«Network of the UNESCO Chairs working in the field of ICTs in education and innovative pedagogy»

The concept of formation and development

CONTENTS:

INTRODUCTION

Changes in the global educational policy currently going on, specifically, the conversion from the "teaching" model which is accepted in traditional pedagogy to the most prospective "learning" model, are caused by numerous factors, including one on the global level – lack of teachers. According to UNESCO, about 1.9 mln new qualified teachers will be required by the year of 2015 for providing universal primary education. Presently, 77 mln children don't have access to primary education, 781 mln adults are still illiterate [1].

Recognizing the fact that knowledge and information and communication technologies (ICT) are the key components of the knowledge society, teacher education being an important part of its development, UNESCO Institute for Information Technologies in Education (IITE) concentrates on the promotion of educational dialogue and capacity development of the UNESCO member states by means of the international expert network construction and IITO's partners cooperation [2].

HISTORY. NETWORK: INSTITUTIONAL IDEA SUPPORT

IITO and UNITWIN/UNESCO chairs partnership, as well as that of IITO and UNESCO Associated schools is an important point in IITO activities concerning dialogue development in the field of ICTs in education. According to the UNESCO mission in regard to ICT use in education, IITO tabled a proposal to create a network of the UNESCO chairs that carry on their activity in the field of ICTs in education and innovative pedagogy. It also proposed to work out the procedures of the UNESCO Associated schools and UNESCO Chairs cooperation. These proposals have been lately developed and were supported by the participants of the IITO international conferences: "ICTs in pedagogical education: policy, open educational resources, cooperation development" (*15-16*

November, 2010, St. Petersburg, Russian Federation) [3], *"The UNESCO Associated schools on the way towards a School of the Future" (26-27 April, 2011, Kazan, Russian Federation)* [4], etc. The contemporary state of the open educational resources (OER) in several countries (Kazakhstan, Canada, Latvia, Mongolia, Russian Federation, Ukraine, Japan, etc.) having been discussed, the participants of the mentioned conferences concluded that the majority of countries where people don't speak English, are on the beginning stage of the exploring open educational resources (OER). The main factors that prevent their widespread introduction into educational practice include the lack of OER significance acknowledgement, as well as the willingness of sharing traditional knowledge.

The result of IITE's work on the development of the network cooperation idea in the field of ICTs in education was the "Memorandum of understanding between the UNESCO IITE and the UNESCO/UNITWIN Chairs working in the field of ICT's in education". The Memorandum was signed by the participants of the international IITE conference "The partnership of the UNESCO Chairs working in the field of ICTs in education: innovations and advanced experience" on June, 3 2011 in St. Petersburg (Russian Federation) within the XII International Forum "Formation of the Modern Information Society – problems, prospects, innovative approaches" [5]. Having an idea of creating such a network, participants of the conference defined the main objectives of the future cooperation:

1. Contribute to the complex system of research, education, informatization and documents circulation in the field of ICT's in education and innovative information technologies directed towards the solution of the problems concerning academic potential, quality of education and competences.
2. Create the database in the field of education and resources accessible on-line and off-line.

3. Improve mechanisms of cooperation with the UNESCO Associated schools, taking into account the appropriate decisions made at the International Conference of UNESCO IITE and UNESCO Associated Schools (Kazan, Russian Federation, April 26-27, 2011)

4. Develop cooperation with international, regional and national committees of the UNESCO programmes, specifically launching the programmes "Information for everybody" and "Memory of peace"

5. Establish the discussion forum on the line of development of the network partners, including IT companies, training-centers, NGOs, state structures and professional agencies

6. Initiate the mechanism of exchange ideas, resources and good experience, including personnel exchange aiming to create the potential. These activities should assist in gender equality and let women scholars be involved in joint research and development policy.

7. Contribute to the international cooperation in the field of research, policy fusion and the development strategy for the solution of international problems of sustainable development

8. Provide the data exchange on all issues mentioned in item 2, as well as on the corresponding activities and programmes [6].

NETWORK: CONCEPTUAL CHARACTERIZATION

   1. Network general characteristic

The unique character of the ICT use in the field of education requires the appropriate option of the network communication:

1. Network communication within the unified information and education environment generated by the certain educational institutions

2. Network communication of the educational institutions acting as users of the unified databases

3. Network communication, based on the educational institution/university that functions as integrated resource center.

The last communication model appears the most constructive, for it includes certain grounds which function as coordinating centers for providing researchers' activities. Within this model, such a ground could be IITO as the international center of the advanced experience on the use of ICT in the field of education and the Herzen State Pedagogical University comprising the UNESCO Chair that works intensively in the field of innovative pedagogy.

Innovative pedagogical projects which have nowadays the most active development within the international contacts and teachers exchanges, contribute to the more flexible approach that is supplementary to the traditional function of the educational institution. The participation of the UNESCO Chairs and the UNESCO Associated schools in the international projects within the network communication will contribute to the new activities within the educational institution, the implementation of the interdisciplinary approach into employees cooperation, as well as the creation of the open education environment.

The Network of the UNITWIN/UNESCO Chairs working in the field of ICTs in education and innovative pedagogy is a structure open for stakeholder involvement. Members of the Network are its founders who approved of goals and objectives of the «Memorandum of Understanding» and signed it during the UNITWIN/UNESCO Chairs International Conference «UNESCO Chairs Partnership on ICTs use in Education: Innovations and Best Practices» with the support of the UNESCO IITE. These members of the Network set up the Coordinating Council led by the UNESCO IITE.

Members of the Network could be the UNESCO Chairs and educational institutions where the UNESCO chairs function with the field of competence corresponding to the Network Perfection Strategy.

Associated members of the Network could be organizations which are not the UNESCO Chairs but conduct respective activities in the field of ICTs in education, under the auspices of UNESCO as well:

Associated UNESCO schools, gymnasiums, comprehensive schools, colleges;

Networks and members of the UNESCO Networks (Technical and Vocational Education and Training, Pedagogical Education: multicultural dialogue);

Pedagogical communities or state partnership structures (methodological associations, Inclusive Education structures);

IT-industry representatives whose professional activity is directed on the educational system.

For the Network development and enhancement as well as the acceptance of new members there sets up a procedure according to which the applicant organization provides to the Coordinating Council the application form which characterizes the organization as competent for the accomplishment of the objectives of the «Memorandum of Understanding» (see Application).

The duration of the Network is assigned in the UNESCO established procedure. According to IITE, the Network possesses as well the emblem registered in the UNESCO established procedure.

The address of the Network permanent leading body – IITE: Russian Federation, Moscow, ul. Kedrova, d.8, k.3

2. Object, aims and areas of Network activities

The Network is created for establishing the long-term cooperation between the UNESCO Chairs working in the field of ICTs in the education and innovative pedagogy, for joining of efforts on the development and implementation of innovative models of ICT use in education, training and improving the professional skills in the field of ICTs in education, development and implementation of international Master's degree programmes in the field of ICTs in education, professional development of people working in the field of education and innovative pedagogy, generalization and extension of the ICT experience in the field of education. The Network develops materials directed towards the development of the higher, general and vocational education, effectiveness improvement of scientific research in the field of education and pedagogical information, development of the innovative technological environment in educational institutions. The Network carries out the active educational activity aimed at the approval of the priorities of education, science and culture as the main factors of the contemporary progress, keeping up national traditions of classical education and ICTs development. The Network performs permanent information work among the vast layers of society on the directions and results of its activity.

The main objectives of the Programme of the long-term cooperation are:
1. Introduction of the integral system into fields of scientific research, teaching, information and document activities in the sector of pedagogical education

2. Providing support and expert review within the assistance of all countries (especially less developed) in the following aspects:

- establishing the long-term cooperation between partner universities on the formation and improvement of pedagogical education on different institutional levels
- developing partnership that can provide assistance to numerous network institutions by means of interconnection and cooperation as it is organized in "UNITWIN" by way of consistent programme, teaching staff exchange and students mobility
- providing assistance to the members of the Programme of cooperation in development of the international research programme on pedagogical education by means of organizing the training centers for special pedagogical teaching and advances research
- developing methods of interdisciplinary and innovative research by means of knowledge exchange and assistance in improving the existing academic degrees and professional qualifications
- extending the understanding of the polycultural dialogue problems to the vast layers of society by means of ICTs in education, pedagogical in particular.
- creating the opportunities for qualifications international approval
- providing the teacher stuff and students with academic mobility for the purpose of experience exchange and development of polycultural dialogue between the members of universities
- partnership improvement in the course of developing and using information technologies and other communicative means
- creating the environment for renewal and modernization of the own resources of members of the cooperation programme by means of adjusting cooperation to other universities of the world.

3. Creation and development of corporate network IT infrastructure of the Network partner organizations

- forming the joint resource base of electronic pedagogical resources for partner countries and developing countries on the basis of partner chairs cooperation and IT industry organization
- carrying out of psycho-pedagogical, technological and ergonomic examination of electronic educational resources on the basis of the joint efforts of teachers, psychologists, partner chairs IT specialists and IT industry organization

4. Uniting efforts of partner chairs scientific pedagogical potential in order to create:
   - network distributed international Master's degree programme
   - network distributed structure of pedagogical training system in the field of ICTs in education and innovative pedagogy, including contemporary educational technologies on the basis of ICT, innovative methods of teaching using ICT

5. Coordination and assistance in international cooperation of the network members of different regions and countries North – South, South – South in the field of ICTs – education, science, culture, ecology, international security and social progress

6. Financial and material resources involvement of governmental and social organizations, as well as private companies for the development of the system of specialist training in the field of ICTs with university education, teachers training, scientific research development at schools and universities

7. Uniting efforts on the promotion in partner and developing countries of advanced pedagogical experience of ICT use in education

To achieve the aims and objectives mentioned above, the following directions of the partner organizations cooperation are planned (Fig.1):

1. Carrying out of joint scientific research concerning the problems of:
   - ICT development and use in general and professional education
   - Innovative pedagogy development
   - ICT usage risks, including Internet and game addictions and measures on their prevention
   - Contemporary state and prospects of forming and developing of information and education environment

2. Joint development of ICT's scientifically methodological use in education:
   - Contemporary methods and prospective models of ICT use in general and professional education (nomadic education, mobile education, mixed education, etc.)
   - Methods of educational activities in virtual environment of different target groups of teachers of general education system (administrators, primary school teachers, secondary and high school teachers) and system of primary, secondary and higher education
   - Innovative methods of teachers training to the use of ICT in professional pedagogical activity
   - Contemporary methods and models of ICT use in general and professional education oriented at the training of students with special needs
   - Teacher training programmes and their methodological delivery for carrying out joint teacher training of ICTs in education (creating joint multilingual educational resources on the basis of open platforms)

3. Joint implementation of educational programmes of training and international Master's degree programme

4. The resource base development:

- localization of electronic educational resources (EER) for developing countries (multilingual interface – at least 3 languages), accommodation to national educational standards and programmes of primary, general and overall general education and their modification for the work with different browsers

- EER development in call-for market jobs and specialities based on the market specific character in developing countries (multilingual interface – at least 3 languages)

- Creation of annotated catalogues of existing electronic educational resources for joint use

5. Creation of a unified information and education internet environment:

5.1. Use of multilingual terminological dictionary (Russian, English, Ukrainian, Armenian and other languages) in the field of ICTs in education and innovative pedagogy

5.2. Creation of the Network portal of the UNITWIN/UNESCO Chairs working in the field of ICTs in education and innovative pedagogy integrated to the main IITE UNESCO website:

- Information exchange, publications, resource storage with web access
- Dispatching department system
- Schedule and educational programmes planning system
- The system of distance education support by the unified user's personal page

5.3. Creation of the remote cooperation system in real time of the UNIWIN/UNESCO chairs working in the field of ICTs in education and innovative pedagogy

- Videoconference system
- Platform for webinars
- Platform for the organization of the connection "point-to-point"

6. The joint usage of Internet-seminars, Internet-conferences, webinars; organization of the permanent Internet-seminar and methodological support service of ICT development in education.

IITE UNESCO

Network Management

Carrying out joint scientific research

The UNESCO Chairs

Creation of methodological support of ICT usage

PC and international Master's degree educational programmes

Resource base development

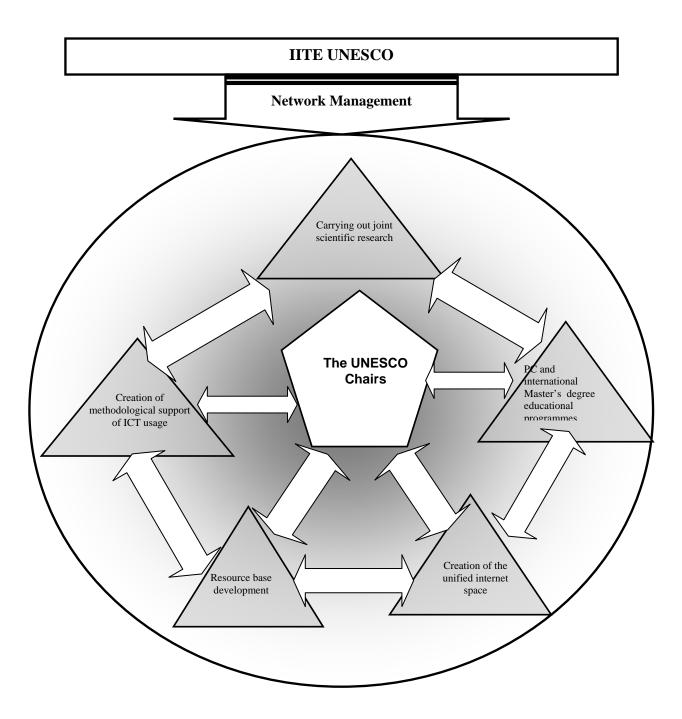Creation of the unified internet space

Fig. 1. Line of activity of the UNITWIN/UNESCO Chairs working in the field of ICTs in education and innovative pedagogy

Not only the UNESCO Chairs cooperation, but the Chairs interaction with the UNESCO Associated schools should be a special work line in the Network. This line will be a response to global society challenges in the face of globalization: mechanism development of chairs, schools and IT industry cooperation will form a special synergetic environment for students and teachers communication on regional levels which will provide school education support in less developed countries.

In order to establish the mechanisms of cooperation with the UNESCO Associated schools on improvement of the quality of ICT education, it's necessary to base on the principle of social partnership.

Taking into account the materials of the international IITE conference "ICT and quality of education: The UNESCO Associated schools on the way towards a School of the Future" *(26-27 April, 2011, Kazan, Russian Federation)* [1], the scientific guideline by the UNESCO Chairs at schools which were proposed by national/regional coordinators of the UNESCO Associated schools on development and implementation of the IITE pilot project "Smart School of the Future" is the first phase of the approval of the joint mechanisms cooperation. Thus it's relevant:

- To create requirements for the unified information and education environment of the UNESCO Chairs and Associated schools
- To work out inner regulations of the UNESCO Associated schools (technological, information, linguistic, methodological, of security, organizational)
- To create and launch specialized programmes of the UNESCO Associated schools employees professional development, as well as on the basis of the UNESCO IITE online, offline, and both

- To create integrated courses with ICT use which is interesting to all the UNESCO Associated schools

- To define the effective ways of the quality of teachers ICT training in the UNESCO Associated schools

- To launch the project management mechanisms in order to improve the system control of the unified information and education environment of the UNESCO Chairs and the UNESCO Associated schools as well as to improve the work quality of its participants

On the second phase under the synergetic influence extends the cooperation ground between the UNESCO Associated schools and the UNESCO Chairs. This phase consists in:

- Active involvement of the Associated schools teachers into creation, methodological examination and approval of electronic educational resources as well as into participation in the sense filling of the corporate portal by means of publications that summarize pedagogical experience of ICTs in education

- Teachers training within the international network Master's degree programme and distributed network training system

3. Network organization structure

The organization structure of the UNESCO Chairs working in the field of ICTs in education and innovative pedagogy is shown on the Fig. 2.

1. UNESCO and IITE are to assign their own Network coordinators and to inform one another and hereafter the members of the UNITWIN/UNESCO Chairs working in the field of ICTs in education and innovative pedagogy.

2. Coordination Council (Presidium)

defines

- Policy and strategy of the development of the UNITWIN/UNESCO Chairs working in the field of ICTs in education and innovative pedagogy, as well as its position in the external environment

Is formed from regional representatives – two representatives from a region (one of them – the head of the most competent UNESCO Chair, another one – IT company representative);

The list of the Coordination Council is confirmed after its accordance with IITE;

Is led by the UNESCO IITE coordinator.

3. The structure of the Chair subdivisions (except the Resource Center) is temporary and changes depending on the political guidelines, development prospective strategies and the Network needs.

4. Members of the Coordination Council inform the Network programmes Board – Executive body which manages the programme implementation according to the chosen lines.

5. Network programmes Board organizes the target group in order to implement certain programmes and Methodological Council, and therefore cooperates with regions, collects regional propositions, analyses and summarizes them and prepares the proposals for their confirmation by the Coordination Council.

6. The project target group – analytical center – provides organization and carrying out analytical research in the field of ICTs in education and innovative pedagogy; prepares informational data according to the results of analytical research for their future installation in the Network portal; prepares questions for the Network programmes Board and their future submission to the Coordination Council.

7. Methodological Council provides the creation of innovative models and methods of ICTs use in education, contemporary educational technologies on the basis of ICT; evaluation criteria of pedagogical and methodological effectiveness of EER and their use in education; training programmes, methodological data and distance courses for teachers working in the field of ICTs in education; programmes and methodological support of international Master's degree programmes; consults organization and carrying out the teacher training with the use of ICT, as well as the organization and carrying out International Master's degree programmes.

8. Information-editing Council – editing and publishing activity; creation, renewal, and development of information and news divisions of the network corporate portal, including the news film support and renewal, the network representatives consulting on the questions of preparing data for placing in the network portal, editing of scientific-methodological and information data n the network corporate portal; Mass Media cooperation, as well as the preparation of data and their distribution in the Mass Media leading newspapers for showing the network activity, propaganda and promotion of advanced pedagogical experience and innovative models of ICT's use in education.

9. Resource providing center provides the Network IT-infrastructure development and functioning (creation and development of the unified information and education network environment; formation and support of the network portal; support of the remote information-pedagogical cooperation of the network participants; creation and support of multifunctional rooms and conference-halls for teaching and conferences; electronic request system for printed matters.

10. Council of experts is created on the basis of IITO and the UNESCO Chairs of the Herzen State Pedagogical University of Russia

is established

on the proposal by IITO and the UNESCO Chairs of the Herzen State Pedagogical University of Russia from the number of specialists, competent in the field of corresponding examination.

carries out

technological and ergonomic EER examination (on the IITE basis)

pedagogical examination and evaluation of EER methodological effectiveness (on the basis of the UNESCO Chair of the Herzen State Pedagogical University of Russia)

scientific-methodological examination of methods and educational programmes; manuscripts (jointly IITO and the UNESCO Chair of the Herzen State Pedagogical University of Russia)

Shown on Fig. 2 signing Network model is generalized and completely corresponds to the possible functions and amount of its work.

The necessary parts of management system on the beginning level of the carrying out the network cooperation are:

Resource providing center

Information-editing Council

Council of experts

These structures save all the functions described in the generalized model (items 8, 7, 10 correspondingly).

In the Network development, parts of the management system can be supplemented with the assistance of the Board Network programmes, target group and Methodological Council (items 4, 5, 6, 7 correspondingly).

Organization model of the UNESCO Chairs working in the field of ICT in education and innovative pedagogy, on the phase of starting the Network is shown on Fig.3.
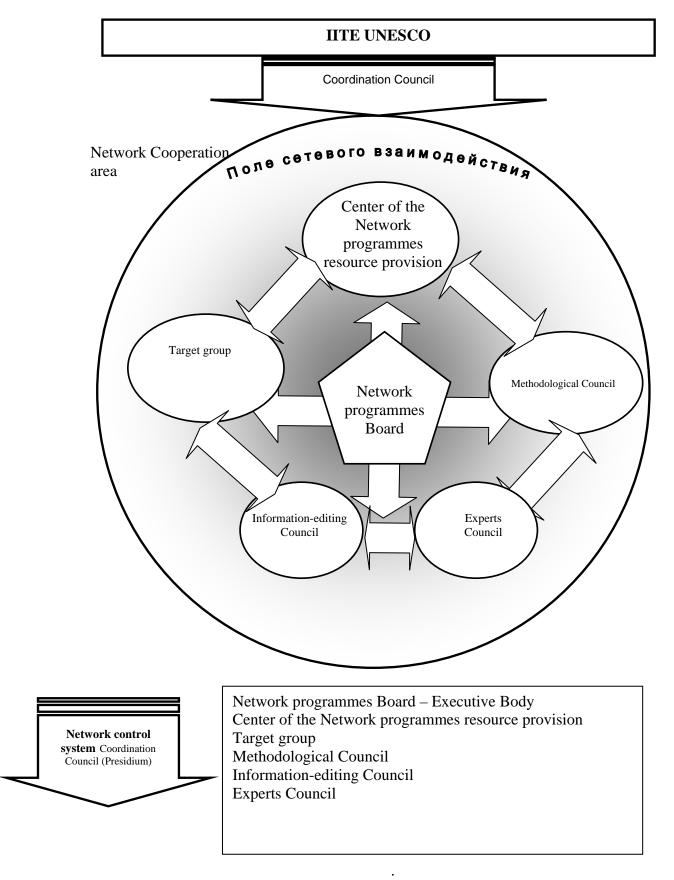
IITE UNESCO

Coordination Council

Network Cooperation
area

Поле сетевого взаимодействия

Center of the
Network
programmes
resource provision

Target group

Methodological Council

Network
programmes
Board

Information-editing
Council

Experts
Council

**Network control
system** Coordination
Council (Presidium)

Network programmes Board – Executive Body
Center of the Network programmes resource provision
Target group
Methodological Council
Information-editing Council
Experts Council

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Fig. 2. Organization model of the UNESCO Chairs Network working in the field
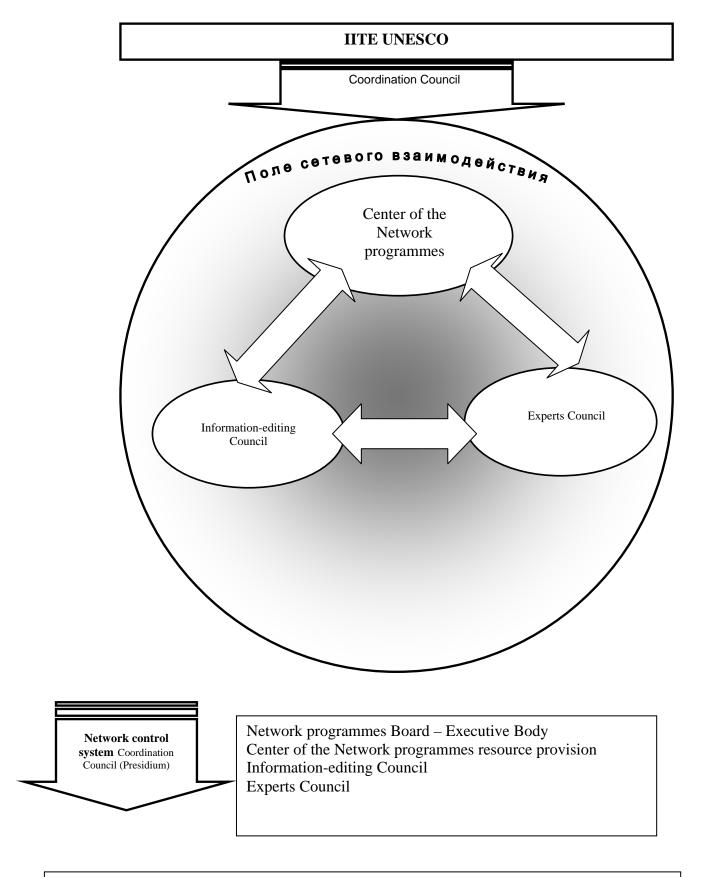of ICTs in education and innovative pedagogy
(generalized model)

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IITE UNESCO

Coordination Council

Поле сетевого взаимодействия

Center of the
Network
programmes

Information-editing
Council

Experts Council

**Network control
system** Coordination
Council (Presidium)

Network programmes Board – Executive Body
Center of the Network programmes resource provision
Information-editing Council
Experts Council

Fig.3. Organization model of the UNESCO Chairs Network working in the field
of ICTs in education and innovative pedagogy
(beginning level model)

4. Network legal and financial status

Each Network member is independent in legal and financial status.

As far as possible, UNESCO will provide Network primary financing. It will also contribute to the off-budget funds involvement for the Network participants. Any financial contribution made by UNESCO is to be the subject of written agreement.

The Network members are to bear all of the costs connected with the activity within specific educational programmes. The UNESCO Chairs may use funds for implementing international projects from banks, industrial, business, charitable and other structures and funds. The sources of funds could be proceeds from service, published works, publishing, advertising, exhibiting, etc.

5. Network Management

Every year Network participants provide reports on the overall activities of this project according to the form set by IITO in English. If approved, IITO and UNESCO spread the information about the work done on the regional and international levels, emphasizing the advanced experience and contribution of every participant.

PROJECT DEVELOPMENT PROSPECTS

For the teaching is an important area of the Network activity, the Network development prospect is the creation of the Network UNESCO university "ICTs in education and innovative pedagogy" led by the Network.

It's necessary for Coordination Council along with IITE to coordinate the legal status of the UNESCO Network University "ICTs in education and innovative pedagogy"

To achieve that, in the first phase (after creating the Network) the Network Programmes Board organizes work on creating the international Master's degree conception, as well as prepares suggestions on the diploma international status. The suggestions are approved by Coordination Council and sent to IITE for coordinating with the educational control and/or accreditation institutes (structures) of corresponding countries aimed at concluding corresponding agreements.

INKS

1. http://www.ifapcom.ru/files/publications/efa_global_monit_report_2007.pdf
2. http://ru.iite.unesco.org/policy_and_research
3. http://ru.iite.unesco.org/publications/themes/proceedings/
4. http://iite.unesco.org/capacity_development/aspnet/files/Materials_2011.pdf
5. http://ru.iite.unesco.org/events/639045/
6. http://ru.iite.unesco.org/capacity_development/unesco_chairs/
7. http://www.unesco.ru/ru/
8. http://ru.iite.unesco.org/
9. http://www.rau.su/observer/N11_01/11_17.HTM
10. http://www.mirbis.ru/magistr.htm
11. http://icef.hse.ru/ma_rus
12. http://www.ifap.ru/ofdocs/unesco/program.htm
13. http://www.educom.ru/ru/works/international/unesco-associated-schools/SmartSchool.pdf
14. .http://upr.1september.ru/articlef.php?ID=200800705

APPLICATION

Application Data for the Network Entry

A. BASIC INSTITUTIONAL DATA

1. Title of the project/network

2. Expected starting date

3. Duration

4. Domain(s) or discipline(s) concerned

5. Full contact address / telephone / fax / e-mail

6. Faculty(ies) / Department(s) concerned (if applicable)

7. - Project leader (name) / contact person

   - Full contact address / telephone / fax / e-mail / website

B. PROJECT DESCRIPTION

1. Type of project:

   Network «…..»

2. Domain(s) or discipline(s) concerned

3. Main objectives

   4. Types of activity

5.Target groups

6. Expected results (*Please indicate how the domain or discipline chosen is directly related to priorities for national or regional development*)

7. Proposed schedule of activities

C. PARTNERSHIP

Institutions involvement in the network (full contact address of the institutions involved)

D. FUNDING OF THE PROJECT

1. Total project budget (in US$)

2. Institution funding

3. Donor funding

E. SUPPORT

New members acceptance to the Network of the UNITWIN/UNESCO Chairs working in the field of ICTs in education and innovative pedagogy will take place by the decision of the Coordinating Council and UNESCO IITE written approval.