Most dramatic was the accelerating technological change. The dawn of the twenty-first century came with a digital revolution and economic globalization. We have been moving towards a global knowledge society where information skills and competence become the driving forces of social and economic development. Effective learning requires upgraded multimedia educational materials, preferably distributed using broadband Internet applications. According to the current thought, the use of these applications for global e-learning and telehealth/telemedicine must be efficient and cost-effective, enabling educational institutions to foster global citizenship and achieve "education and healthcare for all" at anytime, anywhere and at any pace. We believe that the Internet will be the main telecommunication media of tomorrow. Broadband Internet holds great promise for improving multimedia e-learning and telehealthcare capabilities in global scale, especially in rural and isolated areas that are not well served by commercial network providers.

The globalization of society and the rise of a knowledge-based economy have combined in the past decade to impose drastically raised expectations upon higher education institutions. Governments and corporations look to universities for innovative uses of new information technologies in teaching and administration, while also expecting that universities will make their students sufficiently technology-literate to participate in a global economy. This vision of the new university emphasizes more than before the role of market forces in shaping the institution, the need to respond to users' needs, and the need to deliver knowledge continuously through distance learning and lifelong learning. However, the vast majority of universities as well as the public and private organizations they work with are unprepared to reorganize themselves to address these new demands.

A true revolution in e-learning and telemedicine requires high-speed access to the World Wide Web, and the flexibility to offer a variety of media. These might include two-way audio, full-motion video-conferencing up to MPEG2 quality, television-quality netcasting, and high-resolution image transfer for telemedicine. Such capabilities require medium to broad bandwidth. Developing countries need broadband Internet via international satellite and fiber-optic cable. The objective of increasing quality of audio/video delivery, high interactivity, and system throughput can be seen as a global objective of closing digital divide for improving e-learning and telehealth services (Utsumi et al., 2001, p.4-8).

This paper is based on the author's awarded "Keynote at the Sixth and Final Rochester Intercultural Conference,' July 19", 2001, Rochester, New York.
The Toda Institute for Global Peace and Policy Research in the University of Hawaii has identified three megatrends that characterize our own era and perhaps the rest of the 21st century, including globalization, regionalization, and democratization. The evolution of the global system must be clearly studied in the context of these trends.

Globalization is perhaps the oldest of the three trends. It has gone through three phases in human history. The first round of globalization took place along the Eurasian landmass from ancient China to Rome through the Silk, Spice, and Incense Roads. The second round started with the sailing of Columbus to the New World in 1492 followed by massive population movements and colonization of Africa, Asia, and America by the Europeans. The third round has been assuming increasing momentum in the post World War II period by the technological revolutions in transportation and telecommunication. This round has led to the rise of a global economy, communication networks, and cultural ethos.

Regionalization has an equally long history from regional empires to its current form in part responding to the challenges of globalization. Western Europe pioneered the new by establishing the European Economic Community followed by the European Union. Other regions of the world have followed suit, organizing around NAFTA, MERCOSUR, ASEAN, SAARC, CIS, ECO, etc. The trend continues in a variety of modalities in different regions and sub-regions. The most recent news tells us of the efforts to create an African Union following the model of European Union.

Democratization, by contrast, is a process of broadening and deepening of political participation that has a long history. However, following the fall of the Soviet Union and Eastern European dictatorships in the early 1990s, democratization has become an unmistakable force throughout the world. The modalities of democratization vary enormously from region to region and country to country. Its main features include popular sovereignty, constitutions and rule of law, periodic elections, and checks and balances by increasingly autonomous centers of power in government (legislative, executive, and judiciary) and civil society (political parties, trade unions, media, as well as professional and voluntary associations).

Although the three trends are deeply intertwined, there are significant lags and leads among them. While globalization is rapidly moving forward under the leadership of trans-national corporations (TNCs) and intergovernmental organizations (IGOs) such as the World Bank, IMF, and WTO, regionalization and democratization have a significantly slower pace. Widening of wealth and income gaps within and among countries and regions of the world is calling for new modes of participation in global governance beyond the current nation-state system. Continuation of the growing gaps clearly undermines the social compact within and among nations and threatens global peace and stability.

The Toda research program proposes to bring together a number of peace and policy research centers from seven continental civilizations into a collaborative multi-civilization research project focused on the above three megatrends. Spread over seven imaginary continents, these civilizations include:

1. the indigenous world,
2. the Hindu-Islamic world stretching from South East Asia to Central Asia and North Africa,
3. the Buddhist-Confucian world stretching from East to Central and South East Asia,
4. the African world south of the Sahara,
5. the Euro-North American world stretching from the Ural Mountains to Canada, the United States, Australia, and New Zealand,
6. the Latin American world, and
7. a global civilization resulting from the convergence of all past and present cultures.

The goals is to develop a multi-civilizational conceptual framework focusing on the unity and variety of conditions and institutions for global democracy in an age of globalization and regionalization (Toda annual report, 2000).

In his epilogue on "Education for a multicultural world" to the International Commission on Education for the Twenty-first Century published by UNESCO in 1996, Rodolfo Stavenhagen pointed out that most modern nation-states are organized on the assumption that they are, or should be, culturally homogeneous. That is the essence of modern "nationhood," upon which contemporary statehood and citizenship are founded. But a truly multicultural education will be one that can address simultaneously the requirements of global and national integration, and the specific needs of particular culturally distinct communities, both in rural and urban setting (Stavenhagen 1996, p.230-231).

The approach by the Toda research project reminds us of the teachings of Muhammad Abdus Salam on science, technology and science education in the development of the South. He wrote that science and technology are cyclical. They are a shared heritage of all mankind. East and West, South and North have all equally participated in their creation in the past as, we hope, they will in the future - the joint endeavour in sciences becoming one of the unifying forces among the diverse peoples on this globe (Salam 1990, p.24).

In 1997 Samuel P. Huntington criticised the attitude that the culture of the West is and ought to be the culture of the world as arrogant, dangerous and false. He studied the distinctive characteristics of Western civilization and identified the following features that make the West Western: the classical legacy, Western Christianity. European languages, separation of spiritual and temporal authority, rule of law, social pluralism and civil society, representative bodies, and individualism (Huntington 1997, p. 141 - 158).

Takeshi Utsumi compared in 1998 the basic approaches and philosophies of the West to that of the East. The West was represented by the United States, which Utsumi saw as the champion of the Western culture. The champion of the Eastern culture was Japan.

In Utsumi's analysis the Western philosophy is characterized by analytical, scientific, objective, rational and critical thinking while the Eastern approach is characterized by synthesis, literature and art with a subjective and emotional thinking. Both cannot and should not dominate other, but should have close dialogues between them (Utsumi, 1998).

Following Utsumi's thoughts, the Global University System (GUS) is adopting philosophies and principles that emphasize trans-cultural and moral values rather than ideologies. The priority is in academic freedom and quality in education (Utsumi, et al., 2001).

The Global University System (GUS) is a network of networks formed in particular by higher education institutions, but also by other organizations sharing the same objectives of developing a co-operation based on solidarity and partnership aiming to
• improving the global learning and wellness environment for people in the global knowledge society, where the global responsibility is shared by all;
• sharing and exchanging knowledge among the sectors of education-related research, industry and trade;
• giving priority to actions improving learning and healthcare world-wide;
• harnessing the technologies of broadband Internet connectivity among institutions of higher learning in the developing countries, in order to provide learners of all ages access to global e-learning across national and cultural boundaries;
• fostering youngsters around the world in a creative competition for relevance and excellence through affordable and accessible broadband Internet;
• supporting systems which complement the traditional institutions of learning and healthcare by using conventional methods together with advanced electronic media;
• improving learning and health of the disadvantaged by increasing their access through the utilization of new technologies, basing its long-term orientations on societal aims and needs and reinforcing the role of service to the whole society.

GUS has group activities in the major regions of the globe, i.e., Asia-Pacific, North. Central and South Americas, Europe, and Africa to establish pilot projects. Each of these regional groups, with partnerships of higher learning and healthcare institutions, will foster the establishment of GUS in their respective regions, with the use of an advanced global broadband Internet virtual private network. They will then become the GUS counterparts of the UNESCO/UNITWIN Networking program.

The project of helping establish CampusNet and Community Development Networks in Amazon region with the Japanese government's funds is the forerunner of this approach of GUS. Namely, the GUS will combine the Japanese funds and electronic equipment and hardware with the expertise of telecom and content development of North America to help close the digital divide in developing countries. GUS will emulate this approach in other developing countries around the world in the future, e.g., Mexico, Kenya, Tanzania, Nigeria, etc., from which GUS has already received preliminary inquiries and requests.

The mission of our Global University System program is not the mere enhancement of job skills with e-learning, but the creation of youngsters for the world peace for the eradication of borderless terrorism by reduction of poverty through the use of advanced Information and Communication Technologies (ICTs) in remote/rural areas around the world.

The GUS at the University of Tampere, Finland is the headquarters Chair of the GUS/UNESCO/UNITWIN Networking Program. When broadband Internet will be available and interconnect member schools of our GUS/UNESCO/UNITWIN Networking Program, we can expect followings:

• Coalition member universities will be able to build the network of facilitators for support of e-learners,
• Learners may take one course from a university of different country, in Japan, Canada, Brazil, Finland, etc., to get his/her degree from the GUS, thus freeing them from being confined with one philosophy of a university,
• The broadband Internet will enable Web-based teaching with more interaction among/between learners and instructors compared with less interaction in replicating
class-room teaching via satellite, - thus stimulating global dialogues among them to attain world peace,

- Learners and faculties at the member universities can promote exchange of ideas, information, knowledge and joint research and development of Web-based teaching materials, community development, and many others locally, regionally and even in global scale,

- Researchers in even developing countries can perform joint collaborative Hi-Tech research and development on various subjects, e.g., Globally Collaborative Environmental Peace Gaming, micro-biology, meteorology, chemical molecular study, DNA analysis, 3D human anatomy, design of space shuttle (a NASA project for training high school students around the world), etc.

In a sense, our GUS/UNESCO/UNITWIN Networking Chair program is to construct global scale knowledge forum with advanced ICT, e.g., with the use of massive parallel processors of globally distributed and yet interconnected mini-supercomputers around the world through Global Broadband Internet (GBI) of the global neural computer network network - see Section XVI-B in:

http://www.friends-partners.org/GLOSAS/Manaus_Workshop/Tinker_Foundation/Application_Form/Tinker_Proposal_Web/Full_Proposal.html

Already in 1923 Albert Schweitzer wrote about the tragedy of the Western world-view. In his view our philosophy did nothing more than produce again and again unstable fragments of the serviceable outlook on life, which hovered before its mind's eye. Consequently our civilization also has remained fragmentary and insecure. Our philosophizing became less and less elemental, loosing all connection with the elementary questions which man must ask of life and the world. More and more it found satisfaction in the handling of philosophic questions that were merely academic, and in expert mastery of philosophical technique. It became more and more the captive of secondary things (Schweitzer 1967, p.5-6).

Therefore, a demand of a new renaissance education has emerged in Europe and the United States. It would combine science and technology with the art, humanities and religion. In addition to this, new media and digital literacies are needed (Varis 2000a and Varis 2000b). Media education should be aimed at children, parents and teachers and should be a life-long process, which requires a co-ordinated approach also involving non-governmental organisations and media professionals (Council of Europe, Doc. 8753, 6 June 2000).

"Digital literacy" can be understood as the ability to understand and use of information in multiple formats from a wide range of sources when it is presented via computers (Gilster 1997). Media literacy is a multidimensional continuum including cognitive, emotional, aesthetic and moral dimensions (Potter 1998, p. 4-12).

We are facing a third major educational invention in technology. The first was the phonetic alphabet, the second printing, and now the third is telematics, which means computers connected to networks. These changes were behind the ten recommendations of the European eLearning Summit in 2001. The idea is to remove barriers to access and connectivity, support professional development, accelerate eLearning innovation and content development, address the ICT skills shortage, promote digital literacy and lifelong learning, and explore sustainable public private partnership.
All European e-learning materials are available in the e-learning portal at: http://www.elearningeuropa.info/. The first Forum on this elearningeuropa.information portal has inspired participation from experts around Europe. Many interesting opinions have been posted, highlighting the problems faced by educational institutions.

The purpose of the Forum was to discuss the concept of e-learning: its role, its potential and its definition. Two months after its inauguration, the Forum has sparked a vibrant debate.

From the comments posted, there appears to be unanimous agreement on the need to change education and that e-learning happens to be in the right place and in the right time. There seems to be a coincidence between e-learning as a tool and the necessity to modify the traditional model of education.

According to the Summit of 21st Century Literacies (21st Century Literacy Summit, Berlin 2002), new approaches stress the abilities to use information and knowledge that extend beyond the traditional base of reading, writing and math.

Teachers, students, employees and citizens must now incorporate the following components to enhance their knowledge and critical thinking skills:

- Technology Literacy: The ability to use new media such as the Internet to access and communicate information effectively.
- Information Literacy: The ability to gather, organize and evaluate information, and to form valid opinions based on the results.
- Media Creativity: The growing capacity of citizens everywhere to produce and distribute content to audiences of all sizes.
- Global Literacy: Understanding the interdependence among people and nations and having the ability to interact and collaborate successfully across cultures.
- Literacy with Responsibility: The competence to consider the social consequences of media from the standpoint of safety, privacy and other issues. See Varis at http://www.elearningeuropa.info/doc.php?lng=l&id=595&doclng=l

In a sense, many of the basic issues were already discussed in ancient Greece by Socrates, Plato and Aristotle. Aristotle's "Poetics" is of particular importance to understand the balance between different senses of the human being and the combination of sound, drama, and text like in modern multimedia. Also Aristotle's definition of rhetoric as the faculty of discovering in any given case the available means of persuasion is a relevant approach to analyse the influence of modern media. (Aristoteles, 1977).

Current research on media concentrates a lot on the so-called new media and combination of many senses in the media culture. For example, the digitalisation and media convergence of telecommunication, computer and media have created an entirely new "grey area" or "media gap" with such new media that do not fall into the category of traditional mass medium but neither the private medium. The distinction between public and private is being undermined as the access and delivery of digital network media becomes available to small audiences.
One of the most challenging areas for e-learning and virtual classrooms and universities is the creation of telepresence. The key to defining virtual reality in terms of human experience rather than technological hardware is the concept of presence. Presence can be thought of as the experience of one's physical environment - it is defined as the sense of being in an environment. The term telepresence can be used to refer to the extent to which one feels present in the mediated environment, rather than in the immediate physical environment. Telepresence is defined as the experience of presence in an environment by means of a communication medium. In other words, presence refers to the natural perception of an environment, and telepresence refers to the mediated perception of an environment (Steuer 1995, p.35-36).

A whole range of competencies is required in e-Learning. The basic question is what knowledge and skills will enable people to do human resource development work? For this, several general competencies are needed - among them communication and media competencies. But in addition to these, management competencies, distribution method competencies, and presentation method competencies are necessary.

The UNESCO World Conference of Higher Education in 1998 identified several threats and challenges in the international level (UNESCO 1998):

- Risk of the hegemony of one single language to the detriment of multilingualism
- Risk of the hegemony of one single culture to the detriment of plurality
- Future lecture rooms: the challenge of digital sites, virtual seats of learning
- Teacher becomes the mediator of knowledge
- Communication between different disciplines (inter- and trans-disciplinary) and two cultures (natural science and humanities), new renaissance
- Communication between different social institutions (universities, media, church)
- Communication between different generations.

When looking at the future from an European and more broadly Western perspective it may be instructive to go back to the early writings of Paul Lazarsfeld, one of the founders of modern communication research, when he together with Genevieve Knupfer outlined communication research and international cooperation in 1945. They wrote:

"It is our thesis that in the international field, too, mass media will be most effective when they focus upon positive program of action. Such a focus can only be a world organization of nations, an international authority...

...In the past, the two main approaches to promoting international cooperation have been to teach people to know and understand other nations and to make them hate war. But it has turned out that this was not enough....

...In fact, people who know and understand each other well may be able to wage war the more effectively...

...It seems that a concrete international authority is needed around which people can build up new identifications and supranational loyalties. " (Lazarsfeld - Knupfer 1945, p.465-466).

The authors continued that once such a development has started, the media of mass communication can be used to build up something like an educational campaign the purpose
of which is to make the international authority accepted as part of everyday thinking, to give it prestige, to see that as many people as possible are intimately acquainted with its functions.

Today an increasing attention is given to the civil society, people. When UNESCO was founded in 1945 and the U.S. poet and Librarian of Congress, Archibald MacLeish who drafted the constitution, was asked "can we educate for world peace?" he answered:

"Of course we can educate for world peace. I'd be willing, for my own part, to say that there is no possible way of getting world peace except through education. Which means education of the peoples of the world. All you can do by arrangements between governments is to remove the causes of disagreement, which may become, in time, causes of war. But peace, as we are beginning to realize, is something a great deal more than the absence of war. Peace is positive and not negative. Peace is a way of living together which excludes war, rather than a period without war in which peoples try to live together" (The UNESCO Courier, October 1985, p.27).

The only thing to add now in the beginning of the 21st century is that education today means a global challenge and dialogue between great civilizations, old and new. Furthermore, it is more and more an open, life-long learning process for all. There may be a technologically integrated world but with too much digital divide and conflicts of values.

The problem can only be dealt with a qualitatively new kind of approach to continuing learning for all generations using new pedagogic, institutional and intellectual solutions in a new renaissance spirit. Also quantitatively we must be able to reach the large, young populations of the developing countries.

References


The UNESCO Courier (1985, October).


