

## UNESCO INSTITUTE FOR INFORMATION TECHNOLOGIES IN EDUCATION

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### PRESIDENT PUTIN AND DIRECTOR-GENERAL MATSUURA DISCUSS EDUCATION, SCIENCE AND CULTURE



Director-General then met with the Minister of Foreign Affairs, Mr I. Ivanov.

President Putin and the Director-General, who were meeting for the third time, noted with satisfaction a strengthening of the cooperation between UNESCO and the Russian Federation, notably in the fields of education, science and culture.

The Director-General, who will attend celebrations organized in St. Petersburg next May, presented the cultural activities with which UNESCO will be associated on the occasion of the 300th anniversary of the city.

Ways of improving the education system in Chechnya were then discussed. President Putin thanked the Director-General for UNESCO's support for the assess-

ment report on education in Chechnya. Mr Matsuura assured President Putin of the Organization's readiness to work towards the rapid implementation of the proposals and projects contained in that report.

The President of the Russian Federation also conveyed the wish of several Member States of the Commonwealth of Independent States (CIS) to work with UNESCO on regional joint projects in the fields of education, science and culture. Mr Matsuura welcomed the proposal, noting the leading role that could be played in this connection by the UNESCO Institute for Information Technologies in Education (IITE) in Moscow.

On this occasion Mr Matsuura accepted the personal invitation



of President Putin to attend a meeting in Moscow during the second half of 2003, with members of the Presidential Councils for Science and Culture, to examine the possibilities of strengthening the relations between the Russian intellectual community and UNESCO with a view to scientific and cultural projects.

The President of the Russian Federation, Mr Vladimir Putin, on a State visit to France, met with the Director-General of UNESCO, Mr Koichiro Matsuura, on Monday, 10 February 2003, in the presence of his Minister of Education, Mr V. Filippov, his Minister of Culture, Mr M. Shvydkoi, and the President of the Russian National Commission for UNESCO, Mr V. Fortov. The

#### IITE ONLINE NEWS

- 23–24 April 2003 (IITE, Moscow): Workshop for testers on International Computer Driving Licence (ICDL)
- 15–16 May 2003 (IITE, Moscow):
  - Workshop *Distance Education for Rural Schools* (on the basis of the IITE national pilot project for Kazakhstan)
  - Training seminar *Distance Learning in the CIS Countries: Monitoring of Educational Needs and Opportunities*
  - Workshop *Basics of Tutor's Activities. Instruction Guide*
- 26–31 May 2003 (Vilnius, Lithuania): Training seminar for teachers and teacher trainers *Retraining of School Educators in the Application of ICTs in Education*
- High Level Seminar and Workshop for Decision- and Policy-Makers from Asia and the Pacific *Towards Policies for Integrating Information and Communication Technologies into Education* co-organized by IITE and UNESCO Bangkok Office.
- 18–21 February 2003 (Bangkok, Thailand): First face-to-face part.
- 22 February – 21 April 2003: Interim period (work at a distance).
- 22–25 April 2003 (Bangkok, Thailand): Third face-to-face part.

## IITE TRAINING SESSION “MULTIMEDIA IN EDUCATION” IN LITHUANIA

By Alla Y. Kravtsova, Sergei A. Christochevsky



Prof. Vladimir Kinelev handing the IITE publications to Mr Vldas Adamkus, President of the Republic of Lithuania

Lithuanian seminar *Multimedia in Education*, the first part of the training session, was organized jointly by UNESCO Section for General Secondary Education and the UNESCO Institute for Information Technologies in Education (IITE) in close cooperation with the Ministry of Education and Science of the Republic of Lithuania and its Centre for Information Technologies in Education (ITC). The seminar was held in Vilnius, Lithuania, from 25 to 29 November 2002.

The two-month training session will be continued via the distance education means and online seminar hosted by the IITE web portal. The training session was based at ITC – a state educational institution (<http://itc.smm.lt>) founded in January 1990 by the Ministry of Education and Science of the Republic of Lithuania, which later

has become the focal point for cooperation with IITE.

The Ministry of Education and Science of the Republic of Lithuania sees its aim in achieving the level of computer and software acquisition matching the average numbers for the countries of the European Union. Much has been and is done to reach the goal, including the teaching of teachers.

*We fully coordinate the activities undertaken in the Republic in the field of information technologies in education. The activities are diverse; alongside with the others we hold the contests for the centres intending to teach teachers in information and communication technologies (ICTs), then provide them with computers, documentation and standards for teachers and students. We avail ourselves of support of the expert groups, who assess the finished software products. Moreover, we arrange tenders to purchase computers and software for schools.*

*We have chosen the UNESCO Institute for Information Technologies in Education as a partner because the Institute seems to be a link in the chain, which possesses much generalized material; and the summed-up information from different countries is extremely important.*

**Mr Vainas Brazdeikis, Director of the Centre for Information Technologies in Education, Republic of Lithuania**

The specialists of the Centre have participated many times in the IITE events, but the training session was the first one held by IITE in Lithuania. The Ministry of Education and Science of Lithuania and Lithuanian National Commission for UNESCO have expressed the interest in establishing long-term cooperation with IITE. Consequently, several meetings were held, at which the aspects of cooperative activity became the subject for detailed discussion. Prof. Vladimir Kinelev, Director of the Institute, met with Mr Algirdas Monkiavichius, Minister of Education and Science of the Republic of Lithuania, Mr Dainius Numgaudis, State Secretary of the Ministry of Education and Science of the Republic of Lithuania, Mr Rimantas Vaitkus, Vice-minister, as well as with Ms Asta Dirmaite, Secretary General of the Lithuanian National Commission for UNESCO.

Of special significance were the talks with Mr Valdas Adamkus, President of the Republic of Lithuania, where the proposals of IITE and the Ministry acquired the presidential support giving the solid base for the long-term cooperation.

*UNESCO Institute for Information Technologies in Education has accumulated the experience, which is important to be applied in our practice now. We have gained a certain level in computerization of our*

*schools. For example, in upper grades 10 students employ one computer. This figure proves convincing to allocate more effort and resource to the efficient usage of new technologies. Here, much depends on the qualification of a teacher, modern methodology, educational computer equipment as well as other factors to upgrade the use of computers. We have agreed with Mr Kinelev that we shall work on and realize a project on the efficiency of computer use. On the one hand, the project will rest on the experience of other countries, and on the other, we have already gained our own experience, ideas, regional and other projects, which are under way now. I assume, the Institute will be interested to learn how we will go on, and we, no doubt, will need its methodological assistance.*

**Mr Algirdas Monkiavichius, Minister of Education and Science of the Republic of Lithuania**

*One of the basic goals of the UNESCO Institute for Information Technologies in Education – to promote the development of necessary scientific, methodological, informative materials for teachers, which allow them to be aware of the best achievements in the ICT field. Hence, our objective is to embrace the capacities of the world community, to spot the best specialists in different countries, whose cooperation will help prepare, in my view, these very important methodological and educational materials.*

*Currently the Institute has elaborated its own educational programme comprising the basic course to produce a curriculum on use of information technologies as well as specialized courses to apply such advanced technologies as multimedia, distance education, digital libraries in the school practice, alongside with the information technologies to teach people with special needs. Moreover, the courses overview the essential problems like ethical, legal and psychological in the field of ICT usage.*



**Mr Algirdas Monkiavichius, Minister of Education and Science of the Republic of Lithuania**



**Mr Dainius Numgaudis, State Secretary of the Ministry of Education and Science of Lithuania**

*We strongly hope that the cooperative programme with the Ministry of Education and Science of the Republic of Lithuania, which we are certain about today, on the one hand, will help the Institute promote the positive processes ongoing in the Republic, and on the other, will give a feedback so that it will be able to correct, enhance and, undoubtedly, make its activity more benevolent for UNESCO Member States.*

**Prof. Vladimir Kinelev, Director of the UNESCO Institute for Information Technologies in Education**

Mr Monkiavichius, Minister of Education and Science of the Republic of Lithuania, and Mr Kinelev, Director of IITE, exposed their views on the future usage of information and communication technologies in education in detail for the representatives of the education system at the conference of the Lithuanian teachers of informatics, which was held at the Institute of Qualification Upgrading in Vilnius. Their presentations covered the collaboration of IITE with the Ministry, stressing that the seminar *Multimedia in Education* was arranged within the framework of the educational programme of the UNESCO Institute. Mr Eugenijus Kurilovas, Chief of the Projects department in the Centre for Information Technologies in Education, ran the seminar on the behalf of the Lithuanian party.

The international expert group headed by Prof. Bent B. Andresen from Danish Pedagogical University and Ms Katja van den Brink from University of Landau, Germany, has prepared the materials for the course *Multimedia in Education*. Dr Sergei Christochevsky was involved in this work as IITE project manager.

In Vilnius the seminar moderators Prof. Bent B. Andresen, Ms Katja van den Brink and Dr Sergei Christochevsky hosted the workshop for the educators from Lithuanian schools and higher educational institutions, represen-

tatives of the institutes, heads of different bodies of the education system of the Republic of Lithuania – everyone who deals with the information technologies in education to this or that extent.

The workshop was devoted to the use of multimedia products in education. In particular, it reviewed the roles of a teacher and a student in the process of learning based on multimedia as well as multimedia potentials for training students, shaping their motivation, cooperation, etc.

At present the students employ an ever-growing number of multimedia products in various sectors of their studies and out-of-school activities. The application of interactive multimedia products in the educational process is characteristic of all developed countries, although their context and rate of introduction vary significantly over the countries. In education the multimedia products and online services function as communication means as well as an attractive tool for different pedagogical scenarios.

According to the approach of Prof. Bent B. Andresen and Ms Katja van den Brink incorporated in the seminar materials, the notion of “a pedagogical scenario” implies a certain pre-determined chain of events of the educational situation. Each event is characterized by a definite role of a teacher, a student and a multimedia product. Some multimedia products are designed to control the process of educational material presentation; in this case the students play a passive role of an information receiver. Other products are interactive in the sense that the students have an active role – they themselves can choose the themes to study and switch from one to another.

*Everyone knows how to use multimedia products, what potentials the technology provides and how it works. However this course systematizes everything: what every scenario contains and what it is designed for. Depending on what I*

*want to do, what I want to teach my students or teachers, I choose this or that scenario. Moreover, discussions with colleagues and reviews of their scenarios uncover new broad opportunities. I think that the seminar is of great benefit for every participant.*

**Mr Vitautas Krutuuljus, teacher of the Centre for Extra Education, Klaipeda, Lithuania**

During the practice at the seminar *Multimedia in Education* the participants have acquired the knowledge and skills in such themes as:

- Model of scenarios as applied for the multimedia use in education, basic aspects of education with educational multimedia products.
- Choice of multimedia products according to the educational objectives (what knowledge and competencies the students must develop and how the educational multimedia can promote this).
- Application of educational multimedia products in school according to four scenarios and their combinations.
- Methods to assess the knowledge and competencies obtained by the students.

*One can say that the seminar was based on a so-called “problem” method. The aim of the seminar was to help those present comprehend the use of multimedia technologies. It seemed important and meaningful for me that neither a technological component, nor the mastering of certain software products were forwarded to the forefront – a web page or a multimedia presentation to be*



**Mr Vainas Brazdeikis, Director of ITC (Lithuania)**

*produced, a multimedia means or the Internet to be used, etc. The following questions formed the basis: What for do you do it? Why does a teacher use this or that technology? How efficient, how necessary is it? Probably, some things are better done without the multimedia technology, ex., through simple human conversation “face-to-face” with a student, using a traditional sheet of paper and a pen, a board and a marker. Thus, it is essential because a pedagogically intelligent application of the technologies, namely, is a foundation of the new pedagogy, a base for the confidence that an individual educational trajectory will be realized, and a teacher will use the technologies as tools to develop a student each time choosing the most suited out of the numerous options provided by ICTs, in particular multimedia products; selecting, adapting them to each student, solving at every stage specific pedagogical problems. This was the leading idea of the past seminar.*

**Ms Alla Y. Kravtsova, editor-in-chief, “Informatics and Education” magazine, Moscow, Russian Federation**



**Dr Eugenijus Kurilovas (Lithuania) and the moderators of the seminar: Ms Katja van den Brink (Germany), Prof. Bent Andresen (Denmark) and Dr Sergei Christochevsky (IITE)**

The following set of materials comprising the description of six modules was prepared for the course:

1. Introduction: usage of multimedia in schools.
2. Assessment of knowledge and competencies by the students themselves.
3. Usage of multimedia according to scenarios 1/2/3 – a student being a final user.
4. Usage of multimedia according to scenario 4 – a student being a multimedia designer.

5. Selection and usage of educational multimedia.
6. Teaching with educational multimedia.

These modules can be aligned in various sequences meeting the demands of different students. A compact disk is enclosed.

*In my opinion, the seminar is very helpful. I have to confess, after the first working day I thought it was designed for the countries, which level is that of the Lithuanian some*

*5–7 years ago. But on the second day I changed my mind. The seminar is, no doubt, of great help for everybody – and me, a scientist dealing with the problems of education informatization, and the Centre employees, and teachers.*

**Ms Valentina Dagiene, head of the Informatics Methodology Department, Institute for Informatics and Mathematics, Vilnius, Lithuania**

After the session was over, the participants received the tasks and

methodological instructions for their self-work. During two-month distance part of the training session, they will intensively develop their own scenarios on the usage of multimedia in education both for traditional teaching and with the innovative forms. The participants, who will accomplish the distance education part successfully, are awarded with the certificates of the UNESCO Institute for Information Technologies in Education.

## SEMINAR FOR HIGH-LEVEL EXPERTS ON POLICY FORMULATION AND PRACTICAL USAGE OF ICTs FOR HIGHER DISTANCE EDUCATION IN COUNTRIES IN AFRICA

Kenya, 29 October – 1 November 2002



**Prof. George Eshiwani (Kenyatta University) and Prof. Vladimir Kinelev (IITE)**

Within the framework of the IITE international project *ICTs in Distance Education* the UNESCO Institute for Information Technologies in Education (IITE) held the seminar for high-level experts *Policy Formulation and Practical Usage of ICTs for Higher Distance Education in Countries in Africa* in Nairobi, Kenya, from 29 October to 1 November 2002.

The participants from seven countries, namely Ghana, Kenya, Namibia, Seychelles, South Africa, Uganda, and United Republic of Tanzania as well as the representatives of four national focal points for cooperation with IITE, UNESCO Regional Bureau for Education in Africa (BREDA), UNESCO International Institute for Capacity Building in Africa

(IICBA), World Bank Group (IFC), US International University, Centre for Flexible and Distance Learning, University of Auckland (New Zealand), and African Study Centre took part in the seminar.

The main goal of the seminar was to identify the ways and modes of policy formulation and practical usage of ICTs in higher distance education in countries in Africa (HDECA) through:

- discussion on strategy formulation for training and retraining of educational personnel in HDECA;
- familiarization with IITE educational programme and its components, in particular, on ICTs usage in distance education;

- analysis of technical and pedagogical implications of ICTs in teaching and learning in HDECA;
- study of the staff development for ICT usage in higher distance education in participating countries;
- establishment of partnership and networking.

During the opening ceremony Prof. George Eshiwani, Vice-Chancellor of Kenyatta University, welcomed the participants of the seminar. He underscored the important role that ICTs play in distance education development.

Mr John Daniel, Assistant Director-General of UNESCO for Education, in the welcome video address stressed that UNESCO always devotes special attention to the issues related to distance education with strong focus on developing countries, especially on the countries in Africa; and highlighted six major concerns in realizing UNESCO mandate, namely:

- application of ICTs in all areas of UNESCO's work with special emphasis on education;
- pre- and in-service training of teachers to use ICTs in distance education;

- popularization of the important work of IITE and mounting its training course on the usage of ICTs;
- dissemination of educational programmes worldwide;
- training of teachers on ICT application as catalytic agents of educational change;
- seeking appropriate strategies to meet the challenges of change, approach, and coverage in the context of Education for All.

In the opening address Prof. David Wasawo (University of Nairobi, Kenya) made a broad overview of the major problems in African education, which have been and continue to be the issues of access, equity, cost, personnel and curricula, as well as the provision of adequate facilities to an ever-rising population. He also



**Prof. Olive M. Mugenda (Kenyatta University)**

pointed out that the seminar specifically aims:

- to interrogate the current training and retraining of educational personnel with regard to ICT usage with particular focus on higher distance education;
- to discuss and recommend various strategies to be used in training and retraining of educational personnel for higher distance education.

People expect higher education to play a key role in knowledge augmentation and to offer theoretical and practical recommendations concerning existing problems and innovations that would enable countries to take on future challenges. Be it in economic, political or social realms, higher education is expected to contribute to the overall quality of life in an increasingly globalized and liberalized environment.

Finally, he noted that the staff development programme focused on technology diffusion should be viewed as a long-term effort, supported by adequate resources and stable funding over a period of time. Such programme must have strong administrative backing where institutional heads take an active role in training activities and provide lecturers/instructors with the necessary and sufficient follow-up for effective transfer of technological skills into the pedagogical practice.

In the opening presentation Prof. Vladimir Kinelev, Director of IITE, stated that knowledge is the main asset and product of the information society upon which continued economic well-being and social development depend. Distance learning is in the mainstream of these developments. Distance learning and the information society are both concerned with the creation, acquisition, sharing, dissemination, delivering, support and recognition of knowledge. Distance learning is the means for providing access and achieving continuous learning necessary for suc-

cessful participation of all social groups of population in the information society.

Prof. Kinelev stressed that in the field of its competence the UNESCO Institute for Information Technologies in Education strives to assist UNESCO Member States in sharing experience in distance education by promoting international cooperation. For instance, on 20 and 21 September 2001 the Institute held expert meeting *Distance Higher Education in Africa: Professional and Course Development* and workshop



**Welcome video address of Mr John Daniel, Assistant Director-General of UNESCO for Education, to the participants of the seminar**

*ICTs in Distance Education.* These events were held on the basis of the Open University of Tanzania, and the central themes of the discussion were the prospective approaches to the capacity building for distance education in higher school in countries in Africa as well as possible joint activities of IITE and UNESCO Member States in Africa fostering the application of ICTs in education, especially in the profession and course development for distance education. The participants of the expert meeting surveyed international experience of ICT usage in distance learning, particularly in the universities in Africa, discussed issues related to the educational programmes and application of ICTs in staff training for distance education, reviewed the courses developed for distance learning

and the role of international cooperation in building up national capacities for higher education in Africa.

Prof. Kinelev pointed out that in accordance with the recommendations adopted by the participants of the expert meeting *Distance Higher Education in Africa: Professional and Course Development* in Tanzania, IITE has been encouraged to form a representative group of experts to elaborate a policy that can be used as a potential resource for ICTs and distance education policy formulation in Africa.

He mentioned that in accordance with the recommendations of the expert meeting in Tanzania, the specialized Institute's web site with a broad range of services was created. Among them was a forum, which provides direct access to all materials and documentation of the seminar and allows the participants to carry out fruitful discussions with moderators (Prof. George Eshiwani, Prof. Wayne Mackintosh).

In conclusion he expressed the hope, that the seminar will help make a new step towards determining strategies in training and retraining of educational personnel in ICTs for higher distance education in countries in Africa, facilitate the implementation of the Institute's educational programme for successful integration of ICTs

in distance education in countries in Africa, and stressed that the present seminar, a follow-up of the previous one, continued Institute's activity in Africa, with Africa and for Africa.

Prof. Eshiwani in the presentation *Forming Strategies for Training and Retraining of Educational Personnel in the Usage of ICTs for Higher Distance Education in Countries in Africa* gave an outline of the usage of ICTs for higher education in Africa, which covered the access to higher education, budgetary allocations, human resource capacities and competencies as well as ICT infrastructure. He made clear that Africa is the weakest region in the field of the use of ICTs. The density of telephone calls and the Internet access are the lowest in the world. With the population of 780 million, 13% of the world population, Africa owns only 2% of telephone lines. The continent occupies a tiny section in the use of the Internet in comparison with other regions. In 1998, when the number of Internet users in the world was more than 152 million, Africa comprised only 1.14 million compared to 27 million in Asia and the Pacific, 33 million in Europe, 0.78 million in the Middle East, 87 million in the USA and Canada, 415 million in South America. However, it is worth to notice that the access to the Internet grew rapidly last years. Since July 1999, 53 out of 54 African states have got Internet access in the capitals. However the Internet is expensive and scarcely available outside the capital cities. Only 17 countries possess Internet servers in provincial towns. With such limited coverage, for the majority of people, even if they can afford a computer, it is a long distance call (which is very expensive) to use the Internet. Now there are over 500,000 dial-up subscribers in Africa (about 175,000 outside of South Africa). Each computer with the Internet or e-mail connection has three users in average. Thus, the current estimates of African Internet users are somewhere around 1.5 million. So, the



Prof. George Eshiwani (Kenyatta University),  
Mr Severin Ndunguru (Open University of Tanzania),  
and Mr Ayoo Phillip Ouma (The Inter-University Council, Uganda)

underdeveloped telecommunication is a major problem for the use of ICTs. This could be attributed to the weak policies and non-dynamic strategies in the field. Poor telephone lines remain an important obstacle.

Currently in Sub-Saharan Africa, more than 140 public and private institutions provide tertiary distance education, although it is still based on traditional technologies. The African Association of Universities (AAU) found out with its questionnaire that only 52 of 232 African academic and research institutions have the unlimited Internet access. The cost of ICT use remains a constant concern for Africa. Although few precise studies are available on the cost of open and distance teaching in Africa, some indications could be provided. In Madagascar, the cost per student is at US\$40 per year. Open University of London estimates that this cost is one third of the figures for traditional universities. Most higher education institutions lack competent staff to build networks, design training programmes and develop sound environment for the use of ICTs. The capacity to assure maintenance of equipment is also insufficient. Furthermore, in Africa the frequent use of projects realized in other environments does not seem to be the best means of creating appropriate and sustainable institutions. Development of local competences is absolutely indispensable.

Prof. Eshiwani stated that as in other regions of the world, higher education in Africa has to be adjusted to ICTs. This is the price to pay in order to avoid marginalization and exclusion from the actual knowledge society and to reduce the gap separating African countries from the industrialized ones. Everywhere in Africa, lectures by the most renowned specialists should be easily accessible for any academic or student. It will help improve the quality of teaching.

To reach this objective, the African higher education institutions must make some important decisions:

- To formulate clear policies and strategies for ICT development and use in the new paradigm for teaching and research.
- To assert the priority of entering the new information society.
- To implement a coherent policy for human resource improvement to comprehend, develop and manage ICT programmes, including the production of software for teaching.
- To put accent on the development of indispensable infrastructures for a sound use of ICTs in favour of a qualitative higher education teaching.
- To mobilize resources of the budgets of each Member State for the sake of ICTs.

In the presentation *A History of the Future for Distance Education*

in Africa Society, Education and ICTs made by Prof. Wayne Mackintosh, the importance of past and present history of distance education as a basis for the development of an appropriate model/framework to implement ICT usage in African countries was underscored. He indicated that the process is influenced by two factors: predeterminations and uncertainties. He suggested one way of forecasting through scenario planning. Since teaching and learning are separated in distance education, they can be mediated only technologically. This requires creativity, special techniques and methods, pedagogical organizational and institutional structures radically different from traditional approaches. The drivers of change in higher education are:

- mass character;
- global knowledge society;
- advance in digital ICTs.

Distance Education is characterized by mass standardization of products and processes. However, digital technology enables mass customization of products and processes which is cost effective and client friendly.

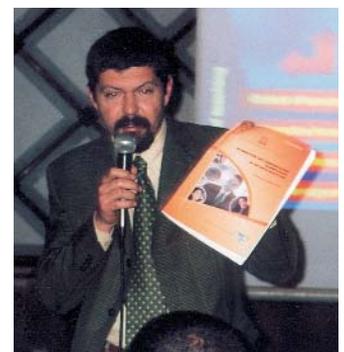
According to Prof. Mackintosh the mass character of education has given rise to the models, viz. mass standardization and customization of educational products in distance learning. He believes that mass customization is a better model to meet higher distance education goals.

In conclusion, he supposed that the levels of customization would be enhanced through Open Source Software, which has the following advantages:

- Cheaper to produce.
- Easier to prioritise educational needs over commercial considerations.
- Greater opportunities for customization according to individual needs.
- Enhanced collaboration among large communities of expert researchers.

In the presentation *Higher Education Institutions (HEIs) and ICTs: their Unique Strategic Potential for Africa (a South African perspective)* Dr Bob Day, Executive Director of ICT Principal's Office of the University of South Africa (UNISA), spoke about the traditional campus model, which is too expensive and cannot be scaled up for *Education for All* (EFA) goals. The essence of UNESCO's EFA programme<sup>1</sup> is to work toward the eradication of abject poverty throughout the world. The global tertiary sector combined with the traditional values of society, should be positioned ideally to address this. However, today's universities face a perplexing task of balancing the tensions of Mr John Daniel's eternal triangle, i.e. to improve quality, cut the costs and serve for more and more students. Around the world today we need an equivalent for one large new university to be opened every week to keep tertiary participation rates constant.

There is a widely spread belief in South African HEIs that they fall behind the developed world in the application of ICTs. For the public higher education system operating with extremely limited resources, this is especially serious. Even the best HEI systems are not as sophisticated as those of the developed nations, and there are many institutions, which systems and levels of connectivity can be considered negligible. The absence of appropriate technological support and infrastructure necessary to secure high levels of connectivity is likely



Prof. Wayne Mackintosh,  
University of Auckland  
(New Zealand)



Dr Bob Day (UNISA, South Africa)

to disadvantage the entire academic and research enterprise of the higher education system. Consequently, it will severely compromise their ability to collaborate, support, and teach the ICT sector (and, of course, all other sectors of society).

Dr Bob Day stressed that ICTs can be and are used in various ways by HEIs in South Africa. His analysis was structured in terms of teaching, administration, community service, and research. However, the range of national ICT strategic initiatives indicates that there is a much broader range of ICT capabilities that need to be created to satisfy the growing needs of South African emerging knowledge society. This is a chicken and egg situation: if we do not provide such people, society will not grow, i.e. it cannot be demand-led. Our society must take the risk of anticipating the demand collectively.

The major concern of the ICT sector is that a far insufficient number of the appropriately qualified people is available, especially from the black community and women, as well as other concerns are voiced that the dynamic course components get outdated very quickly

(currently it takes years to rewrite curricula in HEIs). What remains unaddressed, however, is a big and growing need in such ICT technologists and professionals for ALL other sectors of society (private, public, development, etc.). These people must be educated and trained to FULLY understand their sector (e.g. agriculture, tourism, etc.) as well as all ICT aspects relevant to that sector (current and future).

In simple words, to improve teaching ICTs can be used in two ways: delivery of teaching, and better teaching materials. However, both have many subcomponents, and the picture gets more complicated due to the mode of teaching, i.e. contact, distance or their combination. However he believes that the problems expressed above are not unique to South Africa, being repeated to varying degrees across Africa. The potential is significant; therefore, for HEIs working in unison as a national sector rather than regional consortia, to build powerful partnerships with the ICT sector to address these problems. The solutions will benefit not only South Africa, but can accelerate the success of the ICTs appropriately applied in HEIs throughout the continent.

In conclusion Dr Bob Day conveyed the feeling that we face a future (threat or opportunity?) full of countless initiatives that need to be embarked upon in order to facilitate the ample usage of ICTs. What must be done first is less important, than how a given initiative seeks to enhance social and economic benefits South Africa might derive from ICT, and how

readily it may be joined up with complementary initiatives. This emphasises a widespread demand of innovative, collaborative arrangements overcoming the constraints of existing institutions, and shapes a vision of 'partnership' with fractal qualities.

During the round-table discussions the participants identified a number of obstacles that impede the implementation of ICT programmes in countries in Africa:

- Technological changes: ICTs change rapidly leading to obsolescence of both hardware and software for ICT usage. Other sources of power require other forms of energy to be exploited, for example, that of the Sun and wind.
- Cost implications: there is a need to implement preferential pricing policies in relation to ICTs and education.

The discussion covered the following concern: What collaboration efforts can be put in place for the development of ICTs in distance education?

They agreed that the educational sector is to be differentiated inevitably, and the technology advance does not necessary follow linear progression.

The participants assumed the following items are the necessary components of an ICT policy:

- mission and vision;
- curriculum and pedagogical models accounting for context, language and level;

- accreditation and quality assurance;
- capacity building (personnel and infrastructure, recruitment, training and retraining, design and delivery);
- access to education and ICTs;
- ongoing research of ICT curriculum, new pedagogy of ICT skills;
- infrastructure (hardware, software, networks);
- awareness and positive attitudes among leaders, especially active involvement of the community.

On closing the seminar the following recommendations were worked out:

1. IITE in cooperation with BRENDA, IICBA and in tight partnership with UNESCO Member States come together with a proposal for a sub-regional project on ICT applications in distance education in Sub-Saharan Africa countries.
2. Draft project should include the suggestions made by the participants of the seminar.
3. IITE drafts a project plan to implement a pilot course for training future trainers in ICTs for distance education with the IITE specialized training course *Information and Communication Technologies in Distance Education*.
4. Pilot project plan should comprise the suggestions made by the participants of the seminar.

<sup>1</sup> UNESCO, 2000. Text adopted by the World Education Forum Dakar, Senegal, 26-28 April 2000. <http://www2.unesco.org/wef/en-leadup/dakfram.shtml>

## IITE CONTRIBUTION TO BETTER QUALITY OF SECONDARY EDUCATION IN ARAB DEVELOPING COUNTRIES

The international conference *Secondary Education for a Better Future: Trends, Challenges and Priorities* organized by the Sultanate of Oman Ministry of Education and UNESCO's division of Secondary and Vocational

Education, was held from 22 to 24 December 2002 in Muscat, Oman.

The conference became an international forum, where challenges and opportunities of secondary education in the 21st century were

explored by practitioners, policy-makers and all concerned with the future of the young people all over the world, with about 800 participants, presenters and observers from Australia, Bahrain, Canada, France, India, Iran, Ireland,

Japan, Jordan, Lebanon, Malaysia, Morocco, Netherlands, Oman, Qatar, Russian Federation, Saudi Arabia, Sudan, Switzerland, Thailand, Uganda, United Arab Emirates, United Kingdom, and USA.

The conference grounded on the results of the Oman Ministry of Education's National Conference on the future of secondary education held from 1 to 3 April 2002, and the UNESCO international expert meeting *General Secondary Education in the 21st Century: Trends, Challenges and Priorities* held in Beijing from 21 to 25 May 2001. The conference considered the national view of the future of Oman's secondary education in the light of global developments, thus placing Omani plan for the secondary education reform in the world context with the aim to benefit

from the wealth of relevant international experience.

The following main issues were presented in more than 80 position statements, key-note speeches, concurrent seminars, workshops, thematic and panel discussions:

1. Redefining Secondary Education for the 21st Century: Why Change is Essential.
2. Effective New Models for Secondary Education in the 21st Century: The Focus for Change.
3. Strategies for Successful Implementation of Reform: Practical Blueprints for Change.

4. Practices in Evaluating the Success of Reform.
5. Sharing New Ideas for Change.

The UNESCO Institute for Information Technologies in Education (IITE) participated in the conference with the presentation *Technologies in Providing Quality Education for Information Society* made by Dr Boris Kotsik, IITE project manager. The paper was prepared in due time and covered the issues of:

1. Quality evaluation of ICT usage in education.
2. ICT usage indicators in secondary education: IITE experience.

3. International experience on ICT influence on the education quality.

The experience and recommendations on how to shape a national policy for secondary education in developing countries disclosed the conference by the participants are very important for IITE programme activity. At the same time the results of IITE projects on the application of ICTs in education can be very useful in outworking national strategies for ICT usage in secondary education for the countries, which develop national education system in the conditions of uneven and restricted economic, personnel and time resources.

## IITE STRENGTHENING COOPERATION WITH CIS COUNTRIES

### 12th Meeting of the Council for Cooperation in the Field of Education of the CIS Countries Saint Petersburg, 5–6 December 2002

The 12th meeting of the Council for Cooperation in the Field of Education of the CIS Countries was held jointly with the Inter-parliamentary Commission on Education and Science of the CIS Countries in the Tavrichesky Palace, Saint Petersburg, on 5 and 6 December 2002.

With the decision of the Council for Cooperation in the Field of Education of the CIS Countries dated 13 January 2000, the UNESCO Institute for Information Technologies in Education (IITE) acquired the status of the Council observer, which authorizes the Institute to work in the region jointly with the Council according to the plan of action.

The major results of IITE collaboration with the CIS countries in 2002 were presented at the 12th meeting of the Council.

In 2002 the specialists from the CIS countries cooperated beneficially in the IITE projects, namely:

- ICTs in Distance Education;
- Internet in Education;
- ICTs in Special Education;
- Ethical, Psychological and Societal Problems of Application of ICTs in Education;
- Indicators of ICT Application in Education.

Based on the results of the latest project IITE has prepared, published and disseminated among the Ministries of Education of the CIS countries the statistical report *Basic ICT Usage Indicators in Secondary Education in the Baltic and CIS States*.

In 2002 the Institute provided the finance to elaborate the research methodology and, consequently, to compile a statistical review on the theme *Distance Learning in the CIS Countries: Monitoring of Educational Needs and Perspectives*.

The Institute has worked out the set of materials *Guide and Instruction Book on Preparation of Educational Personnel for Dis-*

*tance Education* of 7 volumes in Russian.

The IITE has come forward as one of the co-executives of the UNESCO project *Higher Education Open and Distance Learning Knowledge Base (ODLKB) for Decision-Makers* and at the pre-project stage has studied the needs in ODLKB among the CIS countries. The experts from Kyrgyzstan, Russian Federation and Ukraine were attracted to accomplish the preliminary research over the Commonwealth countries.

In October 2002 at the initiative of the Ministry of Education and Science of the Republic of Kazakhstan and IITE, the Second International Forum *Informatization of Education of Kazakhstan and CIS Countries* was hosted for the CIS countries in Almaty.

In November 2002 under the aegis of the Conference of the Ministers of Education of the CIS Countries, the Council for Cooperation in the

Field of Education of the CIS Countries and IITE, the 12th International Conference-Exhibition *Information Technologies in Education (ITE-2002)* was run in Moscow, in which the representatives of CIS countries, Germany, Italy, Latvia, Lithuania, Netherlands, Poland, Portugal, and USA took part.

In particular, the Institute has included the activities on the Extranet development – a modern net linking the IITE and its Intranet with the national focal points in the CIS countries – in the joint action plan for 2002–2003 produced in compliance with the decision of the 7th Conference of the Ministers of Education of the CIS Countries and the Council for Cooperation in the Field of Education of the CIS Countries.

On 6 December 2002 the Council approved the joint action plan of the Council and the UNESCO Institute for Information Technologies in Education for 2003.

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