

# Education For a New Humanism And ICT

Tapio Varis

UNESCO Chair in Global e-Learning, University of Tampere, Finland

[Tapio.Varis@uta.fi](mailto:Tapio.Varis@uta.fi)

**Abstract:** Can we speak of global civilization? What is the role of the media in global education and in cultural diversities? The question of the world order and the trend towards global civilization has inspired scholars, communicators, educators and spiritual leaders to answer questions on how the world works. The traditional humanism is challenged by transhumanism that aims to transform the human condition by developing and creating widely available sophisticated technologies to enhance human intellectual, physical, and psychological capacities. Science and technology are becoming the credo of the new order and new 21<sup>st</sup> century literacies are needed. However, as observed by an East Asian Daisaku Ikeda and Westerner Arnold Toynbee in their dialogue already in 1976, “today people are compelled to serve intellectual knowledge and technological skill, which are in turn controlled by politics and economies”. Instead, education should emphasize the inherent dignity and independence of learning. Communication is needed for consciousness raising (Paulo Freire). More attention should be given to the diversity of media cultures and the co-existence of different civilizations. Media literacy aims to develop both critical understanding of and active participation in the old and new media to create such communicative competences that would allow the use of modern technology. During the Renaissance the Europeans began to think of themselves into another culture and tradition. Now the civilizational challenges come from outside Europe. UNESCO is promoting the credo of New Humanism which is not only theoretical but also practical approach needed for building a global education and media for the global civic society. A holistic vision of human communication and the future is needed for the new literacies and communication competences.

**Keywords:** media literacy, technology, new humanism, global university, civilization, diversity,, critical thinking, Unesco Chair

## 1. Introduction

The nature of modern globalization is determined by the global corporations. Knowledge and the role of higher education for them are determined by the concept of global networks of innovations, comprising of top-ranking universities and research centers around the world: the global brain of intelligence.

As the new working culture emphasizes the importance of lifelong learning, corporations are beginning to provide workers with the means to customize and direct their own learning experiences. There are still several steps to be taken to improve employment opportunities for individuals and expand the innovative capabilities of companies. Everybody in working life and training is becoming more responsible for ensuring the development of the knowledge and skills acquired.

Centers of excellence which recognize “excellence with soul” give priority to cultural issues as evidenced by the recognized Brazilian expert Marco Antonio Dias in his study of the role of China in globalization “Excellence with or without soul: the cultivating of mindful university graduates” (2007). In the Western world the debate on post-humanism and transhumanism have challenged the basic traditions of renaissance humanism.

The civilizational challenges of the 21<sup>st</sup> century are very well presented in the China Block Printing Museum at Yangzhou, Yangzhou Museum. There are three statutes representing the

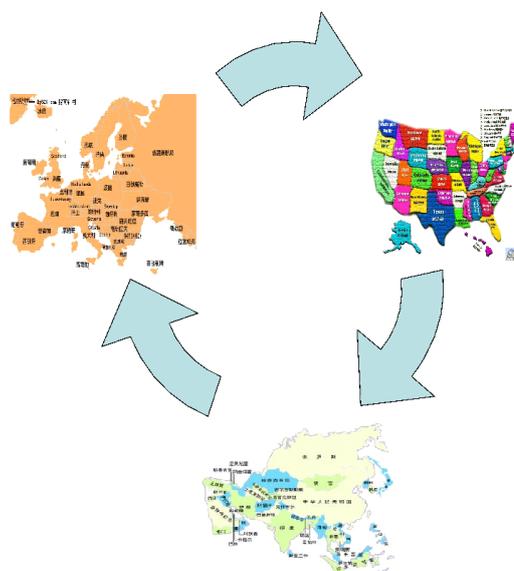
Great Minds of human history: Aristotle, Sakyamuni, and Confucius. They represent the contributions of different civilizations to the social, human, and technological progress of human history. The challenge of the 21<sup>st</sup> century is the dialogue among the civilizations.



Picture 1. The Great Minds: Aristotle, Sakyamuni, and Confucius.  
China Block Printing Museum at Yangzhou, Yangzhou Museum

The 2011 World Universities Forum held in The Hong Kong Institute of Education featured the major focus: “Asia Rising and the Changing Architecture of Global Higher Education”. It is obvious that the growing economic powers of the east with their great civilizations of the past are also becoming aware of their role in developing and defining higher education in the 21<sup>st</sup> century global knowledge society. The Forum discussions revealed that when visiting China many western scholars are disappointed if the universities there – even being of high standard – only repeat the model of life and mind of the leading western societies.

As explained by Professor Xu Xiaozhou (2011), Dean of the College of Education, Zhejiang University, global higher education is in a huge stage for human development and civilization where universities in different countries and districts play various roles. Many people admire the excellence from the Europe and America: appraise their contributions to the global higher education and society in the past millennium. The ranking of world universities follows much the Western standards and is dominated by techno-scientific model of defining legitimate and productive knowledge. Xu concludes that Europe has experienced European civilization together with the development of capitalism for a long time. American civilization learned from European civilization to a certain extent. Asia used to have ancient civilization, which evolves throughout history. Comparing to western civilization, the concepts of science, democracy, humanity and harmony need to be improved in Asian universities development. In 21<sup>st</sup> century, the global higher education market would be shared, rather than be monopolized. According to the overall economic and social strengths, the tendency of scientific and technological innovative capacity of universities, and the possible Asian culture renaissance, Xu argues that before the mid 21<sup>st</sup> century, the world higher education would present a “tri-axis” pattern: America – Europe – Asia. In the mid to long term outline for national education reform and development in China issued on 29<sup>th</sup> July 2010, Chinese government clearly claims to establish “a modern university system with Chinese characters”.



Picture 2. “Tri-axis” Pattern America-Europe-Asia by Xu Xiaozhou (2011)

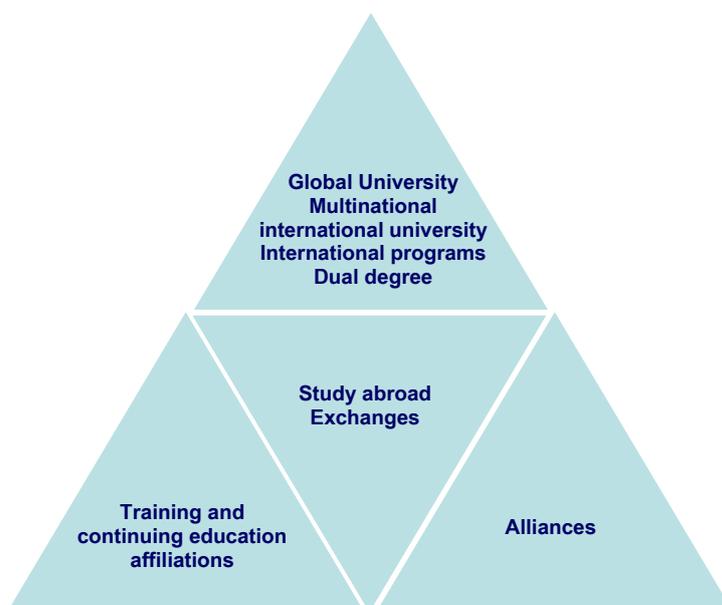
As the first Rector of the University for Peace in Costa Rica (1986–1989) I learned from the writings of Abdus Salam, a Pakistani theoretical physicist and Nobel laureate in physics, that science and technology are shared heritage of mankind and are cyclical in nature. He even believed in the joint endeavour in sciences becoming one of the unifying forces among the diverse peoples on this globe (Salam, 1990). Western dominance in science and technology emerges only after the 11<sup>th</sup> century A.D. In the great civilizations of Asia development in this respect is seen in the perspective of hundreds of years and the present globalization is viewed as a return to the normal. Even though technology is central, Chinese experts tell that China needs more teachers than engineers.

UNESCO World Conference of Higher Education in 2009 concluded, among other things, that *Higher education institutions, through their core functions (research, teaching and service to the community) carried out in the context of institutional autonomy and academic freedom, should increase their interdisciplinary focus and promote critical thinking and active citizenship.* Furthermore, *International cooperation in higher education should be based on solidarity and mutual respect and the promotion of humanistic values and intercultural dialogue.*

Educators have committed to these objectives clearly as observed by Elise Boulding already in 1988: *The objective is to create a peaceful, inter-dependent world which would be a good place for people to live. No one society can impose a universal order acceptable to all other societies. The creation of species identity that will encompass cultural diversity is a major challenge* (Boulding, 1988).

## 2. Is Global University Possible?

However, the technology-push global thinking is dominated by economic technocracy and does not reflect enough the nature of cultural diversities of the world. One way of approaching the problems of global university education is to construct a taxonomy or staircase of different tiers. Picture 3 below is constructed from the analysis of Edward Guiliano, President and CEO, New York University of Technology (2009).



Picture 3. Toward a Taxonomy of Global Academic programs

In Guiliano's approach the lowest tier is composed of non-credit-bearing affiliations including conferences, training programs, and extended education-type offerings. These are very close to friendship alliances which include co-operation agreements and memos of understanding for research and student as well as faculty exchanges.

The next levels would be composed of studies abroad and exchange programs. These programs mean studying or living abroad with another faculty of the same university in another country. In general, full degrees cannot be earned at these sites, but courses and study at them fulfill requirements for degrees at the home campus. Dual degree programs leverage strengths of each university and campus. Students study both curricula and attend at both locations. Another type of international programs is a degree or credit-bearing certificate programs for foreigners.

A multinational university or international university means degree-granting branch campuses, generally staffed by faculty not affiliated with home campus, autonomous or semi-autonomous administration and governance extending to the curriculum. The degree carries name of home institution but usually with a separate designation.

The highest level in Guiliano's tiers is global university. For him this means one degree, one curriculum offered by a university at one or more global locations, characteristics include exchange of faculty and students, and virtual or distance-learning classrooms. This New York Institute of technology model includes "some degree of practical 'glocalization', but a true outward-looking global university with one set of standards and outcomes worldwide, one administration, and where students, faculty and ideas freely flow without borders, evolving global understandings and new 'globalized' content over time" (Guiliano, 2009).

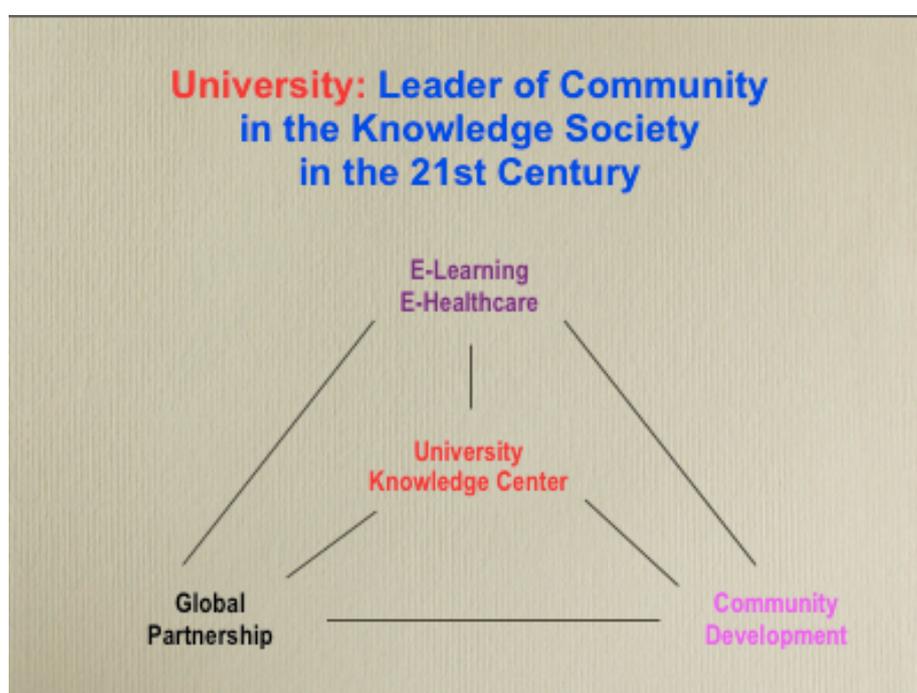
### **3. Global University System (GUS)**

Our own model of Global University System (GUS) which we have developed in the UNESCO Chair in Global e-learning at the University of Tampere, Finland, does not impose one cultural or civilizational basis for global education. The Global University System(GUS) (Utsumi et al, 2003) is a free (volunteer-based, multi-sponsored) grass-roots initiative to widen access to higher education and vocational education and training, and to help participating institutions to meet local needs in ways that are locally-appropriate and globally-informed. The GUS encourages the integration of untapped or poorly-deployed human and technical resources, particularly

to facilitate the diffusion worldwide of low-cost means of access to the communication and education resources that the privileged West takes for granted.

This project has been modeled very much with the inspiration of the best traditions of American thinking of liberal education: We have believed that such a culture is particularly suited for the creative mind because it has emphasized:

- extreme freedom of thought,
- an emphasis on independent thinking,
- a steady immigration of new minds,
- a risk-taking culture with no stigma attached to trying and failing,
- a non-corrupt bureaucracy, and
- financial markets and a venture capital system that are unrivaled at taking new ideas and turning them into global products.



Picture 4. The Mission of the Global University System (GUS)

#### 4. Vision

Economic interdependence among nations and cultures is spawning a global economy. Such globalization inevitably magnifies the negative consequences of population growth, environmental degradation, and the unequal distribution of resources and wealth among nations. Globalization also promotes clashes of divergent cultures and belief systems, political and religious.

GUS aims to provide global education in the broad context of wisdom, justice, and peace. It is not enough to educate people with knowledge and marketable skills if they live in a culture that is ill-suited to accommodate the hopes and dreams that such education inspires. Indeed, cultural disconnects with modern education may lead to frustration, despair, and perhaps ultimately to war or terrorism. A GUS education thus will promote world prosperity, justice and peace, based on moral principles rather than political or ideological doctrines.

The philosophies and principles of the GUS are set forth in the following eight propositions (Utsumi, Rossman and Rosen, 1990):

### 1. Transcultural, Globalwide Initiative

The highest priority of the GUS is to launch a transcultural, globalwide initiative (using modern techniques of communication) to promote the kinds of global education that will advance peace, justice, understanding, and human wisdom. The GUS seeks to encourage a sense of transnational identity, a feeling of global community, which is necessary for the survival, creative growth and constructive transformation of our species. Indeed, the survival of our globe itself may depend on such transformation. All those who participate in the GUS will share a firm commitment to the goals set forth, and pledge to pursue them with ongoing vigor. In asking members to affirm and support our agreed-upon aims, we follow the charter of the United Nations. However a lesson may also be learned from disappointments encountered in the UN experience. Bearing these in mind, we shall address the task of implementing the stated goals; bridging the gap between principle and practice, long-range plans and short-term actions, and dreams for the future and present realities.

### 2. Education for Moral Leadership

The GUS has no intention of dictating morality to its participants. It will encourage free and open dialog among those with differing opinions and outlooks. But, in view of the challenges confronting humankind at this critical juncture in its history, it behooves us to demonstrate moral leadership in the various activities we undertake. A policy of the GUS is to offer courses, programs, or practices that are compatible with the interests of global understanding and accord. Moreover, the GUS intends to show moral leadership in a positive manner by promoting curricula and activities, such as peace gaming and global village meetings that will facilitate global harmony directly.

### 3. Priority on Academic Freedom

In a world now fragmented by hosts of competing special interests, a globe endangered by the tribal rivalries of the nation-states, we affirm our university as a place where teaching and thinking are given free reign to be truly ecological -- to address problems and crises global in scope. If the „zero sum game” is no longer winnable, if the globe is shrinking to the point where a crisis anywhere is a crisis everywhere, we require the latitude to think globally, bound neither by the motives of profit nor power. Academic freedom as an essential value.

### 4. Emphasis on Quality Education

The GUS will place an emphasis on quality in all its programs and courses of instruction. It will draw its curriculum from known centers of learning around the world and seek to identify new centers of excellence and creative scholarship. The undertakings of the GUS will include the most up-to-date research and methods, the most recent developments and insights in its various fields of study, and will be supported and enhanced by the latest advances in communication technology. To respond to the immediate needs of its students, the GUS will offer culturally relevant educational experiences not readily available in local institutions, perhaps not available through any other means but an electronic university, that is interactive in nature and global in scope.

At the same time, the GUS will remain cognizant of the collective needs of the globe. Recognizing that the welter of newly generated information and technologies can itself constitute a significant problem for humankind as a whole, the GUS will seek to temper the fragmentizing effects of contemporary innovation. The GUS will encourage curricula in which the latest facts and newest techniques are grounded and integrated with the wisdom of our oldest traditions, holistic and ecological approaches found at the core of every native culture on the globe. Accordingly, the GUS will define a „quality education” as one that promotes an integration of the social, economic, political, and spiritual insights of East and West, North and South, masculine and feminine -- encompassing the wisdom of the past, the richness of cultural diversity and the

transformative potentialities of the present and the future. An education of high quality must give students the most powerful tools of thought accessible to them; it must give them the fullest and clearest version of the facts; and it must interpret the facts, as analyzed by the tools, in accordance with the best-articulated system of values available. The GUS will exhibit respect for freedom and dignity by giving many cultures the opportunity to express themselves in their own best terms.

#### 5. Responsiveness to Student Needs and Aspirations

The GUS partnership of universities, businesses, governmental, nongovernmental, and community organizations will be guided by, and remain fully responsive to the felt needs and stated aspirations of students, workers and individual citizens around the globe. The GUS will search for ways to make it possible for persons of any means in any region of the world to have the opportunity to obtain a high quality education. We dedicate ourselves to the promotion of literacy and lifelong learning, so that global economic equity and employment flexibility may be achieved. Moreover, we pledge our educational resources to the advancement of scholarship and creative growth on a global basis.

#### 6. Transnational Collaboration on Research

The GUS will work diligently to help make it possible for researchers in significant fields of study to collaborate across national boundaries, engaging in joint research projects facilitated by computer, telecommunication and information technologies. A rich new interplay of disciplines and schools of thought is possible through such electronic cooperation and interchange. By bringing many minds together through computer networking and conferencing, our „collective intelligence” can be brought to bear in exploring fresh approaches to global issues.

But the global problems to be addressed include widespread human suffering: physical, emotional and spiritual anguish and distress. This suggests that exchanges between and among researchers, faculty and students must be more than intellectual. An affective component seems required. Through intercultural transactions in the arts and humanities, through more intimate interpersonal exchanges, the heart must be engaged as well as the mind. If compassion, trust and empathy are to be fostered, if a sense of global solidarity is to be attained, we must be willing to share our feelings as well as our ideas.

#### 7. Commitment to Openness

The GUS endorses the precept of unrestricted access to all information and educational resources at its disposal. To advance this goal, it will sponsor a space-station library system that will be open to any educational institution, group, network or individual anywhere in the world. The GUS will facilitate the free exchange of ideas and insights around the globe and then strive to maintain openness at every level of its own operations.

#### 8. Cultural Sensitivity Without Fragmentation or Homogenization

The GUS is committed to the goal of counteracting the depersonalizing effects of mass technology. But rather than limiting itself to the aim of meeting the purely personal needs of its participants, GUS hopes that its educational programs will encourage a sharing of minds and hearts across personal, disciplinary, scientific and cultural barriers. Both in the formal courses of instruction and in the post-graduate networks of colleagues that emerge from a GUS education, we hope to promote awareness of cultural diversity without encouraging either cultural fragmentation or cultural homogenization, as performing a dynamic synthesis of unity and diversity, a transcultural unity-in-difference.

## 5. Goals

The infrastructure needed for implementing GUS, if developed in traditional bricks-and-mortar ways, is not economically feasible in many under-developed parts of the world. Viable initiatives must rely heavily on the Internet and associated technologies. Toward that end, GUS has been testing satellite/wireless broadband Internet to provide access to the educational resources available at participating institutions.

Currently the project aims at creating an electronic United Nations. Major Coalition Members include the School of International and Public Affairs (SIPA) at Columbia University which will conduct teaching with the combined use of normative gaming and quantitative simulation in international political science field focusing firstly on Nigeria and later ECOWAS and Nile River basin countries. Another partner is the Stevens Institute of Technology which coordinates participating parties as organizing workshops twice annually and maintains a central computer through which exogenous data will be exchanged among the participating parties' simulation models, the Millennium Institute is expected to provide the expertise on system dynamics simulation modeling.

### 5.1. Towards New Humanism

These were some of the concerns for our work with professor Jose Manuel Perez Tornero, Autonomous University of Barcelona, for the UNESCO Institute for Information Technologies in Education (IITE) for the publication "Media literacy and new humanism" (2010). In an intercultural world communication necessarily mediates different values and cultural behaviors. Great civilizations and cultures have very different patterns of communication and use different senses in a different way. In consequence, if a truly global information society is to be created, more attention should be given to the diversity of cultures and the co-existence of different civilizations and cultures. For the development of our own language it is necessary to rethink the whole education system, from primary to higher, and understand the links to multiliteracies, multimodality and multimediality.

The use of ICT and digital skills in performing art, craft, and other fields require a team work with special skills. The trend of digitalization does not mean that everything traditional should be rejected. New communicative inventions have always also destroyed something valuable, and special attention should be given to the diversity of approaches in the ICT applications. A blended approach is often adopted. Most essential in this new learning environment is the fact that the learner is constantly facing epistemic conflicts when a problem is presented that needs to be solved but lies outside the learner's current repertoire. Most of the problems of the information society will be of that kind. The learner needs to proceed with self-regulation with an active engagement, which is the learner's response to the conflict. The idea is to adjust and reconstruct thinking to deal with the learning problem at hand.

The cultural dimension in the ICT applications also brings the dimension of feelings and the spirit of sharing and caring to the process. The social dimension requires inclusive policies. In an intercultural world communication necessarily mediates different values and cultural behaviors. Great civilizations and cultures have very different patterns of communication and use different senses in a different way. In consequence, if a truly global information society is to be created, more attention should be given to the diversity of cultures and the co-existence of different civilizations and cultures.

### 5.2. Technology and Higher Humanity

In order to learn new technologies and become digitally literate, new forms of learning paths have to be developed utilizing all forms of learning, especially at work and nonformal environ-

ments. At the same time, special attention should be given to teacher education in ICT skills and competencies. The period of transition in which we are now living differs from the periods of change of older dominant media. Traditional print and electronic media were introduced within a period of reasonable length, and when we moved to the active use of a new form of communication, we could also have a rough estimation of the economic and social impacts of this transition and train new professionals for the media and support people for the institutions. Now different forms of communication and technologies integrate and converge with a speed that hardly anyone has the time or ability to assess all of the consequences, real possibilities, or problems.

From our standpoint, today this awareness must be media-related and humanistic. On the one hand, as media-related, its main goal must be to monitor the development of the media and be keenly aware of what it may represent for humanity, for better or for worse. On the other hand, this awareness must drive the values of a new humanism, and it must do so in many senses:

- In the sense that it must situate the human person at the core of this media civilisation, this new manmade, telecom world around us, just as in the Renaissance the humanists managed to place human beings at the centre of a world which had been organised by theology until then.
- In the sense that this new awareness must drive the primacy of the critical sense towards technology and thus replace this trusting and rather unselective attitude that prevails today and forces us to unconditionally accept technological innovation. This echoes how the humanists defended a free, critical interpretation of the classical texts and ultimately the autonomy of the intellect and the human person. While Renaissance humanism served as a critical filter of the values of its day by filtering mediaeval culture with classical culture, the new 21st century humanism must foster a critical sense which is alert to the hypertechnologised environment and capable of discerning between what should be kept and what should be revamped.
- In the sense that while Renaissance humanism helped to “discover” the sense of self and biography and fostered a new form of individual autonomy compared to the sometimes asphyxiating weight of traditionalist thinking, the new humanism must help to foster a sense of autonomy in a context in which global communication can engender dependence and very subtle forms of intellectual subjugation.
- In the sense that while Renaissance humanism was characterised by a “discovery” of new “worlds”, America first and foremost, but also Africa and Asia, giving rise to an “encounter” – often violent – between cultures and civilisations, the new humanism in the global communication society must prioritise a new sense of respect for multiplicity and cultural diversity and must support media development with the goal of consolidating the new culture of peace.
- Finally, in the sense that, just like Renaissance humanism, through the new media and humanistic awareness now is the time for us to be capable of reviving the classical idea of cosmopolitan, universal citizen, with very clear rights and responsibilities, which entail a planet-wide commitment. We must foster a kind of citizenship that stimulates the idea that individuals view themselves as the bearers of universal rights, as well as responsibilities which are also universal.

While the Aristotelian approach is common for the Western mind particularly in communication and search for truth, the mindset of the other civilizations are not only unknown in the global scholarly debate but may even have been forgotten. The need for higher humanity is obvious and we must broaden our educational approaches to create a new renaissance education which with comprise science, technology, art and spiritual values while respecting cultural diversities.

The believers of transhumanism declare that science and technology are now radically changing human beings and may also create future forms of advanced sapient and sentient life. Therefore they have established “Transhumanist Bill of Rights” to help guide and enact sensible

policies in the pursuit of life, liberty, security of person, and happiness. Some of the extreme posthumanists believe that humans will be replaced by artificial intelligence or speak of voluntary human extinction (“future without humans”).

It remains to be seen what will be the spirit of future universities and what will be the civilization supporting them. Technology may change many of the basic processes of research and learning as well as knowledge sharing but the fundamental civilizational issues of wisdom, spiritual realities and good life remain to be taught and, learned again and again.

## 6. References

1. Boulding, E. (1988). Building a Global Civic Culture – Education for an Interdependent World. teachers College, Columbia University.
2. Current trends and approaches to media literacy in Europe, [http://ec.europa.eu/avpolicy/media\\_literacy/studies/index\\_en.htm](http://ec.europa.eu/avpolicy/media_literacy/studies/index_en.htm)
3. Dias, M. A. (2008). Excellence with or without soul: The cultivating of mindful university graduates. In: Tapio, V. and Salem, A. (ed.), Ubiquitous Ict for Sustainable Education and Cultural Literacy. Accessed on: [http://www.minedu.fi/OPM/Kansainvaelistet\\_asiat/kansainvaelistet\\_jaerjestoet/unesco/suomen\\_unesco-toimikunta/sutjulkaisuja?lang=fi](http://www.minedu.fi/OPM/Kansainvaelistet_asiat/kansainvaelistet_jaerjestoet/unesco/suomen_unesco-toimikunta/sutjulkaisuja?lang=fi)
4. Guiliano, E. (2009). Slouching toward a global university: The Enlightenment 2.0. In: Kamali, T. A. (ed.), An Anthology Celebrating the Twenty-Second Anniversary of the Higher Colleges of technology. United Arab Emirates: HCT Press.
5. Istvan, Z. (2015). Transhumanist bill of rights. Accessed on: <http://www.transhumanistparty.org/TranshumanistBillOfRights.html>
6. Jenkins, H. (2007). Confronting the Challenges of Participatory Culture: Media Education for the 21<sup>st</sup> Century. An occasional paper on digital media and learning. MacArthur Foundation.
7. Ledo, M. & Varis, T. (2002). Galicia-Finlandia: Modos de Pensar A Cultura, O Mundo, A Comunicacion. Consello da Cultura Galega.
8. Ruohotie, P. and Maclean, R. (ed.) (2006). Communication and Learning in the Multicultural World. Festschrift for Professor Tapio Varis. University of Tampere.
9. Salam, M. A. (1990). Notes on Science, technology and Science Education in the Development of the South. The Third World Academy of Sciences, April.
10. Sitaram, K. S. (1998). Introduction: Multicultural communication for a higher humanity. In: Sitaram, K. S. and Prosser, M. (ed.), Civic Discourse: Multiculturalism, Cultural Diversity, and Global Communication. Stamford: Ablex Publishing Corporation.
11. Tornero, P., Manuel, J and Varis, T. (2011). Media Literacy and New Humanism. UNESCO Institute for Information Technologies in Education. Moscow.
12. Utsumi, T., Rossman, P. and Rosen, S. M. (1990). The global electronic university. In: Moore, M. G. (ed.), Contemporary Issues in American Distance Education. New York: Pergamon Press. Accessed on: [http://www.friends-partners.org/GLOSAS/Global\\_University/GU/Page/GlobalU1.htm](http://www.friends-partners.org/GLOSAS/Global_University/GU/Page/GlobalU1.htm)
13. Utsumi, T., Varis, T., Knight, P., Method, F. and Pelton, J. (2001). GLOSAS Projects for Closing Digital Divide. Accessed on: [http://www.friends-partners.org/GLOSAS/Manaus%20Workshop/Tinker%20Foundation/Application%20Form/Tinker\\_Proposal\\_Web/Appendices/Appendix-V\\_GLOSAS\\_Projects/Closing\\_Dig\\_Div\\_01152.htm](http://www.friends-partners.org/GLOSAS/Manaus%20Workshop/Tinker%20Foundation/Application%20Form/Tinker_Proposal_Web/Appendices/Appendix-V_GLOSAS_Projects/Closing_Dig_Div_01152.htm)
14. Varis, T., Takeshi, U. and Klemm, W. (ed.). (2003). Global Peace through The Global University System. University of Tampere.
15. Varis, T. and Salem, A. (ed.). (2008). Ubiquitous Ict for Sustainable Education and Cultural Literacy. Accessed on: [http://www.minedu.fi/OPM/Kansainvaelistet\\_asiat/kansainvaelistet\\_jaerjestoet/unesco/suomen\\_unesco-toimikunta/sutjulkaisuja?lang=fi](http://www.minedu.fi/OPM/Kansainvaelistet_asiat/kansainvaelistet_jaerjestoet/unesco/suomen_unesco-toimikunta/sutjulkaisuja?lang=fi)
16. Varis, T. (2010). Understanding Media Literacy. In: Carlsson, U. (ed.), Children and Youth in the Digital Media Culture – From a Nordic Horizon. NORDICOM.
17. Xu, X. (2011). Towards Tri-Axis in Global Higher Education: The Rising of Asian Universities. World Universities Forum, 14–16 January 2011, Hong Kong.