

Paths of participation in a knowledge-based era: disseminating e-learning opportunities in Central Asia

Dr. Carlos Machado [carlos.machado@vub.ac.be]

Vrije Universiteit Brussel

Pleinlaan, 2 B-1050 Brussels

Prof. Dr. Elvira Lussana [lussana@unipg.it]

Università degli Studi di Perugia

Dipartimento di Economia, Finanza e Statistica

Piazza dell'Università, 1

06100 Perugia

Abstracts

English

In education, as in many other aspects of modern life, the question of how to implement Information Communication Technologies (ICTs) is an important challenge for anyone with a stake in training and learning, as educational technologies are spreading rapidly in a globalised world. According to the Task Force of the International Council of Distance Education there have been more than 20 changes to teaching and learning behaviour which have caused a shift on the educational paradigm. All these changes have brought about new reformed curricula in many areas. This paper concentrates on the implications of reforming curricula, extending the Bologna Declaration and introducing learning technologies in a number of higher education institutions (HEIs) within developing countries of Central Asia. With the objective of innovating in education, while administrators (i.e. what it can be understood as rectors and vice-rectors) are busy in following national action plans and strategies for education, the pressure for change and the pace of education change have increased considerably over the last years, partly due what has been defined as a world wide education reform movement (Hargreaves, 1996). As a result, educational systems – and not only in Central Asian countries - are experiencing new directions in the areas of teaching practice, curricula, teacher education and the involvement of educationally significant stakeholders. Our experience and conclusions from years of participation in developing programs to improve the quality of education is put forward hereunder.

Spanish

En el mundo de la educación, como en muchos otros aspectos de la vida moderna, la pregunta de cómo aplicar las nuevas Tecnologías de la Información y la Comunicación (TICs) es un desafío importante para cualquiera que tenga un interés en la enseñanza y aprendizaje, ya que las tecnologías aplicadas a la educación avanzan rápidamente en un mundo globalizado. Según el grupo de trabajo del Consejo Internacional de la Educación a Distancia ha habido más de 20 cambios en el comportamiento sobre la enseñanza y aprendizaje, lo que ha causado un cambio en el paradigma educativo. Todo estos cambios han producido nuevos planes de reforma en muchas áreas. Este artículo pone énfasis en las implicaciones que conlleva reformar la educación universitaria, extendiendo los principios contenidos en la Declaración de Bolonia e introduciendo nuevas tecnologías para el aprendizaje en varias instituciones dentro del marco de enseñanza superior en algunos países en vía de desarrollo de Asia Central. Con el objetivo de innovar en la educación, mientras los administradores (es decir lo que puede ser entendido como rectores y vicio-rectores) están ocupados en seguir los planes de acción y estrategias nacionales para la educación, la presión por el cambio y el ritmo de cambio de la educación han aumentado considerablemente sobre los últimos años. Esto es en parte debido a lo que ha sido definido como un movimiento de reforma educativa a nivel global (Hargreaves, 1996). Como resultado, los sistemas de enseñanza – y no sólo en los países de Asia Central – han experimentado nuevas direcciones en las áreas de la práctica docente, plan de estudios, educación del profesorado y la participación de significativas personas interesadas en el mundo de la educación. Nuestra experiencia y las conclusiones tras años de participación en programas de ayuda al desarrollo para mejorar la calidad de la educación en esta región es presentada de ahora en adelante.

Italian

Nell'ambito dell'educazione, come in molti altri aspetti della vita moderna, l'applicazione delle Tecnologie per l'Informazione e Comunicazione rimane una sfida importante per chiunque sia coinvolto in attività di formazione e apprendimento. Le tecnologie applicate all'ambito dell'educazione si stanno diffondendo rapidamente in un mondo globalizzato. Secondo la Task Force del Consiglio Internazionale per l'educazione a distanza, si è assistito a più di 20 cambiamenti nei modelli di insegnamento e apprendimento, che hanno avuto un impatto sul paradigma educativo. Questi cambiamenti hanno introdotto curricula nuovi o rivisitati in vari settori. Il presente articolo si concentra sulle implicazioni della riforma dei curricula, dell'estensione della Dichiarazione di Bologna e dell'introduzione delle tecnologie per l'apprendimento in una serie di istituti di educazione secondaria nei paesi in via di sviluppo dell'Asia Centrale. Con l'avvento dell'innovazione nel settore dell'educazione, mentre gli amministratori (quelli che possiamo considerare rettori e vice-rettori) sono impegnati a attuare i piani d'azione nazionali e le strategie per l'educazione, la pressione verso il cambiamento e il ritmo dei cambiamenti nel settore dell'educazione sono considerevolmente aumentati negli ultimi dieci anni, parzialmente a seguito di quello che è stato definito un movimento globale di riforma nell'educazione (Hargreaves, 1996). Il risultato che ne deriva è che i sistemi educativi – e non solo nei paesi dell'Asia Centrale – sperimentano nuove direzioni in relazione alle pratiche d'insegnamento, ai curriculum, alla formazione degli insegnanti e al coinvolgimento nel processo di soggetti rilevanti al settore dell'educazione. La nostra esperienza e le conclusioni di anni di partecipazione allo sviluppo di programmi per migliorare la qualità dell'educazione sono presentati in questo articolo.

Keywords

e-learning, open sources, developing countries, e-readiness

Introduction: spurring educational reforms in Central Asia.

"New technology makes access possible to a vast range of digital resources. The environment makes some activities possible and constraints others but it does not change the fundamental processes of human learning (Shirley & Boud, 2001: 4)

Within the framework of TEMPUS-TACIS, a European programme that promotes cooperation and development in the Balkan region, New Independent States and until 2005 Mongolia, efforts have been made to reform the quality of education and innovate through new technologies, among other priorities. The participation in a number of projects, within the above mentioned framework, has allowed us for example, to introduce the use of a virtual open source platform (DOKEOS) to deliver online courses in several institutions of Central Asia and Mongolia. Although we can argue that we have provided an opportunity to embrace the e-learning paradigm with those institutions, unavoidably, the implications of introducing learning technologies in developing countries are extensive. For example, new approaches to teaching and learning threaten the fundamental pillars of traditional education; although this is also true outside Central Asia. Moreover, universities must increasingly provide quality and flexibility to meet the diverse needs of students. Other relevant issues relate to infrastructural aspects, pedagogic considerations and the need to associate the usefulness of technology with enhancing the learning experience. In this former context, the Internet is the latest tool in a long line of technological applications that can be often seen within HEIs. The pedagogic challenges of web-based environments coincide with the increased implementation of different methods of teaching and learning at universities and with the increasing application of web resources to deliver courses to students on and off campus (Fetherston, 2001).

In the wake of the TEMPUS-TACIS initiative, we developed a model of e-readiness that advocates a three-pronged approach to measuring the level of preparedness of the HEIs involved as regards the introduction of e-learning activities in their classrooms. Within the diffusion of innovation theories (e.g. Rogers, 1995), one particular aspect that merits attention is the role of the social agents of change. For the sake of clarification on the notion of e-readiness, one possible way to acknowledge the digital divide is by defining the gap that exists between individuals with access to new technologies and those individuals relatively disadvantaged by the lack of access to them. Herein, the social divide points to inequalities among the population within one nation. Generally speaking, the discussion about the digital divide and digital inequality resumes the knowledge-gap-hypothesis (Bonfadelli, 2002) which claims a grown gap between people who have access to and are able to make use of information and those who are not. In connection with the digital divide and developing countries, the social consequences of the changes occurred as a result of the adoption (or rejection) of new technologies has received consideration by social researchers and policy makers. The social structure in which the innovation of certain good is introduced in a country, rather than the innovation itself, determines the distribution of the socioeconomic impacts (Rogers, 1995: 463). Although it is very likely that an innovation widens the socioeconomic gap when an unequal social structure is already in place, there are cases in which wider gaps are not unavoidable. There is evidence that when special efforts are made by a diffusion agency (e.g. HEIs), it is possible to reduce, or at least maintain, the socioeconomic gap in a social system. Therefore, it is our vision that the introduction of learning technologies (and/or e-learning) in several HEIs of Central Asia enhances learning conditions that include engagement on many levels for both teachers and students, including their integration into a global knowledge-based society. The challenge for administrators when managing changes in HEIs is to create a situation where changes using ICT can be implemented to the maximum benefit in terms of strategic priorities but with the lowest risks and costs (Ford et al., 1996). Clearly, development of e-learning and/or online courses entails a tremendous commitment both at organisational and individual level. Yet the current transition from education to e-ducation in these developing countries poses the question on a number of issues.

From education to E-ducation: providing opportunities for all

Education is acknowledged as a key parameter of sustainable human development and is essential for achieving international development targets set by United Nations and other international bodies. Development, used in a holistic and social context of human development, entails a change of both societal and individual nature. Education, herein, encompasses teaching and learning of all kinds which enable the imparting of a particular culture and that change may take place, leading to new possibilities and connections. Historically, formal education and access to literacy were internationally-recognized as human rights since the adoption of the Universal Declaration of Human Rights and its Article 26 in 1948. However, the growth and spread of literacy in the world was not necessarily causally linked to economic development. Development theories of the 20th century based on necessary stages of economic growth (e.g. Rostow, 1960) have proven inadequate to explain and understand the full dynamics of poverty and growth in the developing world. Only until more recently, the work of authors such as Amartya Sen and other development economists have recognized education as critical to equitable and sustainable development.

Since 1990, when the World Conference organised by UNESCO established a number of guidelines to implement the principle of 'education for all (EFA)', governments – particularly in developing countries - have been made efforts to improve all aspects of the quality of education so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills. Likewise, a number of policies have been put in place in order to ensure that the learning needs of all young people and adults are met through equitable access to appropriate learning and long-life training programmes. Within this context, literacy and numeracy learning can and should be nurtured in a wide range of contexts and at all ages (for types of learning and life skill programmes, see figure 1).

Core features of learning and life skill programmes

Figure 1. Core features of learning and life skill programmes

Although it is commonly accepted that literacy is a key component to individual self-confidence and participation in society, the introduction of new technologies is affecting in different ways these premises as well as the organization and implementation of traditional education. The practice of using ICT to support learning processes is well documented and more diffused than ever before. One way of understanding the diffusion of technologies is by analysing the existence of a top-down approach. In particular, the focus on the progress of HEIs towards implementing learning technologies is oriented to

the degree to which their abilities, based on the strategies and policies available, enhance and sustain electronic delivery of course content. At institutional level, bringing easy-to-use technologies to curricula facilitates the transition to flexible and modernized teaching practices. Institutions that capitalize on the relationship between technology and education reform will help end-users to develop higher competences and to adapt effectively to the requirements of a knowledge-based world beyond the classroom. Achieving such fundamental change, however, requires a transformation of not only the underlying pedagogy (basic assumptions about the teaching and learning process) but also the kinds of technology applications that can be typically used in a classroom. Regardless of the special economic, political, and socio-technological challenges in specific developing countries, the diffusion of learning technologies in a learning environment can be envisaged in figure 2.

The HELIOS e-Learning Territories (HELIOS, 2007:7)

Figure 2: The HELIOS e-Learning Territories (HELIOS, 2007:7)

According to HELIOS, a European Commission supported research project aiming to establish a sustainable observation platform to monitor the progress of e-learning in Europe, learning technologies can improve the learning opportunities if certain conditions are fulfilled. Among these conditions one can embrace a wide range of issues such as how to overcome the barriers of access to new technologies, how to motivate teachers and students to (e-)learn or how to match student learning needs with e-learning supply so as to achieve a context and experience of effective design and delivery of e-learning. While learning technology is not a requirement of universal design, it makes the creation and use of designed curricula much faster and easier – when other technical, social and economic conditions allow it. Learning technology might let the teacher to adapt the curriculum more easily to meet a wide range of student needs. However, it takes time, human capital and understanding to undertake all these changes by academic staff in most countries where the teacher's role stands as a learner or adopter in the best of the cases.

A recent element of concern when innovating in education through new technologies is the pervasiveness of Information Communication Technologies (ICTs) and its uneven distribution in the world. Herein, technological inequality has raised many ethical and social issues. In assessing the social dynamics of the informational society, Castells (1998) identifies the several processes of social differentiation as consequence of the appropriation of informational distribution. Among them one can find digital inequality and as result social exclusion. The fact that significant minorities of population are deprived of access to the digital highway have created a current of sociological research concerned with the social implications of new technologies in terms of inequality and exclusion (e.g. Norris, 2001; Wilhem, 1999; DiMaggio et al., 2001). For example, recent surveys on the nature and trends in this form of inequality reveal that users with more education possess clear advantages in using the Internet to derive occupational, educational and other benefits (DiMaggio and Hargittai, 2001; Robinson and Anthony, 2004). Here, evidence shows that education is associated with consistently more uses of the Internet related to work, education, and political and social arrangements by keeping networks alive (e.g. via email). It is said that technology has a direct impact on values by virtue of its capacity for creating new opportunities (Mesthene 1995: 71) but these opportunities have been mostly grasped by the richer countries. Hence, at the dawn of the 21st century, the pressure on governments of many developing countries to expand the use of ICTs by international business and civic organizations like the World Bank is the result of an attempt to reduce the so-called "digital divide".

Therefore, new technologies are penetrating progressively in many areas of society in developing countries as well. Notwithstanding, with the reduction of the 'technological distance' in these countries, herein, a larger segment of population and organizations become more dependant on technological systems and applications. In this context, the development and greater implementation of ICTs has forced today's Higher Education Institutions (HEIs) to respond to societal trends that have been pointed to a transformation of our society into the so-called 'knowledge economy' (e.g. Castells, 1996). With the onset of the informational society and the emergence of large and rapidly growing technical and knowledge-based requirements the forms of participation and integration are consistently seen in terms of knowledge-based skills and competences, and education as the mode of access to these conditions. With the rapid growth in the use of ICTs in homes, businesses and elsewhere, HEIs seem to be currently under pressure to "technologise learning" (Lankshear et al., 2000). In this sense, ICTs are widely believed to be important potential levers to introduce and sustain education reform efforts. However, within the context of developing countries HEIs are confronted with the unrelenting difficulty to put into place learning technologies (or e-learning) (i.e. ICTs for education hereby distinguished from ICTs in general) in spite of stagnant educational quality and limited funding possibilities. The challenges currently confronted by these HEIs do not exist in isolation from broader economic, technological and educational expectations from the use of ICTs in the world at large. One can observe the existence of a strong technological and economic push for HEIs to adopt e-learning strategies in the Central Asian region. This is driven, partly, by the requirement of industry for lifelong learning and the influence of a process of global change. Simultaneously, there is a localised attempt to raise awareness among HEIs of the pedagogical issues that underpin good teaching and learning practice, stimulated by the creation of accreditation programs and related topics. These significant drivers of change are often experienced by these HEIs as discordant if not disturbing mandates.

Understanding the *momentum* behind the rising focus on educational technologies requires some understanding of the national governments' view of globalization and the assumptions that have been made regarding the relationship between globalization, new technologies, knowledge and development. From a global perspective, now it is a time when authorities start realizing the need to develop effective strategies and anticipate the rising chorus of demands posed by a knowledge-based world, and to take steps which will ease the pressures for access while upholding the national interest of achieving a good quality higher education and responsible stewardship of local and global resources. HEIs in the current paradigm can be regarded as a knowledge server providing knowledge services - that is creating, preserving, transmitting or applying knowledge - in whatever forms is needed by contemporary society (Duderstadt, 1999: 6). Furthermore, built upon government and market pressures, the correlation between education and quality of learning, the shift from teacher-centered to student-centered learning, the move towards lifelong, asynchronous, interactive and collaborative forms of learning, HEIs in developing countries need to be more ready than ever so as to enter this "age of knowledge" imbued by a "culture of learning".

Arguably the most important consequence of new digital applications for higher education is that they make major innovation in education possible. However, despite evidence of increasingly widespread use of ICTs in education initiatives around the world, there has been little guidance available for educational responsible contemplating the use of ICTs what has prompted international donors like the World Bank to run projects that could help to gather information on ICT in education activities and draw lessons from them. Likewise, European funding has helped delivering learning technologies to Central Asian educational institutions. Nevertheless, providing innovation does not exclude of inherent risks (e.g. inadequate level of institutional adjustment to technological requirements, resistance to change, lack of

trained staff, lack of identification of necessary pedagogic skills, etc.). In developing regions, not only the consequences of lagging funds and obsolete educational systems create a fundamental imbalance which is visible in the form of poorly equipped learning facilities, brain drain of academic staff, declining research output, high graduate unemployment due to outdated and irrelevant curricula unaware of the real world demands.

Insufficient resources, outdated hardware, incompatible software and poor Internet access can also be justifications for poor operational management. Nevertheless, there are examples from developing countries (e.g. the Universidad Estatal a Distancia de Costa Rica) that show how it is possible, with low budget and considerable limitations in the equipment available, to produce multimedia courses and materials for use on the Internet, as well as designing virtual laboratories that can be run on cheap computers (Monge-Najera et al, 2001). Likewise, in a Chilean initiative, Enlaces (Hepp et al., 2004), we are reminded that if Internet is not available, or access to it is of low quality in the schools, it is always possible to select a supply of relevant educational content from national and international web sites and put it on CDs, which can then be reproduced and distributed to the schools. In this way, a restricted educational Internet can be easily simulated for the students and teachers. The argument herein is that technology, in the meantime, is not the most important determinant of success in the new delivery of teaching and training. The determinant of success in this arena, instead, is the quality of the learning process. But for quality to be delivered it needs to be integrated into the institutional culture.

How quality can be delivered is the focus of a recent TEMPUS project in Uzbekistan. Preliminary results obtained from five institutions in Uzbekistan (project SCM_UQASE, 2007) show different speeds of integration of a culture of quality into the institutional structure following the EFQM model. It is believed that those universities with higher integration of quality – as a process and as a culture – will be more adapted to introduce new changes, including innovation in teaching and learning.

Figure 3.

Figure 3.

With adequate responses to technological challenges, HEIs can benefit from the expected promises of learning technology-enriched extensions of current instructional programs - for example, by overcoming senior faculty who passively resist efforts to innovate and experiment with new methods of instruction to improve the quality of education (Bok, 2003). Despite the risks associated with introducing new forms of teaching and learning in developing countries, the optimism concerning the potential of new educational technologies is experienced by the growing number of HEIs seeking entrance to educational technologies, learning technologies and/or e-learning in recent decades. Fuelled by economic reforms, technological determination and increased access to technological resources, the strategy in many institutions of Central Asia targets the embracing of new learning environments. But, based on our experience as educational managers, we believe that only a tiny percentage of them will be successful without adequate measures and prior assessment analyses to the introduction of new learning methods. Along these lines, Blustain et al (1999) maintain that "colleges and universities are being assaulted from several directions with new competitors, new technologies, and new approaches to education. Many have chosen to ignore the warning signs, hoping it will just go away. Others have rolled out a few online courses or have encouraged deans to develop new programs" (p.51). What we have observed during nearly ten years on the ground of innovation in education is that few institutions have developed a coherent strategy for ensuring success in the new environment.

Conclusions: a reflection on the globalization of education and the implications of participating in TEMPUS projects with Central Asia.

One of the motivations and finalities of our participation in TEMPUS projects has been to implement a joint programme for convergent curricula (i.e. uniform degree structure, similar contents and introduction of a credit system) in several institutions of Central Asia can be comprehended as part of the general objectives of the Bologna Declaration. The modernization of education today demands universities to form students in a more international context, by enhancing research and study work abroad, and to face the 'changes' that globalization has caused in a new world order. As we argue, to be able to understand the disorder that confounds the geopolitics of landscape today it is necessary to be able to analyse and explain the dimensions and the nature of current world crises (politic, social, cultural, environmental, economic, organisational but above all existential).

In a period of crisis, Einstein is generally considered to have said that imagination is more important than knowledge. Today universities have an autonomy that puts them in the position to create, by reforming the way of thinking, a new capacity to organize knowledge and thus to realize that learning is directly related to complexity and globality (for a discussion of globality and globalization see for example Shaw, 1999; Beck, 2000). This aspect obliges the university to invest strongly in an integrated and multidisciplinary knowledge able to give to individual maps that are reliable for ever changing territories. In his "pedagogy of the oppressed", the Brazilian educator Paulo Freire (1970) stated that knowledge emerges only through invention and re-invention, through the restless, impatient, continuous, hopeful inquiry human beings pursue in the world, with the world and with each other (p.72). Problems arise in Central Asia as result of the obsolescence of competencies distributed through HEIs. In the context of a post-soviet era, before working on contents, curricula and disciplinary ways of adapting education to the processes that are radically changing the management of human systems, it is indispensable Central Asian HEIs arrive at a considered reflection about the new opportunities, new necessities, new relations between individuals and the society they are living in. In order to implement the necessary reforms, HEIs have to reflect on ideas around the transmission of knowledge, the rapport to knowledge, the affinity between knowledge and the production of knowledge. For this last point it is sufficient to think of the role of the Internet in the realisation of a highly individualised knowledge that puts in discussion the traditional transmission of knowledge.

Thus, HEIs in Central Asia are facing the challenges arose from the dual processes of the globalization and fragmentation of knowledge cultures. They will have to learn to operate in a frame of scientific reflection to favour the diffusion of new knowledge (new languages, new methods and new narration). They also need to try and link the world of higher education and the working world. HEIs should offer students not simply theoretical understanding and knowledge but the basis for an evolutionary learning based on praxis. This is not an easy task as it is very difficult to re-think the architecture of knowledge and transform it in function of numerous stimuli coming from different spheres. For example, the labour market in the tourism sector in Central Asia is demanding individuals open to various experiences and languages while at the same time they require updated specialists in particular professions. However, the possibility to re-invent their own knowledge in different moments of their professional career is problematic. The challenge for HEIs is to

establish formative tasks that rise standards according to the requirements of the labour market.

In order to achieve the ambitious objective to realize homogenous curricula (similarly for core disciplines in hospitality and tourism) they should pay attention to the different needs and realities in which each student lives. An interdisciplinary context is essential to educate students to become global citizens. This finality might be considered one of the fundamental missions in the future of HEIs. It seems useful to remember that after the Bologna Declaration (18.19.1999) Europe has taken some ineluctable initiatives addressed to the affirmation of international competitiveness, coherent and compatible European system of education (competitiveness at a world scale). Recently some new objectives have been added to the original ones: student's participation in the process of lifelong learning and creation of joint degrees. These strategies seem to confirm what was the final conclusion of the Sorbonne Joint Declaration; that is, to offer universities the independence and autonomy to ensure that higher education and research systems could continuously adapt to changing needs, society's demands and advances in scientific knowledge with a particular look to remove cultural barriers while respecting cultural, social and linguistic diversities. The European Commission perceives the building of a European-like space of education in Central Asia as an essential instrument to realize a democratic society and to favour a free circulation of citizens in that region. Until recently, universities in Central Asia were unable to give a humanistic culture that could affirm the ineluctable condition of world citizenship. Thus, through international conferences and meetings, the members participating in our TEMPUS projects were making rectors aware of the necessity to transform their institutions so that they can adapt to the process of globalization, are capable of educating students in function of the requirements of a knowledge-based world and are able to deal with uncertainty by knowing their limitations. But this objective demands some interdependent reforms.

The first and most important reform is to be on new modalities of knowledge so as to read with a dialogic approach the processes that are related to global problems. This reflection emphasizes the importance of multiplicity and interdependence and the necessity to accept that the destiny of each individual is linked to that of all humanity. It is universally acknowledged the importance of education and educational co-operation in the development and strengthening of stable, peaceful and democratic societies. It is also recognised that knowledge is a fundamental component for social and human growth and indispensable to consolidate the consciousness of citizenship. Knowledge gives citizens the necessary competences to face the challenges of the new millennium, together with an awareness of shared values and belongings to a common social and cultural space.

Other reforms pertain to the modus operandi of teaching and learning. The challenges we have faced during the years of participation in TEMPUS projects is that HEIs are not yet prepared to face a labour market which had become very diversified, complex and specialised. They do not operate in recognition of a world that is in continuous change and which requires strategies to encompass the dynamics of a world system. So far they prefer to adopt a defensive attitude and continue to provide generic competencies and to guaranty a theoretical, basic, standardized formation convinced that afterwards each student will choose their way in conformity with their knowledge, aspirations and identity. HEIs in Central Asia notwithstanding are undervaluing the importance of placing students with the adequate conditions to choose the modalities of their participation to the construction of a global community. This form of participation demands an enlargement of contexts, of instruments, of information far beyond the traditional national models of education. It is believed that with more globally competent faculty and staff, a strong advisory council, and an appropriately staffed office of global education, we can respond more effectively to the pressing demand for globally oriented curriculum and carefully crafted international opportunities for students. Anything less than a global international education places students at a severe disadvantage as they go forth into our globally interdependent and interculturally complex world ([Olso & Kroeger, 2001] in Roose, 2002 : 17). The traditional (post)-soviet educational system is neglecting the necessity to reinforce the creative potentialities and make the learning experience of students a privileged instrument for the discovery of their own specific vocations: *ego alter as alter ego*.

In an interview, Edgar Morin (1997) reminds us that pertinent knowledge exists only if one is capable of placing one's information within a context, globalising it and situating it within an overall framework. It is important thus to consider that in contemporary times HEIs should be able to reply to the challenges of the development of science, society and technology and to carry out a trans-national mission. Likewise, it is understandable that in presence of the influence of the strong characteristics of a nation state, HEIs' role is to guarantee, conserve, protect, preserve and integrate the cultural heredity of knowledge, ideas and values valorising a formation designed to reinforce the attitude toward the 'local' side of 'glocalization' (Robertson, 1998). Nonetheless, through international efforts and projects like TOHOST-CA is possible to render students the necessary conditions to interpret the real characteristics of reality. Also to make HEIs recognize the consequences of globalisation, to take recognition of the affirmation of principles such as that of tolerance, liberty, solidarity and fraternity. Hence, the necessity to actualise the argumentative discourse of innovating in education is done by providing opportunities that do not exist in a path just traced for a few. As the famous Spanish poet Antonio Machado wrote once: Travellers, there is no path. The path is made by walking. And so the HEIs participating in the TOHOST-CA project are walking ahead.

References

- [1] Beck, U. (2000) *What is globalization?* Polity Press.
- [2] Bok, D. (2003) *Universities in the Marketplace: The Commercialization of Higher Education*, Princeton: Princeton University Press.
- [3] Bonfadelli, H. (2002) The Internet and Knowledge Gaps. A theoretical and Empirical Investigation, *European Journal of Communication*, 1, pp. 65-84.
- [4] Blustain, H., Goldstein, P. & Lozier, G. (1999) 'Assessing the new competitive landscape' in Katz, R. N. & Associates, *Dancing with the Devil: Information Technology and the New Competition in Higher Education*, San Francisco: Jossey Bass Publishers.
- [5] Castells, M. (1996) *The Rise of the Networked Society*. Malden, Ma: Blackwell Publishing
- [6] Castells, M. (1998) *The End of Millennium*, Malden, Ma: Blackwell Publishing.
- [7] Connal, C. and Sauvageot, C. (2005). *NFE-MIS Handbook. Developing a Sub-National Non-Formal Education Management Information System*. Paris, UNESCO.
- [8] DiMaggio, P. and Hargittai, E. (2001) *From the 'Digital Divide' to 'Digital Inequality': Studying Internet Use as Penetration Increases*. Princeton University Center for Arts and Cultural Policy Studies, Woodrow Wilson School, Princeton University Working Paper Series number 15

- [9] DiMaggio, P., Hargittai, E., Russell, W. & Robinson, J.P. (2001a) Social Implications of the Internet, *Annual Review of Sociology*, 27, pp. 307-336.
- [10] Duderstadt, J.J. (1999) 'Can Colleges and Universities Survive in the Information Age?' In Katz, R. N. & Associates, *Dancing with the Devil: Information Technology and the New Competition in Higher Education*, San Francisco: Jossey Bass Publishers, pp. 1-25.
- [11] Fetherston, T. (2001) Pedagogical Challenge for the World Wide Web, *AACE Journal*, 9 (1), pp. 25-32.
- [12] Ford, P., Goodyear, P., Heseltine, R., Lewis, R., Darby, J. et al., (1996) *Managing change in Higher Education*, Buckingham: The Society for Research in Higher Education & Open University Press.
- [13] Freire, P. (1970) *Pedagogy of the oppressed*, NY: Continuum Publishing.
- [14] HELIOS Consortium 'Evolving e-Learning: the HELIOS Yearly Report 2005/2006' by the MENON Network EEIG in 2006 <http://www.education-observatories.net/helios>
- [15] Hepp, P., Hinostroza, J. E., & Laval, E. (2004). A systemic approach to educational renewal with new technologies: Empowering learning communities in Chile. In A. Brown & N. Davis (Eds.), *World Yearbook of Education 2004: Digital technology, communities and education* (pp. 299-311). London: Routledge Falmer.
- [16] Lankshear, C., Snyder, I. et al. (2000). *Teachers and Technoliteracy: Managing literacy, technology and learning in schools*. St. Leonards: Allen & Unwin.
- [17] Mesthene (1969) 'The Role of Technology in Society', reprinted in Teich, A. H. (1995) (ed.), *Technology and the Future*, 5th Edition Boston: Bedford/St. Martin's. pp. 65-76.
- [18] Monge-Nájera, J.A., Rivas, M. & Méndez-Estrada, V.H. (1999) Como creamos un curso híbrido entre la Web de Internet y el libro de texto tradicional para un curso libre sobre biodiversidad in *UNED, X Congreso Internacional sobre Tecnología y Educación a Distancia*, San Jose de Costa Rica: Editorial UNED
- [19] Morin, E. (1997) Interview with Edgar Morin in *Humanities* n28, 7/1997. Available online at http://www.diplomatie.gouv.fr/fr/france_829/label-france_5343/les-themes_5497/sciences-humaines_13695/sociologie_14465/pour-une-politique-civilisation-entretien-avec-edgar-morin-no-28-1997_37969.html.
- [20] Norris, P. (2001) *Digital Divide? Civic engagement, Information Poverty and the Internet in Democratic Societies*. NY: Cambridge University Press.
- [21] Robertson, R. (1998) 'Globalization as Hybridization' in Fetherstone, M., Lash, S. & Robertson, R. *Global Modernities*, pp. 45-68. London: Sage Publications.
- [22] Robinson, J. P. & Anthony S. A. (2004). "The Social Impact of the Internet: A 2003 Update", in William H. Dutton, Brian Kahin, Ramon O'Callaghan and Andrew W. Wyckoff, (eds) *Transforming Enterprise*. (pp. 437-466) Mass.: MIT Press
- [23] Rogers, E. M. (1995) *Diffusion of Innovation*, 4th edition, NY: Free Press.
- [24] Roose, J.P (2002) Internationalisering, waarom? in VLHORA, de Vlaamse Hogescholenraad, *Het hoger onderwijsinternationaliseren*. opdracht van AHOWO - studiedag, 22 mei . pp.15-39.
- [25] Rostow, W.W (1960) *The Stages of Economic Growth: A Non-Communist Manifesto*, Cambridge: Cambridge University Press.
- [26] Shaw, M. (1999) *Politics and Globalisation Knowledge, Ethics and Agency*. London: Routledge.
- [27] Shirley, A. & Boud, D. (2001) Learners still learn from experience when online. In J. Stephenson (Ed), *Teaching and Learning Online: Pedagogies for New Technologies*, (pp 3 -15) London: Kogan Page.
- [28] Wilhem, A. (1999) *Democracy in the Digital Age*. NY: Routledge.

Additional Contact Details

Dr. Carlos Machado
 Tel. +3226292164
 Fax +3226292420
 Prof. Dr. Elvira Lussana
 Tel. (+39)075 5855287
 Fax (+39) 075 5855299