



UNESCO INSTITUTE FOR INFORMATION TECHNOLOGIES IN EDUCATION

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EDITORIAL

Dear readers,

On the eve of the 31st session of the General Conference of UNESCO, we would like to present you an overview of IITE activities for this biennium and its priorities to be pursued in the coming years. This issue of the *IITE Newsletter* will allow you to learn more about IITE programme activities which are carried out in three correlated areas: applied research and project development, training activities and dissemination.

As to the first area, since January 2000 IITE has been involved in 11 research projects on ICT application in education, such as distance education; special needs education; education via the Internet; ICTs in humanities; ethical, psychological, societal and legal aspects of ICT application in education; digital libraries for education. The Institute has arranged 14 international expert meetings and research seminars within the framework of project development. Four analytical surveys and more than 10 reports on different issues of ICT application in education have been prepared and disseminated. Based on the results of applied research, IITE has initiated seven national and one sub-regional pilot projects.

Within the framework of training activities, IITE has been developing a methodological basis, elabo-

rating and testing its educational/training programme which includes a basic course on ICT usage in education and specialized training modules (such as ICTs in primary, distance and special education; Internet and multimedia in education). IITE has launched regular training sessions, including a two-month high level seminar *Towards Policies for Integrating ICTs into Education* for ministers of education, decision- and policy-makers and held 12 international workshops on ICTs in education. The Institute has conducted several virtual seminars on the IITE applied research and project development.

In the field of dissemination, IITE continues the creation of a clearing house and an international network of national focal points for co-operation with IITE (now it includes focal points in 34 UNESCO Member States) to exchange and disseminate information and best practices with regard to ICT application in education. The IITE information system – WWW portal – is in progress and consists of (a) a website with the on-line feedback forms, which contains information on IITE structure, partners, programme activities and publications; (b) Information System on Information Technologies in Education (ISITE) being currently developed on the basis of the multilanguage database of WWW resources; (c) interactive tools



IITE, Moscow

which allow professional networking via worldwide virtual environments for policy-makers and planners, research and staff development. Quarterly *IITE Newsletter*, analytical surveys and reports on ICT usage in education and distance learning, 25 printed works in total were delivered to 350 addressees all over the world.

I would also like to inform you about the priorities which IITE plans to pursue in the coming years.

□ On the basis of the results achieved, IITE will continue its activities in such areas as applied

research, training and dissemination. IITE being a laboratory of educational ideas related to ICT application, training center and clearing house will aim its activities at strengthening national capacities for ICT usage in education through:

- providing educational personnel with the latest state-of-the-art reviews and analyses, needs and main trends of ICT application in education, including distance and open learning and Internet;
- elaboration of innovative approaches to learning and teaching with the use of ICTs and finding new ways of exploiting ICTs for educational purposes;

IITE ON-LINE NEWS

11-14 December 2001 (Bangkok, Thailand): Special Interest Roundtable for policy-makers within the framework of the Seventh UNESCO-ACEID International Conference on Education.

- laying the foundation for the future set of standards for ICT usage in education which will observe national and cultural diversities;
- training of educational personnel, namely, decision-makers, researchers and teachers, on ICT application in education as a prerequisite for capacity building in UNESCO Member States, these activities being supported by the development of a methodological basis and teaching/learning materials;
- acting as a clearing house which collects and disseminates knowledge on ICT usage in education, best practices and innovations which along with IITE intellectual support, could be used by practical people and policy-makers of UNESCO Member States in educational process and assist them to identify priorities, optimize methods of upgrading national educational systems and run policy reforms.

□ IITE will conduct research in such fields as indicators of ICT application for education; ethical, psychological, societal, pedagogical and legal aspects of ICT appli-

cation in education; ICTs in distance education; digital libraries for education; ICTs in education for people with special needs; ICTs in physical education; ICTs in art education. Special study *“New Literacy as a Component of Basic Education for All”* will be undertaken. Several projects to be jointly implemented with Education Sector, Communication and Information Sector, UNESCO institutes, IFIP and other partners, will cover different levels of education, namely, *“ICTs in Primary Education”*, *“Global Knowledge Management and ICTs in Technical and Vocational Education and Training”* and *“Distance and Open Learning in Higher Education”*. These activities will be accomplished by international research teams and result in publications, enlarged database of IITE information system, updated specialized training modules and materials for IITE educational programme. Certain IITE applied research will give rise to national pilot projects with a view to increase educational capacities and provide linkage between research and practical application of ICTs in education.

□ The Institute will enhance its training programme to comprise

the basic course on ICTs in education and specialized training modules. This programme designed for decision-makers, leaders of teacher-training institutions and teachers, will incorporate regular training sessions at IITE, virtual seminars, as well as training seminars and workshops on various issues of ICT usage in education which the Institute and UNESCO Member States will host at the request. Within the training activities IITE will tie together producers and users of educational materials to be upgraded and improved. IITE will launch several national, regional and sub-regional training programmes on ICT application in education.

□ The Institute will perfect international network of national focal points for co-operation with IITE which distributed structure involves various types of data exchange and different levels of technologies ranging from mail and fax to World Wide Web;

□ To provide UNESCO Member States with a mechanism for sharing the experience in ICT usage in education and integrating existing knowledge bases the Institute will further develop IITE information

system and, basing on the international network of national focal points, gradually transform it into Knowledge Management Tool in ICTs in Education (KMT ICTE) – an internationally distributed repository for documents in the field of ICT application in education. The repository will provide advanced metadata-based services such as associated indexation, query tools and multilingual interoperability. KMT ICTE must provide new information environments for policy-makers and planners, research and practical personnel to be enriched with the instruments of planning, decision-making, support and training services.

Dear readers, presenting this report and our priorities for the next biennium I hope you might take interest in the activities of UNESCO Institute for Information Technologies in Education and convey your comments, responses, wishes and requests. The *IITE Newsletter* is also ready to publish your articles, announcements and information on ICT usage in education.

Sincerely yours,

Vladimir Kinelev,
Director of IITE



IITE ACTIVITIES IN 2000-2001

IITE Governing Board

IITE Governing Board shapes policy and nature of Institute activities. The Governing Board scheduled two sessions in the course of 2000-2001 biennium: 3-4 November 2000 (in Moscow)

and shortly after the 31st session of the General Conference. The second meeting of the Executive Committee of the Governing Board was held on 2 November 2000 at the IITE headquarters.

The Director of the Institute has prepared a progress report on IITE programme activities since the second session of the Governing Board. The third meeting of the Executive Com-

mittee was held on 28 June 2001 at the IITE headquarters and approved the report of the Governing Board to the 31st session of the General Conference of UNESCO.



Third session of the IITE Governing Board.
Moscow, 3 November 2000

Programme Activities

Applied Research and Project Development



Dr A. Edwards,
Chairman of the expert meeting *ICTs in Education for People with Special Needs*. Moscow, 18 February 2000

1. General characteristics

The IITE programme activities were based on the decisions of the General Conference of UNESCO. Additionally the Institute took into account the needs expressed by the representatives of UNESCO Member States at the 30th session of the General Conference as well as their requests directly addressed to the Institute. The World Education Forum (Dakar, 2000) gave a new impetus to the major directions of the Institute's programme activities, which are under development in three main correlated areas: applied research and project development, training and dissemination of results.

The Institute carries out several international long-term projects, among them are:

- *ICTs in Education: State-of-the-Art, Needs and Perspectives*;
- *Establishment of an International Network of Focal Points for Co-operation with IITE*;
- *Informatics in Primary Education*;
- *Education via the Internet*;
- *ICTs in Education for People with Special Needs*;
- *Distance Education: Structure, Methodology, Staff Development and Legal Aspects*;

- *Ethical, Psychological and Legal Aspects of the Application of ICTs in Education*;
- *Indicators of ICT Usage in Education*;
- *ICTs in Humanities*;
- *Multimedia in Education*;
- *Digital Libraries for Education*.

For all these projects IITE convenes international working teams. Each of the projects is started with preliminary (feasibility) studies, entails the consulting and discussions at international expert meetings and research seminars and is completed by the preparation of analytical surveys and recommendations. Basing on the results achieved in these applied researches, IITE organized a series of international short-term training courses in the form of workshops; started the elaboration and pilot implementations within the framework of the IITE educational programme; prepared specialized training modules to be distributed following the requirements of users in different countries; conducted several national pilot projects in Member States at their request, and enriched the data and knowledge bases of the IITE information system and its thematic sub-systems acting as the clearing house at the service of UNESCO Member States.

2. Investigation of key issues of the ICT application in education

From January 2000 to 31 July 2001, IITE organized eight international meetings and plans to hold four more till the end of 2001 devoted to the different aspects of the ICT usage in education. The participants of the meetings who were experts invited by consultation with the National Commissions for UNESCO, UNESCO Headquarters and professional

communities discussed major subjects in the field and elaborated recommendations on possible approaches to the solution of the problems and further development in the area concerned.

Expert meeting "ICTs in Education for People with Special Needs"

Taking into account that UNESCO Member States voiced at the 30th session of the General Conference their increasing interest in the solutions of problems concerning special needs education, IITE convened an international expert meeting *ICTs in Education for People with Special Needs* in February 2000. While preparing it, the draft materials for an analytical survey were compiled by specialists in the field from Russian Federation, Sweden, United Kingdom and United States of America. 16 participants in the expert meeting from six UNESCO Member States (Italy, Japan, Netherlands, Russian Federation, Slovenia and United Kingdom) and the International Federation for Information Processing (IFIP) discussed the subject and adopted recommendations concerning the creation of a sub-system of the IITE information system for the exchange of information on special needs education, elaboration of a specialized training module and the preparation of an analytical survey *ICTs in Special Education*. Following these recom-

mendations, IITE prepared and issued the analytical survey and continues its activities in all proposed directions. Materials of the expert meeting were published and distributed in Member States. The investigation in the field will be continued at the IITE international seminar *ICTs in Special Needs Education* followed by a workshop in October 2001 in Yerevan (Armenia) by the invitation of the Armenian National Commission for UNESCO.

Expert meeting "Education via the Internet"

Within the framework of the international project *Education via the Internet*, IITE in partnership with the UNESCO Communication Sector organized an expert meeting on the Internet usage in education, which was held by the invitation of the Commission of the Republic of Belarus for UNESCO in Minsk in March 2000. The participants from nine countries (Belarus, Czech Republic, Egypt, Germany, Kazakhstan, Russian Federation, Ukraine, United Kingdom and USA) as well as from the Council on Co-operation in the Education of the Commonwealth of Independent States and IFIP WG 3.6 discussed the main achievements and problems in the use of the Internet in education; the current situation in accumulation, analysis, international exchange and global distribution of



At the expert meeting *Education via the Internet*. Minsk, Belarus, 1 March 2000

the information about education through the Internet; accumulating data on this subject and conceptual design of the IITE information system. Following the recommendations of the expert meeting, the international editorial group finalized the analytical survey *Experience of the Internet Usage in Education*, and IITE started the development of the corresponding subsystem of its information system at the service of UNESCO Member States and the preparation of a specialized training module on the Internet usage in education. The analytical survey, final report and materials of the expert meeting have been distributed in Member States.

Expert meeting “Distance Education: Structure, Methodology, Staff Development and Legal Aspects”

The discussions at the 30th session of the General Conference of UNESCO confirmed a particular interest of Member States in distance education, which widens the access to education for all throughout life, enlarges ways to improving the quality of teaching and learning and, at the same time, causes a number of problems unknown to teachers, learners and decision-makers. Distan-

ce education was defined at the time of the establishment of IITE as one of the priority areas in its activities. In March 2000, IITE held an international expert meeting *Distance Education: Structure, Methodology, Staff Development and Legal Aspects* to identify the ways of development of distance learning/teaching and the Institute’s role in this field. 27 participants nominated to this meeting by the National Commissions for UNESCO from nine Member States (Australia, Belarus, Canada, Israel, Italy, Russian Federation, Tanzania, Ukraine and United Kingdom) as well as from the European Distance Education Network (EDEN) thoroughly discussed the present situation in distance education in the world and adopted recommendations for further development of the project on distance education. Following these recommendations and after forming an international working team, IITE prepared and published an analytical survey *Distance Education for the Information Society: Policy, Professional Development and Pedagogy*, enhanced collecting, exchange and dissemination through a specialized sub-system of the IITE information system of policy pa-



At the research seminar *Teacher Training for the Information Society*. Moscow, 21 July 2000

pers, studies and other documents on the theory and practice of distance learning/teaching, launched the preparation of a specialized training module on distance education and several national pilot projects in the field following the requests of UNESCO Member States, which asked to assist them in the development of distance education in their countries. IITE issued and distributed in Member States the final report and collected materials of this expert meeting. By the invitation of the UNESCO Commission of the United Republic of Tanzania, an expert meeting *Distance Higher Education in Africa: Professional and Course Development* was held

in September 2001 in Dar-es-Salaam (Tanzania) in co-operation with the Dakar UNESCO Office.

Research seminar “Teacher Training for the Information Society”

Striving to serve as a training centre for UNESCO Member States and in line with the intersectoral UNESCO project *The Statutes of Teachers and Teacher Education in the Information Society*, IITE held in July 2000 a research seminar *Teacher Training for the Information Society*. Experts from 12 Member States (Armenia, Austria, Denmark, Estonia, Finland, France, India, Japan, the Netherlands, Norway, Russian Federation and Switzerland) were invited to examine a new situation with the teacher training caused by the enhanced usage of ICTs in the world as well as to discuss the main trends of the development of the IITE training activities. Special attention was paid to the New Literacy for all as a prerequisite for the Information Society, the elaboration of recommendations on *Informatics in Primary Education* by IITE and IFIP and the preparation of an *Elementary ICT Curriculum for Teacher Training* (Curriculum for Schools) under the auspices of IITE. In the recommendations adopted by the expert meeting, the participants gave their support to the IITE efforts in working out an education-



The participants of the expert meeting on distance education. Moscow, 23 March 2000

al programme on the application of ICTs in education which is composed of various modules and based upon a solid research and methodology. They approved the content and structure of the basic IITE educational programme of a modular character, identified the main target groups and proposed to prepare a special long-term activity seminar for decision-makers in education. The experts endorsed the publication of *Informatics in Primary Education* prepared by IITE in partnership with IFIP (the Recommendations have meanwhile been published in English, French, Kazakh and Russian and disseminated in Member States). The materials of the research seminar were published by IITE and distributed in UNESCO Member States.

Expert meeting “ICTs in Education – Indicators and Information System”

Within the framework of the IITE international project *ICTs in Education: State-of-the-Art, Needs and Perspectives*, the Institute has initiated the analysis and development of one of the most complicated and important themes vital for further promotion of the ICT application in educational systems of UNESCO Member States, namely indicators of the ICT usage in education and indicator measurement. For this purpose, IITE held in March 2001 an international expert meeting *ICTs in Education – Indicators and Information System* with participation of specialists from 11 Member States (Belarus,

Czech Republic, Finland, Germany, Macedonia, Mauritius, Namibia, Pakistan, Russian Federation, Thailand and United Kingdom). The experts discussed the various types of indicators of the ICT usage in education and recommended that a research on existing experience resulting in a policy paper on the subject as well as Recommendations for UNESCO Member States should be elaborated; an analytical survey should be prepared and disseminated; a system of the ICT indicators should be determined; standards and procedures of the indicator measurement for different educational systems should be included in the list of the IITE activities for the near future. IITE published and disseminated the final report and compiled materials of the expert meeting. The seminar *Networking and Information Resources for Education* with the participation of educators from the Commonwealth of Independent States countries, Central and Eastern Europe will continue in October 2001 in Scopije (the former Yugoslav Republic of Macedonia) the activities falling within the framework of the international project mentioned above.

Expert meeting “History Education and New Information Technologies”

Within the framework of the IITE international project *ICTs in Humanities*, the Institute in partnership with the Council of Europe held an international expert meeting *History Education and New Information Technologies* in April 2001. The participants from nine UNESCO Member States (Belarus, Estonia, Germany, Latvia, Lithuania, Norway, Republic of Moldova, Russian Federation and United Kingdom) discussed the role of ICTs in teaching history at secondary schools and analyzed the way in

which the ICTs can encourage new methods for teaching and learning history. They presented the advantages and disadvantages in the use of ICTs when teaching and learning history at secondary schools and discussed the tools which could be used in teaching history from the points of view of teachers and educators as well as authors and publishers in this area. The discussion was supported by demonstrations of the modern ICTs used in the field. As a result, the experts made proposals and recommendations for a possible future joint programme on the development and usage of ICTs in history education at secondary schools. The expert meeting *Internet Usage in Teaching/Learning of Foreign Languages* (in cooperation with the European Centre of Modern Languages, Graz, Austria, Goethe Institute, Germany and Moscow State Linguistics University) is planned for October 2001 as a continuation of the investigation concerning the ICT application in the humanities.

Expert meeting “Digital Libraries for Education”

As UNESCO decided to support new forms of networking of teacher-training institutions and teachers, creation of electronic libraries and production of electronic educational materials, IITE held an expert meeting *Digital Libraries for Education* in June 2001. It was organized in co-operation with the *DELOS Network of Excellence for Digital Libraries* and the Institute of Informatics Problems (Russian Academy of Sciences) and attended by 20 experts from China, Germany, Greece, India, Italy, Russian Federation and United Kingdom, as well as by a representative of the Dakar UNESCO Office. The participants discussed the two following key issues: the



During the expert meeting on digital libraries. Moscow, 9 June 2001

experience of the most effective usage of digital libraries for education; merits and demerits of digital libraries in education. The role of IITE in the development of digital libraries for education was discussed and the Institute started a feasibility study on the international project on digital libraries for education.

Research seminar “Ethical, Psychological, Societal and Legal Aspects of the Application of ICTs in Education”

In July 2001, IITE held an international research seminar *Ethical, Psychological, Societal and Legal Aspects of the Application of ICTs in Education* with participation of experts from Germany, Poland, Russian Federation, United Kingdom and USA. They thoroughly analyzed the state-of-the-art and evolution of enumerated problems of the ICT usage in education and, taking into account the interest and awareness of the international community of these aspects of the ICT implementation in education, discussed the framework of an IITE international project on this subject to be launched and a specialized training module to be prepared.

3. Promoting dialogue on the ICT usage in education

Striving to promote international co-operation and to distribute modern knowledge about ICT application in education, IITE has acted in the last biennium as a co-organizer of several international conferences listed below. IITE pre-



Opening of the expert meeting *History Education and New Information Technologies*. Moscow, 5 April 2001

sented the results of its activities at international forums, such as the Sixth UNESCO-ACEID International Conference on Education (Bangkok, Thailand, December 2000), the Twentieth World Conference on Open Learning and Distance Education (Dusseldorf, Germany, April 2001), the Third Meeting of Pedagogical Club of European Capitals and Conference *European Schools in the 21st Century* (Moscow, Russian Federation, April 2001) and the International Conference of Rectors of Technical Universities of Central and Eastern Europe and CIS Countries *Higher Technical Education at the Turn of the Centuries* (Kiev, Ukraine, May 2001). IITE is a co-sponsor of the Seventh UNESCO-ACEID International Conference on Education (Bangkok, Thailand, December 2001).

Starting from 1997, IITE has been yearly acting as a co-organizer of the International Technology Conference *New Computer Technology in Education*, including sessions in Troitsk (Russian Federation) in 2000 and in Kiev (Ukraine) in 2001 as well as of the annual International Con-

ference and Fair *Information Technologies in Education* in Moscow. Each of these events gathers about 500 participants from the CIS countries and Eastern Europe and had the following themes for discussions and demonstrations: standards of informatics as a teaching subject; integration of information technologies in education; technologies of open education; information technologies in educational management; information technologies in special needs education, etc.

In January 2000, IITE in partnership with the Ministry of Education of the Russian Federation, Goethe Institute and Peoples' Friendship University of Russia organized the International Congress "*Internet in Education, Economics and Art (Congress on New Information Technologies)*" in Moscow. More than 170 reports were presented at four parallel sections, at one of which, namely the Education section, the following issues were discussed in four subsections: *Education Possibilities of the Internet; Informatization of Humanity Subjects and Electronic Textbooks; Internet: Pro et Contra; Internet and Studying Foreign Languages.*

Training Activities

IITE has developed its educational/training activities based on extensive research and methodology. During this biennium, the Institute has held a series of training

4. Contribution to the strengthening of national capacities for the ICT application in education

National and sub-regional pilot projects

Basing on the results of its applied research and studies and using the resources of its information system, IITE has launched at the request of several UNESCO Member States put forward by their Ministries of Education and National Commissions for UNESCO a number of national pilot projects:

- *Application of ICTs in Education for People with Special Needs* in Armenia;
- *Distance Learning for Rural Schools* in Kazakhstan;
- *Distance Learning in Educational System* in Kyrgyzstan;
- *Training and Re-training of Educational Personnel on ICT Application in Education* in the Republic of Moldova;
- *Re-training of School Educators in the Application of ICTs in*

Education in the Russian Federation;

- *National Programme of ICT Application in Education* in Tadjikistan;
- *Application of Distance Teaching/Learning Methods in Education* in Ukraine.

IITE held working meetings on the national pilot projects, e.g. in Moscow (Russian Federation) in February 2001, in Kiev (Ukraine), Almaty (Kazakhstan) in May 2001, Bishkek (Kyrgyzstan) in June 2001 and plans to organize such meetings devoted to other national pilot projects in the corresponding countries in the second half of 2001.

IITE has started a feasibility study on launching a sub-regional pilot project *ICT Application in the Systems of Education of the Member States of the Commonwealth of Independent States* aimed at fostering the exchange of information and experience as well as comparative analysis, identification and testing of indicators of the ICT usage in the region.

1. General characteristics

While accomplishing its Statutes' functions and implementing the decisions of the 30th session of the General Conference of UNESCO,

seminars and short-term training courses (workshops) for different categories of educators on various aspects of its programme activities; launched the adaptation of the ba-

sic course and specialized modules for further use in regular training activities; started elaboration and testing of the sets of training materials to be distributed in



IITE information centre



IITE IBM classroom



IITE Apple classroom

Member States on their request and has used them on an experimental basis in the IITE training practice.

The facilities for the training activities at the Institute have been further improved. The conference/lecture hall for 60 persons has been equipped with multimedia devices and systems of audio amplification and for simultaneous interpretation. Furthermore, eight classrooms have been devices at the Institute, including four classrooms for seminars and workshops with multimedia equipment; one videoconference room; two computerized classrooms (IBM and Apple) and a multimedia library.

2. IITE educational programme

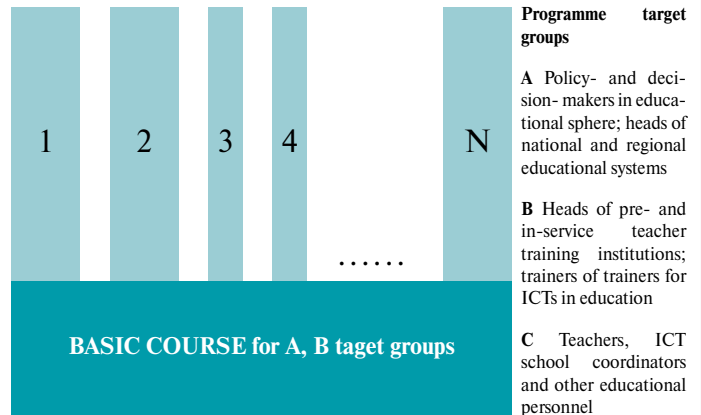
IITE has developed its educational programme as a set of guidelines which consists of a basic course

and specialized training modules. The basic course is an introduction prepared for policy- and decision-makers in the education field as well as responsible for national and regional education systems to assist them when designing national programmes and policy documents concerning the application of ICTs within their educational systems.

The training modules (*ICTs in Primary Education; Internet in Education; ICTs in Distance Education; Multimedia in Education; ICTs in Special Education*) have been designed to assist heads of institutions for training and re-training on the job as well as trainers of trainers for the application of ICTs in education with a view to ensure a methodological basis for a successful implementation of these new technologies into their national educational policies.

IITE has set up six international working teams (with experts from

SPECIALIZED MODULES for B, C target groups



Structure of the IITE educational programme

Austria, Denmark, Finland, France, India, Russian Federation, Spain, Switzerland, United Kingdom, USA and IFIP) for the preparation of sets of teaching materials (introductory note, curriculum, timetable, methodological materials and text-books) for the training seminar for decision- and policy-makers *Towards Policies for Integrating ICTs into Education* (within the framework of the *Basic Course on ICTs in Education*) and all training modules. By the end of 2001, the seminar and the first four modules will be tested and updated for their future implementation at IITE and in Member States.

High level seminar for ministers of education, decision-makers and policy-makers "Towards Policies for Integrating ICTs into Education"

The main goal of this seminar was to assist UNESCO Member States in designing policies for integrating ICTs into education, as well as in

the elaboration and improving of national action plans on the ICT application in education in conformity with the decisions and recommendations of the World Education Forum (Dakar, April 2000). The seminar was organized in accordance with the recommendation of the international research seminar *Teacher Training for Information Society* (21-22 July 2000, IITE, Moscow), which suggested to concentrate the IITE training activities on the target group comprising top level educators for the most effective fostering of the ICT implementation in education in UNESCO Member States. An international working group with experts from Finland, France, India, Switzerland and United Kingdom was set up by IITE for the preparation of the seminar and relevant training materials.

The first seminar was organized by IITE from 26 April to 30 June 2001. In reply to the IITE an-



Moderators of the high level seminar: Mr Mike Aston, Mr Matti Sinko, Prof. Raymond Morel and Prof. Bernard Cornu.



Participants of the high level seminar. Moscow, 28 June 2001



Prof. S. Papert, a keynote speaker at the training seminar. Moscow, 22 February 2001

nouncement and invitation, the ministers of education from 13 UNESCO Member States nominated the participants, among them deputy ministers, heads of the departments of the ministries of education and other educational personnel responsible for national policies on ICT application. The following Member States were represented at the first seminar: Armenia, Azerbaijan, Belarus, Czech Republic, Estonia, Kazakhstan, Kyrgyzstan, Lithuania, Republic of Moldova, Russian Federation, Tajikistan, Ukraine and Uzbekistan. Three regions of the Russian Federation (Moscow, St.-Petersburg and Tatarstan) were represented, too. The seminar was divided into three related parts. The first three-day period at IITE was devoted to sharing questions and reflections on ICT application in education. During the second period, the participants worked on their own on two-month plans, sharing ideas and supported by the IITE consultants electronically, elaborating or improving national action plans on ICT application in education. The work of the seminar was supported constantly through the IITE website and the IITE information system. The third two-day period at IITE was mainly devoted to practical work and to prospective matters related to further integrating ICTs into education.

The results achieved at the first seminar encouraged a further development of this form of work

for the benefit of UNESCO Member States. This theme will be discussed at a Special Interest Group for policy-makers within the framework of the Seventh UNESCO-ACEID International Conference on Education (Bangkok, Thailand, December 2001). IITE plans to make this seminar a regular event.

Training seminar "Programme of ICT Application in Education: Projecting National and Regional Strategies"

In February 2001, IITE organized a training seminar *Programme of ICT Application in Education: Projecting National and Regional Strategies* thematically linked with the above-mentioned seminar and intended for decision-makers in education from the regions of the Russian Federation. It was held in co-operation with the Ministry of Education of the Russian Federation, Moscow Committee for Education and supported by the World Bank and Open Society Institute. A keynote speaker Prof. S. Papert (USA) delivered a lecture on the theme. About 80 participants from 35 regions of the Russian Federation got acquainted with the experience of the ICT application in education in the world, discussed possible regional strategies in this field and examined variants of resources and information support of the regional programmes for integrating ICTs in education. The seminar laid down a basis for

elaboration and updating relevant regional action plans.

Workshops based on the IITE training modules

The IITE training modules were tested at the workshops held by IITE with the participation of the members of the international working teams and other experts, e.g. *Multimedia in Education* (St.-Petersburg, Russian Federation, July 2001), *ICTs in Special Needs Education* (Yerevan, Armenia, October 2001) and *ICTs in Distance Education* (Dar-es-Salaam, Tanzania, September 2001).

Special workshops

Besides training seminars and workshops based on the training modules, IITE held seven from 1 January 2000 to 31 July 2001 and will hold two more workshops aiming at acquainting educators with modern knowledge and skills of ICT application in teaching and learning in particular areas. Some of them were twinned with international expert meetings and thus were able to add international expertise.

Workshop "Internet Usage in Education"

An international workshop *Internet Usage in Education* was held by IITE in Minsk (Belarus) in February 2000 within the framework of the IITE project with the same name. About 100

Belarusian educators, researchers and students worked in five special sections moderated by experts from Belarus, Czech Republic, Egypt, Russian Federation, United Kingdom and USA. The main objectives of the workshop, namely: to share experience in the Internet usage in education, to describe the best practices from different countries and to discuss the main problems and perspectives in the area, were achieved.

Workshop "Distance Education: Networking and Staff Development"

The international workshop *Distance Education: Networking and Staff Development* followed the expert meeting on distance education held by IITE in March 2000 and was attended and moderated by experts from nine countries. The main objectives of the workshop were to demonstrate the existing facilities for networking in distance education and to make it possible for the experts from different countries to inform the worldwide audience with their experience in the ICT usage in networking and staff development for distance education. Different methods of networking were presented and some of them used at the workshop. There were about 100 participants at the conference hall and a vast audience in 157 places in seven countries linked with the Moscow auditorium through ISDN channels.



Master-class at the workshop *New Information Technologies for Education* (in co-operation with Apple Computer Inc.) Moscow, 19 May 2000



The participants of the workshop *ICTs in Education*. Prague, 25 October 2000

Workshops on new hard- and software for education

IITE held a number of workshops aiming at the presentation of the latest hard- and software for education to teachers, school managers and other educators, including a workshop *New Information Technologies for Education* (in co-operation with Apple Computer Inc.) in May 2000; a workshop *New Software for Education* (in co-operation with Microsoft Inc.) in December 2000; a workshop *New Hard- and Software for Education* (in co-operation with IBM) in March 2001. Up to 80 teachers and other educational personnel from different regions of the Russian Federation and some CIS countries took part in each of these workshops and they were informed about the policy issues concerning the application of ICTs in education and good practices in this field and trained in using new hard- and software for education. IITE plans to con-

tinue the organization of such workshops in its classrooms equipped with Apple and IBM computers for teachers and other educators on the modern technologies used in education, e.g. in October 2001 with Microsoft Inc.

Workshop "ICTs in Education"

An international workshop *ICTs in Education* was held by IITE in Prague (Czech Republic) in October 2000 by the invitation of the Czech Commission for UNESCO. About 80 participants from different locations in the country and experts from nine more UNESCO Member States (Andorra, Belarus, Finland, Iceland, former Yugoslav Republic of Macedonia, Poland, Russian Federation, Ukraine and United Kingdom) discussed five main topics supported by demonstrations, namely: *ICTs in Education: Main Trends of the Development*, *ICTs in Distance Education*, *Development of On-line Education at Czech Universities*,

Informatics in Primary Education and *ICTs in Education for People with Special Needs*. The next IITE international workshop *ICTs in Education* for participants from European Member States is planned for October 2001 in Scopije (the former Yugoslav Republic of Macedonia).

Workshops on ICT usage in the humanities

The attention of about 70 participants of the workshop *ICT Usage in Teaching/Learning of History* held by IITE in April 2001 was focused on the results of ICT application at secondary schools with regard to the teaching/learning strategies and their outcome. The attendees discussed the main problems and achievements and some of them demonstrated electronic textbooks prepared for history education. The representatives of nine countries involved in the expert meeting *History Education and New Information*

Technologies twinned with this workshop presented their experience, too. IITE prepares in co-operation with the European Centre of Modern Languages (Graz, Austria), Goethe Institute (Germany) and Moscow State Linguistics University another workshop concerning ICT application in humanities, namely *ICT Usage in Teaching of Foreign Languages*, which will be held in October 2001.

Virtual seminars

Regular virtual seminars (including on-line sessions) were conducted by IITE in 2001. Their themes were connected with the IITE applied research and project development, namely: *Education via the Internet*; *ICTs in Education for People with Special Needs*; *Distance Education: Structure, Methodology, Staff Development and Legal Aspects*; *Ethical, Psychological and Legal Aspects of the Application of ICTs in Education*.



The participants of the workshop *ICT Usage in Teaching/Learning of History*. Moscow, 7 April 2001

Dissemination

1. General information

Striving to serve as a clearing house and foster international exchange of information in the areas of its competence, IITE develops its information system with a website available through the Internet. Preparation, editing and dissemination of the information materials on the ICT usage in education in electronic and printed forms are the permanent tasks and activities of the Institute.

2. Publications

IITE publishes regularly the results of its international projects in such forms as analytical surveys, monographs and recommendations. Full information about the international meetings, seminars and workshops held by IITE is contained in the relevant final reports and collected materials. Following the decision of the 30th session of the General

Conference, IITE launched the publication of an *IITE Newsletter* in January 2000.

IITE disseminates its analytical, information, methodological and training materials in all Member States through their National Commissions for UNESCO, national focal points for co-operation with IITE as well as the UNESCO field offices, educational institutions and organizations (altogether

more than 350 addresses all over the world).

Analytical surveys

"Information and Communication Technology in Special Education" has been prepared by IITE in close co-operation with an international group of authors from the Russian Federation, Sweden, the United Kingdom and USA in accordance with the recommen-

dations of the expert meeting held by IITE in February 2000 with participation of the representatives from Japan, Netherlands, United Kingdom, Russian Federation, Slovenia and Italy. This document outlines the role which could be achieved by ICTs in special education with the objective of getting it more widely adopted and used in UNESCO Member States. It establishes some definitions and then outlines the role ICTs can play in education in three identifiable roles, namely, prosthetic, educational and communication at a distance. The survey is supplied with a glossary and bibliography.

“Distance Education for the Information Society: Policies, Pedagogy and Professional Development” has been prepared by IITE and an international working group set up by the Institute consisting of experts from the open universities and other institutions of Israel, Russian

Federation and United Kingdom in close co-operation with the reviewers from Australia, Hong Kong and India. The main purpose of this analytical survey is to assist decision-makers and educators who needs to know more about the background and current state of distance education and its relationship with the technologies of the Information Society. The document includes both an analysis and a survey of experience collected from around the world. It deals with an analysis of theories and a range of policy areas and has a considerable array of boxed case studies to illustrate the analysis and provide a survey of practice of distance education in different countries.

“The Experience of Internet Usage in Education” has been prepared by IITE in co-operation with an international working group and published in accordance with the

recommendations of the expert meeting held by IITE in co-operation with the UNESCO Communication Sector in March 2000 with participation of representatives from Belarus, Czech Republic, Egypt, Kazakhstan, Russian Federation, United Kingdom and USA. The document describes the adopted terminological agreements and abbreviations as well as the data ac-

quired information systems with interfaces in four languages all over the world, described their technical and functional features, analyzed, assessed and compared the structures of the information resources of those systems. Basing on the analysis, recommendations on the structuring and development of the IITE information system concerning ICTs in education were made.

Training Center of San-Sebastian, Spain).

IITE Newsletter

The *IITE Newsletter* appears in English quarterly. Each illustrated issue informs about current events at IITE, describes expert meetings, workshops and project development and contains analytical and information materials concerning the ICT usage in education.

Other publications

During this biennium, the Institute has issued and disseminated the following publications:

- *Proceedings of the Second International UNESCO Congress on Education and Informatics*. Books 1 and 2, CD versions in Russian, English and French
- *Information and Communication Technologies in Education for People with Special Needs*. Meeting of experts. Materials.



The database gateway ISITE provides hundreds of hyperlinks to WWW resources in five languages with structured descriptions, associated indexation and query tools

acquisition methods. It specifies the world experience of the Internet usage in education providing the reader with information and analysis of the existing typologies of the Internet applications, applied technologies, usage of the Internet technologies in teaching and learning, organizational aspects of education linked with the Internet. A special chapter is devoted to existing information systems on education via the Internet, their functional features, offered information and approximate degree of satisfaction for the user's needs.

“The Current Information Systems on Information Technologies in Education” has been prepared by IITE within the framework of the international project *ICTs in Education: State-of-the-Art, Needs and Perspectives*. The authors looked through about 400 and thoroughly analyzed more than

Methodological and training materials

IITE has prepared a series of methodological and training materials to be used in the Institute's educational activities and disseminated in UNESCO Member States, among them are:

- *Informatics for Primary Education*. Recommendations. In French (earlier published in English and Russian). (In co-operation with IFIP).
- *Elementary ICT Curriculum for Teacher Training*. Curriculum for Schools. (In co-operation with IFIP).
- *The Use of the Internet in Education*. Introduction note and curriculum (as a part of a specialized training module on the subject). CD version. (In co-operation with UNESCO

- *Distance Education: Networking and Staff Development*. Collected materials.
- *Distance Education: Structure, Methodology, Staff Development and Legal Aspects*. Final report.
- *Education via the Internet*. Meeting of experts and the workshop. Proceedings.
- *The Internet Usage in Education*. Materials of the workshop.
- *Teacher Training for Information Society*. Materials of the research seminar.
- *Meeting of Experts of the CIS Countries and Countries of the Central and Eastern Europe on the Problems of ICTs Usage in Education*. Materials.

- *New Information Technologies for Education*. Booklet (in co-operation with Apple Computer Inc.)
- *Expert Meeting "ICTs in Education – Indicators and Information System"*. Final report and materials.
- *Programme of ICT Application in Education: Projecting National and Regional Strategies*. International training seminar. Keynote lecture by Prof. S. Pappert (USA).
- *Expert meeting "History Education and New Information Technologies"*. Final report.
- *Expert meeting "Digital Libraries for Education"*. Final report and collected materials.
- *Research seminar "Ethical, Psychological, Societal and Legal*

Aspects of the Application of ICTs in Education". Final report.

3. IITE Information System

In order to provide Member States with the mechanism for experience sharing in ICTs in education and a high technology support tool for the UNESCO research and training activities in this field, IITE since the year 2000 has been developing the IITE information system – WWW portal consisting of a website, a database and interactive tools.

The website (<http://www.iite.ru>) contains information on the IITE structure, partners, programme activities and publications. All sections of the website are equipped with the on-line feedback forms, which allow the visitors to make requests on particular questions as well as to send

their comments and suggestions directly to IITE.

The database provides a great number of hyperlinks to WWW resources in five languages with structured descriptions, associated indexation and query tools. On the basis of the database, the *Information System on Information Technologies in Education (ISITE)* is being currently developed by IITE. It will provide a mechanism for data exchange and support the users by the Internet catalogue.

The interactive tools, enriched with instruments for group working and training activities allow professional networking by creating the worldwide virtual environments for policy-makers and planners, research and development personnel and educators.

The distributed part of the IITE information system is currently

being developed on the basis of the network of nominated national focal points for co-operation with IITE. The distributed structure of the network will involve the different types of activities: information exchange, interaction in collaborative research projects and training programmes, using different levels of technologies from mail and fax to World Wide Web.

The IITE information system is currently being transformed into a knowledge management tool on the application of ICTs in education. The information resources, accumulated in the IITE information system will allow to enlarge the knowledge base for the IITE clearing house and present the up-to-date picture of the state-of-the-art, needs and perspectives in the application of ICTs in education, to Member States.

International Co-operation

The Institute maintains regular relations with the professional communities and with training and research institutions of Member States, co-operates with the National Commissions for UNESCO and with various national and international organizations acting within the framework of IITE's field of competence.

With National Commissions for UNESCO

To provide Member States with the information on the ICT application in education, IITE disseminated its publications (materials and documents) to all National Commissions for UNESCO. Many of them (Azerbaijan, Bahamas, Bahrain, Belarus, Bulgaria, Dominica, Finland, Israel, Poland, Republic of Korea, Russian Federation and Ukraine among others) expressed their interest in this information and brought the publications to the attention of the competent institutions in their coun-

tries. Each international meeting, seminar and workshop organized by IITE was prepared in close collaboration with the National Commissions for UNESCO in the respective country. The heads and representatives of the National Commissions of Armenia, Belarus, Czech Republic, Kazakhstan, Kyrgyzstan, the former Yugoslav Republic of Macedonia, Russian Federation, Tanzania and Ukraine participated in IITE events during the biennium. In 2001, Prof. Dr K. Hufner, President of the German Commission, and Academician V. Fortov, Chairperson of the Commission of the Russian Federation visited the Institute. The Commission of the Russian Federation for UNESCO provides valuable assistance to the Institute to settle different issues with the Government of the host country. The representatives of the Commission participated in all international meetings and seminars held at the Institute.

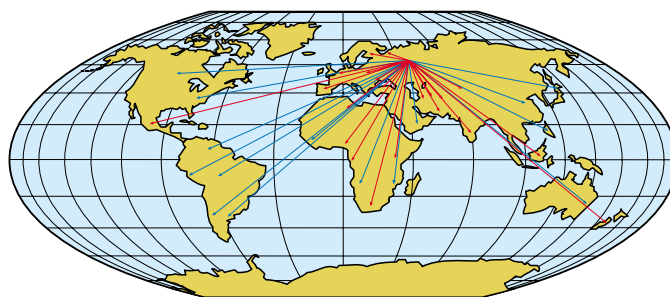
With focal points for co-operation with IITE

The Institute is building an international network of national focal points. In reply to a circular letter sent by the Secretariat of UNESCO and the IITE Governing Board to the National Commissions for UNESCO, the national focal points for co-operation with IITE were nominated in 34 Member States. National focal points in close co-operation with the ministries responsible for education in Member States, National Commissions for UNESCO and IITE operate in the following fields of the ICT application in education: exchange of ideas, experience and studies; assistance in national research and development; information on training of personnel; information on the access to databases and documentation. National focal points and the Institute inform each other about their activities, training and dissemination, and, by mutual con-

sent, co-ordinate some actions, such as arranging of international expert meetings and workshops and organization of national pilot projects. The Institute provides national focal points with information about the Institute's activities and access to the IITE databases. Two working meetings on the activities of national focal points were held by IITE in 2000, namely of five European focal points in March (Minsk, Belarus) and of eleven European focal points in October (Prague, Czech Republic). Four working meetings on the activities of national focal points from the CIS countries were held in 2001: in February (IITE, Moscow), in May (Kiev, Ukraine and Almaty, Kazakhstan) and in June (Bishkek, Kyrgyzstan). Two more meetings will be held in October 2001 in Dar-es-Salaam (Tanzania) and in Scopije (the former Yugoslav Republic of Macedonia) on activities of African and European focal points for co-operation with IITE, respectively.

With international and national organizations

During this period the Institute has strengthened the professional relations with governmental and non-governmental organizations. The Institute joined as an associate member the Council for Co-operation in Education of the Countries of the Commonwealth of Independent States established by the ministries of education of these countries. The Institute also maintains relations with the World Bank. There have been a number of meetings with the representatives of this international organization concerning co-operative joint projects. In June 2001 at IITE, the Institute and the World Bank conducted a founding conference for the establishment of the Euro-Asian Virtual University. The Institute continues to co-operate with the



— National focal points for co-operation with IITE in 34 countries

— Co-operation with international and national institutions from more than 60 countries

European Union within the TACIS DELPHI project on open and distance learning, has fruitful relations with the Council of Europe, the European Training Foundation, the International Federation for Information Processing as well as with the na-

tional institutions of many countries working in the field of IITE's competence.

With other entities of UNESCO

As an integral part of UNESCO, IITE strives to join its efforts

in attaining the Organization's aims with those of other UNESCO entities and establishes working contacts with a number of UNESCO field offices. Co-operative arrangements with a number of the UNESCO established offices have been pursued, among them the Almaty, Bangkok, Dakar and Moscow UNESCO Offices. Four heads of UNESCO regional offices: Mr N. Zhou, Director a.i. of the Principal Regional Office for Asia and the Pacific, on various occasions Mr W. Reuther, Director of the UNESCO Moscow Office, Mr J. Sadlak, Director of CEPES and Mr J. Sequeira, Head of the UNESCO Almaty Office and Regional Education Advisor, have visited the Institute. The heads and representatives of these UNESCO regional offices took part in international IITE meetings.

Other Activities

The Institute participated in the preparation of the Protocol to the Agreement between the United Nations Educational, Scientific and Cultural Organization and the Government of the Russian Federation concerning the UNESCO Institute for Informa-

tion Technologies in Education (IITE) of 21 July 1998, signed in Paris on 28 December 2001. This Protocol specifies the financial and other commitments of the Government of the Russian Federation and UNESCO with respect to the Institute.

In addition to the existing agreements on co-operation with educational institutions from different countries and international organizations, the Institute has signed during this period agreements with the Ministry of Education of the Russian Federa-

tion, the Committee for Education of the Moscow Government and the Institute for Informatics Problems of the Russian Academy of Sciences concerning joint activities in research and training in ICT usage in education.

Conclusion

This report shows that IITE is making effective efforts to contribute to the implementation of

UNESCO's Educational for All programme and the follow-up to the Dakar World Education

Forum; IITE is serving as a laboratory for ICT application including the adaptation and development of

related educational issues, and as a training centre and clearing house in this field.

Some materials were taken from the Report by the Governing Board on the Activities of the IITE (2000-2001)

LAST EVENT



Participants of the expert meeting *Distance Higher Education in Africa: Professional and Course Development*. Dar-es-Salaam, Tanzania, 20 September 2001

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