFIP)

1979 – 1992: General Secretary, President of the Bulgarian Academy of Sciences

1958 – 1979: Assistant Professor, Professor, Dean and Rector of Sofia University

Educational background:

1964: Doctoral degree (Approximation Theory), Sofia University, Bulgaria

1960: Master's degree (Computer Science), Sofia University, Bulgaria

1956: Undergraduate degree (Mathematics), Sofia University, Bulgaria

Born: 1932



THE CHALLENGES FOR EDUCATION AND KNOWLEDGE IN THE INFORMATION SOCIETY

Knowledge has always been important for human beings. Why has the present period of human history been named "The Age of Knowledge"? The attempts to answer this question will help us define the problems to be discussed. Only after the building of extremely powerful machines for automatic transformation of information, the time for Knowledge Societies came. Knowledge is a category of information created in the human mind. Attempts, as Artificial Intelligence (AI) for automatic transformation of knowledge, bring the necessity to differentiate between the natural knowledge in the mind of a human being and the "artificial" knowledge stored in books or computer memories. Knowledge society is a society in which the level of knowledge of every individual is comparable. The economic prosperity of the members of such society depends primarily on the knowledge skills of the individual. What is knowledge? This question is discussed, from the philosophical point of view, in the epistemology and, from the business point of view, in the art of Information systems. There is no uniformly accepted definition of what knowledge is. In the Information age we have to work with different kinds of knowledge. A philosophical definition is useless within the business context.

The deep understanding of the physiological, psychological and sociological mechanisms for transferring and creating knowledge is decisive in establishing appropriate educational practice for a Knowledge society. The role of UNESCO in this direction is indispensable. The long history and experience of this respected world organization in coordinating the activity in education and scientific research will help solve difficult problems of redefining the educational goals and means in a Knowledge society. UNESCO is instrumental for studying and evaluating the experiments with the new forms of education and knowledge dissemination for the benefit of all countries, especially the developing countries. It is of interest to diminish the so-called digital divide as a result of the Information age. The first priority in a Knowledge society must be the education. The computer must be considered an extension, not a replacement, of the human mind. Educational methods must be adopted for students enforced with means for automatic transformation of information. The social status of educators must be much higher.

SENDOV Blagovest 55

RUDGARD, Stephen

Chief, WAICENT Outreach, Library and Documentation Systems Division, Food and Agriculture Organization of the United Nations (2000 – Present)

Field: Agricultural information management

Professional Career:

1990 – 2000: Director, Information for Development, CAB International, United Kingdom 1985 – 1990: Project Liaison Officer, International Witches' Broom Project, International

1990: Project Liaison Officer, International Witches' Broom Project, International Office of Cocoa and Chocolate, United Kingdom

1982 - 1985: Plant Pathologist, Interamerican Institute for Cooperation on Agriculture, Brazil

Educational Background:

1982: Doctoral degree (Plant Pathology), University of London, United Kingdom

1979: Master's degree (Botany), University of London, United Kingdom

Born: 1958

MANGSTL, Anton

Director, Library and Documentation Systems Division, Food and Agriculture Organization of the United Nations (1996 - Present)

Field: Agronomy and information management

Professional Career:

1989 - 1996: Director, Centre for Agricultural Documentation and Information (ZADI),

Bonn, Germany

1975 - 1989: Deputy to the Head of the working Group on Crop Production and Informatics

in Agriculture in Freising-Weihenstephan (Germany), Center for Life and Food Sciences

1970 — 1975: Technical employee and student assistant — Freising-Weihenstephan (Germany), Centre for Life

and Food Sciences

Educational Background:

1978: Doctoral degree (Agronomy), Freising-Weihenstephan, Germany

1975: Master's degree (Agronomy), Freising-Weihenstephan, Germany

1970: Undergraduate degree (Agricultural Engineering), University Landshut-Schönbrunn, Germany

Born: 1949

FAO-UNESCO PARTNERSHIP ON E-LEARNING FOR INFORMATION AND KNOWLEDGE MANAGEMENT

Background and Substance of Intervention

Many organizations and networks have been heavily involved in improving and supplementing existing capacities and skills in support of the new methods of work in the information society. However, due to the ever-increasing demands for assistance



FOUILHOUX, Monique

President of the NGO-UNESCO Liaison Committee and President of the International NGOs Conference (1998 – Present)

Field: Teacher training, international cooperation

Professional Career:

1993 - 1998: Education International, the International Federation of Teacher and Educational

Personnel Unions based in Brussels, Belgium

1973 - 1984; Member of the teaching and research team of the University Center for Further Education for Adult

Educational Background:

Law graduate, the University of Clermont-Ferrand, France

Born: 1945

ICTs IN KNOWLEDGE SOCIETIES: A TOOL FOR ACCESS, EQUITY AND QUALITY

Introduction

UNESCO has official relations with 329 international and regional NGOs acting in the scope of competence of the organisation. They form International Conference, which meet every two years to elaborate collective perspectives of work relevant to UNESCO's programmes. They elect Liaison Committee and President. Within this framework NGOs have been actively collaborating with UNESCO during the last 20 months to prepare the Summit. Meetings and online consultations have been successfully carried out with the financial and technical help of UNESCO. The results have been forwarded to the Geneva Preparatory Committee.

ICTs: a Tool for Access, Equity and Quality

In Dakar three years ago, World Education Forum adopted a framework for action. Participants committed themselves "to achieve education for all (EFA) goals and targets for every citizen and for every society". To attain the six goals adopted, they pledge themselves to "harness new information and communication technologies to help reach EFA goals".

Principles

- Universal access must be ensured anytime for anybody in all regions for affordable costs.
- ICTs in education must be considered a support/interface/delivery system to facilitate exchange between teachers and learners.
- Training of teachers to use distance learning methods must be a priority.
- Important information/educational material must be easily accessible (exemptions of copyright).
- Diversity of educational hard and software must be ensured and not exclude other/traditional supports.

Actions

- Identify strategies of a specific country to use ICTs in education and employ public locations/institutions as access points to educational resources.
- Foster research on impact of ICTs and education (comparative, cross cultural and cross regional studies).
- Improve teacher training by providing ICT facilities in teachers' training institutions in developing countries.
- Create awareness of governments on the issue of copyright/exemptions to copyright in the education sector.
- Develop affordable hard/software tailored to the needs of education and promote the combination of various media.

Societies

Geneva, Switzerland 10-12 December 2003

PARTICIPATING ORGANIZATIONS

Societies

Geneva, Switzerland



UNESCO INSTITUTE FOR INFORMATION TECHNOLOGIES IN EDUCATION (IITE)

Status:

UNESCO education institute established in November 1997,

Address:

integral part of UNESCO 8 Kedrova St. (Bldg.3)

municas.

117292, Moscow

AND ADDRESS OF THE PARTY OF THE

Russian Federation

Phone: Fax: +7 095 129 2990

E-mail:

+7 095 129 1225 info@iite.ru

Web site:

www.iite-unesco.org

The establishment of IITE

The UNESCO Institute for Information Technologies in Education (IITE) was established as an integral part of UNESCO by the General Conference of UNESCO at its 29th session (November 1997) and is located in Moscow, Russian Federation. At the same session, the Statutes of IITE were adopted.

In his note of 26 March 1998 the Director-General of UNESCO announced the establishment of the UNESCO Institute for Information Technologies in Education and set terms to form the HTE Governing Board.

The Governing Board

In accordance with the IITE Statutes, the IITE Governing Board consists of eleven members appointed by the Director-General of UNESCO on a geographical distribution basis that is as equitable and as wide as possible. At present the IITE Governing Board consists of the following Board Members: Prof. Dr Saleh Abdulrahman Al-Athel (Saudi Arabia) — Chairperson, Prof. Vaino Bruzdeikis (Lithuania), Prof. Bernard Cornu (France) — Vice-Chairperson, Prof. Xingfu Ding (China), Prof. Avram Eskenazi (Bulgaria), Prof. Vladimir Filippov (Russian Federation), Prof. Karel Kveton (Czech Republic), Prof. Diana Laurillard (United Kingdom), Prof. Galym Mutanov (Kazakhstan), Prof. Michael Zgurovsky (Ukraine) — Member of Executive Committee, and Prof. Alexander Zhuk (Belarus).

IITE's mission

HTE's mission is to strengthen the national capacities of UNESCO Member States for applying ICTs in education. For these purposes the Institute:

- promotes collection, analysis, dissemination and exchange of information on the use of ICTs in education;
- provides at the request of Member States advisory services and promote studies in Member States on the application of ICTs in education:
- offers technical assistance based on research findings in the design of curricula and courses on the use of ICTs in education;
- organizes pre- and in-service training, including open and distance education, for educational personnel on the use of ICTs in education, giving priority to developing countries and countries in transition;
- fosters the development of UNESCO regional programmes on the application of ICTs in education in all Member States and, particularly, in the countries of the Commonwealth of Independent States.



CLUB OF ROME (CoR)

Status: Non-profit organization established in April 1968

Address: Secretary General

Rissener Landstrasse 193

D-22559 Hamburg, Germany

Phone: +49 40 81960714
Fax: +49 40 81960715
E-mail: mail@clubofrome.org
Web site: www.clubofrome.org

Memberships: CoR is a member of UNESCO as a Formal Consultative Relations as a Network, and has applied

for membership at UN-ECOSOC and CONGO

Mission

The essential mission of the Club of Rome is to act as an international, non-official catalyst of change, contributing to increasing understanding and, at times, jolting the system into action. The need for a centre of innovative thinking, especially about social and cultural issues, is becoming increasingly urgent — new global issues must be identified before they appear on the international scene and then be analyzed to tackle their root causes, not merely (as so often) their consequences, and to encourage preventive measures rather than belated action. In the past, the Club has proved its competence in this role; it will do its best to continue to act so in future.

- The identification of the most crucial problems facing humanity, their analysis in the global context of the world-wide 'problematique', the research of future alternative solutions and elaboration of scenarios for the future.
- The communication of these problems to the most important public and private decision-makers as well as to the public at large.

The Club of Rome is governed by three complementary principles:

- A global perspective in examining issues with the awareness that the increasing interdependence of nations and the globalization of problems pose predicaments beyond the capacity of individual countries.
- Holistic thinking and the seeking for a deeper understanding of complexity within the contemporary problems —
 political, social, economic, technological, environmental, psychological and cultural which the Club of Rome terms
 the world 'problématique'.
- An interdisciplinary and long-term perspective focusing on the choices and policies determining the destiny of future generations, because this perspective is too often neglected by governments and decision-makers on the account of short-term interests.

Who Are We and What Are Our Actions?

The Club of Rome is "a network of world citizens, sharing a common concern for the future of humanity and acting as a catalyst to stimulate public debate, to sponsor investigations and analyses of the 'problematique' and to bring them to the attention of decision makers".





INTERNATIONAL FEDERATION FOR INFORMATION PROCESSING

Status:

Non-governmental, non-profit umbrella organization established in 1960

Address:

Secretariat Hofstrasse 3, A-2361

Laxenburg, Austria

Phone:

+43 2236 73616

Fax:

+43 2236 73616 9

E-mail: Web site: ifip@ifip.or.at www.ifip.org

IFIP and its Role in the Information Society

As early as 1959 when computers and their applications only began to influence the work of enterprises and universities, UNESCO organized the first international conference on computers and computing in Paris. At that event, UNESCO called for international cooperation in the related issues. In 1960, computer societies from 13 countries established IFIP, the International Federation for Information Processing, as "international, apolitical organization to encourage and to assist in the development, application and usage of Information Technology for the benefit of all people". In its organization, IFIP follows the UNESCO's pattern, with General Assembly as a supreme law-setting body.

Essential elements of IFIP mission are:

- to stimulate, encourage and participate in research, development and application of Information Technology (IT);
- · to promote international cooperation;
- to pay special attention to the needs of developing countries and to assist them in appropriate ways to secure the optimum benefit from IT application;
- to promote professionalism incorporating high standards of ethics and conduct among all IT practitioners;
- to provide a forum to assess social consequences of IT applications;
- to campaign for safe, beneficial development and use of IT and to protect people against abuse through its improper application, and
- to contribute to formulation of education and training needed by IT practitioners, users and public at large.

IFIP's main contributions in areas of Information and Communication technologies come from its 12 Technical Committees (TCs) with 78 Working Groups (WGs) dedicated to all aspects of ICTs:

- TC-1 Foundations of Computer Science
- TC-2 Software: Theory and Practice
- TC-3 Education
- TC-5 Computer Applications in Technology
- TC-6 Communication Systems
- TC-7 System Modeling and Optimization
- TC-8 Information Systems
- TC-9 Relationship between Computers and Society
- TC-10 Computer Systems Technology

Towards 🛸

Societies

Geneva, Switzerland

TC-11 Security and Protection in Information Processing Systems

TC-12 Artificial Intelligence

TC-13 Human-Computer Interaction

In addition, a new Special Interest Group deals with Entertainment Computing.

For this Round Table discussion of "Education and Knowledge Societies", the work of TC-3 is of special importance. Its seven Working Groups deal with Informatics and ICT in Elementary, Secondary and Higher Education, IT-Professional and Vocational Education in Information Technology, Education Applications of Information Technologies, Distance Learning and IT in Educational Management. Besides many workshops and conferences on specific themes, the regular World Computer Congress in Education (WCCE) covers all aspects of Education and Informatics (next WCCE to be held in 2005 in Capetown/South Africa). For many years, TC-3 has strongly supported UNESCO's work in the related areas, and its experts have made essential contributions, including curricula for Informatics in schools. More recently, TC-3 has been very active in e-learning and distance learning, especially in developing countries.

IFIP's flagship event is World Computer Congress (WCC), where TCs and WGs regularly present new developments, insights and prospects in almost all areas of Information and Communication Technologies. The 18th WCC-2004 will be held in Toulouse, France. It is worthwhile to report that the last World Computer Congress (WCC-2002, Montreal, Canada) had a major contribution from UNESCO ADG Dr Khan, and a special session was devoted to discuss, in close cooperation with UNESCO, the interests, roles and requirements of young people related to the Information Society. Finally, the Congress accepted "UNESCO — IFIP Youth Declaration" to be considered in UNESCO work.

In pursuing its aims to support developing countries in their benefit from modern ICTs, IFIP has started as a new initiative to biannually organize "World IT-Forum" (WITFOR). At its 1st conference, cosponsored by UNESCO and organized by Lithuanian government, WITFOR-2003 held in August 2003 in Vilnius, Lithuania, over 750 participants discussed aspects of development in eight different commissions, including Preparing the Ground for ICT, Building the Infrastructure, Economic Opportunity, Empowerment and Participation, Health, Education, Environment, and Social and Ethical Aspects. Summarizing the results and suggestions of WITFOR-2003, "Vilnius Declaration" was discussed, unanimously adopted and sent to UNESCO for discussion at the World Summit. Its 2nd conference, WITFOR-2005, will be held again under IFIP and UNESCO sponsorship at the invitation of the government of Botswana, with a major focus on ICT development in Africa.



INTERNATIONAL COUNCIL FOR OPEN AND DISTANCE EDUCATION (ICDE)

Status: Non-profit organization established in 1938

Address: Lilleakerveien 23

0283 Oslo, Norway

Phone: + 47 22 06 26 30
Fax: + 47 22 06 26 31
E-mail: icde@icde.org
Web site: www.icde.org

Memberships: ICDE is approved and authorized by the United Nations to serve as Global Membership

Organization in Open Distance and E-learning

The International Council for Open and Distance Education (ICDE) is the global membership organization of educational institutions, national and regional associations, corporations, educational authorities and agencies in the fields of open learning, distance education, and flexible, lifelong learning.

We have members in 142 countries around the world, and represent through this membership the leading network of expertise and experience in distance education.

ICDE is:

- approved and authorized by the United Nations to serve as Global Membership Organization in Open Distance and Elearning;
- established in 1938: we have long experience, and have proved we can adapt to change and new circumstances;
- a non-profit organization. The ICDE mission is to deliver quality service to our members;
- · a membership organization. It enables partnership approaches and networking, peer to peer;
- · global in membership and outreach;
- experienced in working in different cultures and circumstances;
- independent.

Founded in 1938 to help provide education for students and children living far away from schools, the International Council for Open and Distance Education (ICDE) has become over the years the global membership organization in the field, and is now present in 142 countries. Its major membership is composed of educational institutions of all levels (schools, colleges, universities), including national and regional associations, corporations, educational authorities and agencies, active in open, virtual and distance learning.

The main mission of ICDE today is to provide leadership and facilitate cooperation, development and communication at the global level in distance and virtual learning.

ICDE's general and permanent missions are directed at the major issues the world of education is confronted with at the beginning of the 21st century, such as:

- global need for education and training at all levels;
- applications of information and communication technology (ICT) to education (especially the Internet) and their direct consequences of the general paradigm shift in education everywhere in the world;
- development of world education market and necessary regulations to achieve in terms of access and quality assurance.

Towards 🗬

Societies

Geneva, Switzerland



INTERNATIONAL ASSOCIATION OF UNIVERSITIES (IAU)

Status:

UNESCO-based, international non-governmental organization established in 1950

Address:

UNESCO House 1, rue Miollis

75732 Paris Cedex 15

France

Phone: Fax: +33 1 45 68 48 00 +33 1 47 34 76 05

E-mail:

iau@unesco.org

Web site:

www.unesco.org/iau

The International Association of Universities (IAU) is a UNESCO-based, international non-governmental organization founded in 1950. It brings together universities, higher education institutions and organizations from 150 countries for debate, reflection and action on common concerns. IAU collaborates and works in partnership with various international, regional and national bodies. As a cooperative and service-oriented organization, IAU aims to promote international networking among universities, to facilitate the exchange of information, experience and ideas, as well as the mobility of students and staff, and to contribute, through meetings and research to informed higher education policy debate.

Membership in the Association is granted to individual institutions or organizations by the Administrative Board. IAU members are represented in the supreme organ of the Association, the General Conference, which elects the President and the Administrative Board. The Administrative Board is made up of Board and Deputy Board Members, all outstanding higher education leaders from each region of the world.

IAU represents nearly 700 institutions and university organizations.

Highly concerned by all topics related to higher education, IAU focuses specifically on the following thematic priorities:

- Sustainable Development
- · Internationalisation
- Globalisation
- Intercultural Dialogue
- Information Technologies

Working Groups have been set up for each thematic priority.

In 1949 UNESCO established Documentation Centre on higher education as a part of the International Universities Bureau (IUB), which preceded the founding of IAU. A formal agreement signed between UNESCO and IAU in 1989 established the joint IAU/UNESCO Information Centre on Higher Education with a more focused and specialized mandate.

The Centre has a role within the network of UNESCO Documentation Centres and Information Units and a responsibility to provide higher education information to universities and to the general public. Through the use of information and communication technologies, it serves the needs of a wide public, including IAU member institutions, governmental and non-governmental agencies and bodies, both national and international, researchers and specialists in higher education, university professors, administrators, international relations officers, education and career counsellors, students and employers.

Societies

Geneva, Switzerland 10-12 December 2003

UNIVERSITY OF MAURITIUS VIRTUAL CENTRE FOR INNOVATIVE LEARNING TECHNOLOGIES (VCILT) AND LIFELONG LEARNING CLUSTER (LLC)

Status: Higher education institution established in April 2001

Address: VCILT, University of Mauritius, Reduit (Republic of Mauritius)

Phone: 230 454 10 41 [ext 1582]

Fax: 230 467 67 44

E-mail: vcilt@uom.ac.mu

Web site: www.uom.ac.mu

Main goals of VCILT

- Promote innovative teaching and learning practices through the use of distance and flexible learning technologies.
- · Promote non-formal approaches to lifelong learning.
- · Experiment with new educational delivery systems.
- Establish a partnership with the academic staff to help them meet teaching and learning requirements, which attains user satisfaction.
- Be forward looking and thus supporting a leadership role in the development of telelearning.

Main Areas of Activities

VCILT has been responsible for providing and developing online Web-based education and telelearning at the University and throughout the country. VCILT offers access to multimedia workstations, printed reference materials, technical support and other facilities. Through its Virtual Campus (http://vcampus.uom.ac.mu) VCILT supports academic and tutors with technology, pedagogical and management tools for the concept elaboration, multimedia presentation and networking of their contents and activities.

Activities in the Field of Education:

- Development/Delivery of Online/Web-Enhanced Modules for the University

Currently 23 modules are being delivered as Web-enhanced/Online modules. Recently, this line of development has considerably increased at the centre.

- Computer Proficiency Project

In line with the Government vision of making Mauritius a cyber-island, Computer Proficiency Project (CPP) was set up to deliver a mass training course on IT Proficiency. In this respect, VCILT developed a CD-ROM and a study guide. By now approximately 5,000 trainees (including teachers of primary and secondary schools and civil servants) have been trained through CPP. The contents of the IT Proficiency modules developed, VCILT has contributed in the training of trainers. Two hundred trainers have been prepared so far at the University of Mauritius, CPP has become

CPP-Test Centre

CPP addressed VCILT to develop a system of multiple-choice questions to enable the participants who have already accomplished the IT proficiency programme to obtain a certificate in Computer Proficiency.

MRC Teaching Science/History

This project is an initiative of the Ministry of Education to develop Multimedia Educational Materials for primary school students. In this respect, VCILT submitted two proposals on History and Sciences; as a result we were given an approval to work on the project "History and Geography through ICT across the Curriculum at Primary Level".

Towards Societ

Geneva, Switzerland 10-12 December 2003



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

UN Agency established in 1945 Status:

FAO Headquarters Address:

Viale delle Terme di Caracalla

00100 Rome, Italy +39 06 57051

Phone: Fax: +39 06 570 53152 Telex: 625852/610181 FAO I E-mail: FAO-HQ@fao.org

Web site: www.fao.org

The Food and Agriculture Organization of the United Nations was founded in 1945 with a mandate to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the condition of rural populations.

Today, FAO is one of the largest specialized agencies in the United Nations system and the lead agency for agriculture, forestry, fisheries and rural development. An intergovernmental organization, FAO has 183 member countries plus one member organization, the European Community.

Since its inception, FAO has worked to alleviate poverty and hunger by promoting agricultural development, improved nutrition and the pursuit of food security - defined as the access of all people at all times to the food they need for an active and healthy life.

Food production has increased at an unprecedented rate since FAO was founded in 1945, outpacing the doubling of the world's population over the same period. Since the early 1960s, the proportion of hungry people in the developing world has been reduced from more than 50 percent to less than 20 percent. Despite these gains, however, more than 790 million people in the developing world - more than the total population of North America and Western Europe combined - still go hungry.

A specific priority of the Organization is encouraging sustainable agriculture and rural development, a long-term strategy for increasing food production and food security while conserving and managing natural resources. The aim is to meet the needs of both present and future generations by promoting development that does not degrade the environment and is technically appropriate, economically viable and socially acceptable.

In 1989, FAO established the World Agricultural Information Centre (WAICENT) for agricultural information management and dissemination. In 1996, WAICENT became available on the Internet. Today, it is FAO's online portal, giving immediate and free access to essential documents, statistics, maps and multimedia resources.

The WAICENT Portal offers a search tool for locating information on the FAO web site. It provides the main access points to the enormous accumulated collections of FAO technical information online, on subjects such as food security, agriculture, fisheries, forestry, biodiversity, desertification, commodities and trade, and nutrition and food safety.

The FAO Virtual Library is a digital information centre that uses an advanced search engine to provide access to FAO's archives online. This makes it possible to support the work of FAO in all areas and to build a network of Virtual Libraries in member countries, such as the one set up in cooperation with the Ministry of Agriculture in Spain.

Societies

Geneva, Switzerland

NGO-UNESCO LIAISON COMMITTEE

Status:

Non-profit organization

Address:

UNESCO, 1 rue Miollis, 75015 Paris, France

Phone: Fax: + 33 1 45 68 36 68 + 33 1 45 66 03 37

E-mail:

comite.liaison.ong@unesco.org

Web site:

www.unesco.org/ngo/comite/

Thousands of NGOs have contacts with UNESCO, but only about 350 large international NGOs are in official relation with UNESCO. They are chosen for:

- a) their geographical representativeness;
- their quality of cooperation;
- c) their democratic legitimacy.

The NGOs maintaining official relations with UNESCO (a list of them could be found at http://erc.unesco.org/ ong/en/directory/ListeONG.asp) are represented at UNESCO by a Liaison Committee of 10 members.

The NGO-UNESCO Liaison Committee has the mandate to:

- · represent the interests of UNESCO centered NGOs with regard to UNESCO;
- · cooperate with the Director-General of UNESCO;
- · implement the resolutions adopted by the International Conference of NGOs;
- ensure appropriate exchange of information and make preparations for subsequent sessions of the international conference of NGOs;
- ensure that the interests and opinions of NGOs taken collectively are reflected by UNESCO.

The major activities of the Committee consist in:

- · organizing the International Conference of NGOs every 3 years;
- · taking part in the joint programme committees set up by UNESCO;
- · taking part in collective consultations on the main issues treated by UNESCO;
- taking part in regional consultations;
- setting up commissions and organizing special events.

Societies

Geneva, Switzerland 10-12 December 2003

LIST OF PARTICIPANTS

Societies

Geneva, Switzerland

INTERNATIONAL GROUP FOR PREPARATION AND HOLDING OF THE ROUND TABLE

Prof. Vladimir KINELEV

Director, UNESCO Institute for Information Technologies in Education (IITE)

8 Kedrova St. (Bld.3), 117292, Moscow, Russian Federation

Tel.: +7 095 718 0980

Fax: +7 095 129 1225 E-mail: info@iite.ru

Prof. Bernard CORNU - Chair of the Round Table and Moderator of Session I

Director, La Villa Media - the European Residence for Educational Multimedia

Vice-Chairman of the HTE Governing Board

22 avenue Doyen Louis Weil, 38000 Grenoble, France

Tel.: +33 438 701 551 Fax: +33 476 841 968

E-mail: bernard.cornu@grenoble.iufm.fr

Prof. Raymond MOREL - Moderator of Session II

Director, Centre pédagogique des Technologies de l'Information et de la Communication (CPTIC)/Geneva Educational Technology Centre (CPTIC)

2-4 rue Théodore-de-Béze, PO Box 3144 CH-1211 Geneva 3, Switzerland

Tel.: +41 22 318 05 30 Fax: +41 22 318 05 35

E-mail: raymond.morel@tecfa.unige.ch

Prof. Peter BOLLERSLEV - Moderator of Session III

Director and Editor-in-Chief at SAXO Publishers

Rojlevangen 40, DK-2630 Taastrup, Denmark

Tel.: + 45 43 52 77 58 Fax: + 45 43 52 77 58 E-mail: peter@bollerslev.com

Dr Irina SMIRNOVA - Round Table Coordinator

Project Manager, UNESCO Institute for Information Technologies in Education (IITE)

8 Kedrova St. (Bld.3), 117292, Moscow, Russian Federation

Tel.: +7 095 718 0844 Fax: +7 095 129 1225 E-mail: irina.smirmova@iite.ru



Societies

Geneva, Switzerland

The World Summit on the Information Society (WSIS) is held in two phases under the high patronage of Kofi Annan, UN Secretary-General, with the International Telecommunication Union taking the leading role and in cooperation with other interested UN agencies.

Geneva 2003: First Phase

The first phase of the World Summit in Geneva will be hosted by the Government of Switzerland from 10 to 12 December 2003. It will address a broad range of themes concerning the Information Society and adopt Declaration of Principles and Plan of Action, addressing the issues related to the Information Society.

Tunis 2005: Second Phase

The second phase of the World Summit in Tunis will be hosted by the Government of Tunisia from 16 to 18 November 2005. Development themes will be a key focus of this phase, which will assess the progress made and adopt a further plan of action.

The UNESCO Institute for Information Technologies in Education (IITE) in charge of the Round Table discussion "Education and Knowledge Societies" on 11 December 2003 in Geneva, invites the participants of the event as well as those interested in the development of education for and in knowledge societies to join the informal community and contribute to the follow-up of the first WSIS phase.

Please contact us:

UNESCO Institute for Information Technologies in Education (IITE)

8 Kedrova St. (Bld.3), 117292, Moscow, Russian Federation

Tel.: +7 095 129 2990 Fax: +7 095 129 1225 E-mail: info@iite.ru

Web site: www.iite-unesco.org

www.wsis-roundtable-ed.iite-unesco.org

Dr Irina SMIRNOVA -

Round Table Coordinator Project Manager UNESCO IITE

Tel.: +7 095 718 0844 Fax: +7 095 129 1225 E-mail: irina.smirnova@iite.ru



Mr Azat KHANNANOV -

Round Table technical support Chief Information Officer UNESCO IITE

Tel.: +7 095 718 0744 Fax: +7 095 129 1225

E-mail: azat.khannanov@iite.ru

