

# THE PROJECT “EURO-CASPY” REGIONAL NETWORK OF UNIVERSITIES AS AN INTEGRATION OF ECONOMIC KNOWLEDGE INTO ENGINEERING EDUCATION.

*Irina Petrova<sup>1</sup>, Victoria Zaripova<sup>2</sup>, Ilkka Toroi<sup>3</sup>, Marina Malinen<sup>4</sup>*

**Abstract** <sup>¾</sup> *The paper evaluates positive results and difficulties arising in the course of Tempus-Tacis project titled “EURO-CASPY” REGIONAL NETWORK OF UNIVERSITIES (for Economic Education) NJEP- 21042-2000. The present project is unique as it involves a large number of universities. The following universities take part in it: from 3 EU countries (Finland, Great Britain and Spain) and 5 large universities of Russia (Astrakhan region, Kalmykia and Dagestan), which compass the whole Caspian Sea region. As all these universities are members of the Association of Universities of the Caspian Region States, so there is a unique opportunity to disseminate the project's experience to 26 universities –other Association members from NIS (Azerbaijan, Kazakhstan, Turkmenistan).*

*Aim of the project: to study and use the EU countries' experience in higher education development, skills improvement and re-training of enterprises' specialists in the field of economics with the use of newest ICT. Realization of the project will promote economic reforms progress in the Caspian region, will provide integration of the Caspian universities with the world education system on basis of common requirements to the content of educational programs and quality of training.*

*Index Terms* <sup>¾</sup> *Economic Education, ICT, ECTS.*

### BACKGROUND OF THE PROJECT

During the Soviet period the universities and other higher – education institutions of the Caspian Region of Russia (Astrakhan, the Kalmyk Republic, Dagestan, Azerbaijan) ensured a high level of education and research and were centres of culture. But presently all higher-education institutions struggle to survive in a crisis situation facing the following typical problems:

- Lack of proper funding;
- Remoteness of the Caspian Region from the research and administrative centre of the State which results in poor financing by the State;

The Region being state-subsidised, its industry is in great need of investments and funds, which hinders its development, causes stagnation and prevents the regional economy from employing research and technological

potential of the universities and supporting university research activity;

Limited access to the world information system;

Restricted contacts between teachers and researchers of the Caspian Region universities and their colleagues in West- European universities;

Economical and political reforms in Russia and other Caspian region countries lead to necessity of reforming the higher engineering education system aiming to study economics more deeply , in particular on basis of the EU countries' experience. Especially important is the necessity to develop new curricula, syllabi, courses, economic education and retraining both engineers and officials of industrial, small and middle enterprises.

Problems of socio-economic development of Astrakhan region and Caspian region countries lead to advisability of forming the common educational environment; and it became the basis for working out a Tempus-Tacis project named “Euro-Caspy” regional network of universities”.

There are 5 large universities from Southern Russia, which are located around the Caspian Sea (fig.1)

These universities are located in Astrakhan region (Astrakhan State Technical University, Astrakhan State Pedagogical University and Astrakhan State Medical Academy), in Kalmyk Republic (Kalmyk State University) and in republic of Dagestan (Dagestan State University).

Astrakhan State Technical University is the largest higher educational institution in Astrakhan region, a center of science, engineer education and culture. It includes Institutes of Economics, ITC, Distance Learning, 10 faculties, at which more than 6000 students get higher professional education.

ASTU is a founder of the Association of the Universities of the Caspian Region States that includes Kalmyk State University, universities of Dagestan, Turkmenistan, Azerbaijan, Kazakhstan which maintain educational, scientific, and information relations with ASTU (1996).

A wider objective of forming the Association was to combine efforts and activity of prominent researchers and specialists for conducting a comprehensive analysis of the current situation in the region, searching solutions to the urgent problems, studying public opinion, joining efforts in

<sup>1</sup> Irina Petrova, Astrakhan State Technical University, Institute ITC, Tatisheva str.16, Astrakhan, 414025, Russia, e-mail irina@astu.astranet.ru

<sup>2</sup> Victoria Zaripova, Astrakhan State Technical University, Institute ITC, Tatisheva str.16, Astrakhan, 414025, Russia, e-mail irina@astu.astranet.ru

<sup>3</sup> Ilkka Toroi, Pohjois-Savo Polytechnic, P.O. Box 6, Sammakkolammentie 2, Kuopio, 70201, Finland, e-mail: ilkka.toroi@pspt.fi.

<sup>4</sup> Marina Malinen, Pohjois-Savo Polytechnic, P.O. Box 6, Sammakkolammentie 2, Kuopio, 70201, Finland, e-mail: Marina.Malinen@pspt.fi

## Session 13 International Education and Accreditation

order to protect the Caspian Sea and assist in rational utilization of its stock for the benefit of all nations inhabiting the area.

An important task for the Association is integrating educational systems of the Caspian Region states and creating and strengthening common educational and information environment within the region and adjacent areas. That's why ASTU is a coordinator of international project titled «Euro-Caspy Regional Network of Universities». The Association's work provides a unique opportunity to disseminate the project's experience at 26 universities, included in the Association from other NIS (Azerbaijan, Kazakhstan, Turkmenistan )



FIGURE. 1  
MAP OF THE CASPIAN SEA REGION

### MAIN TASK OF THE PROJECT

The main task of the project is to unite universities located near the Caspian Sea (Russia) for developing a system of teaching economics on basis of distant learning technologies – i.e. creation of EURO-CASPY regional network of universities.

Partner universities from EU countries (Finland, Great Britain and Spain) have a considerable experience in teaching economics, including distant learning technologies.

Pohjois-Savo Polytechnic - PSPT (Finland) - is one of the largest polytechnics in Finland and offers a wide range of courses. PSPT comprises eight units located around the region of Pohjois-Savo. Among the schools are: School of Business and Administration; School of Engineering and others. PSPT runs five training programmes carried out in English in the field of International Management, International Marketing- International Entrepreneurship, Information Technology, International Nursing. The

assessment is carried out in accordance with the European Credit Transfer System (ECTS)

Newman College of Higher Education (UK) is a leading U.K. higher education institution in the field of degree-level Teacher Education. There is a growing programme of higher degrees. The eleven subject areas, arranged in two Academic Schools, allow for a variety of subject permutations in: Information and Communications Technology; Mathematics; Physical Education and others

University of Malaga (E) has eight faculties (Sciences, Educational Studies, Information Sciences and others) and 13 university schools (Telecommunications Engineering, Industrial Engineering, Computer Science, Business Administration and others). A wide range of degree programmes are on offer, plus doctorate programmes and a number of unique postgraduate degree programmes designed by the university.

**The project's objective** : to study and use EU countries' experience in higher education development, the enterprises specialists upgrading and retraining in the field of economics. Especially important is experience of using the ITC in pedagogical activity, utilising the distance learning methods and tools of teaching via electronic networks (i.e., the Internet).

Implementation of the project will promote economic reforms running in the Caspian region, will guarantee integration of the Caspian universities into the world educational system on the basis of common requirements to educational programs content and to training quality.

### STRUCTURE OF NETWORK'S MANAGING

The wider objective of the project is creating organizational forms in order to ensure communication between the Russian universities of the Caspian Region and Azerbaijan, as well as facilitating the integration of Russian universities from remote southern provinces into the world educational and information community of EU universities for economic education.

Creation of "EURO-CASPY" network by the Russian universities of the Caspian Region and EU universities is very urgent under the current tendency of integration in the field of education and development of distance – learning technologies. Moreover, it is important due to the fact, that regional interests are taking upper hand over the State ones in Russia, which on condition of complete independence of the universities, can result in their dangerous self-isolation.

At the same time, prevailing regional interests force the universities to look for or create situations where they could demonstrate their important role in the life and activity of the regional community, the field of economic education being involved. Interaction of Caspian region universities and industrial enterprises, as the project envisages, will enable to clarify the needs of the enterprises and small business in economic education, and to develop syllabi in the field of

## Session 13 International Education and Accreditation

economics and new information technologies, necessary for wide sections of the population.

For effective managing the universities network there were established a constantly acting coordinating information-and-analytical center – EURO-CASPY CIAC (ASTU, Astrakhan) and network Support Offices in other partner universities of Russia. Structure of managing the Euro-Caspy universities network is shown in fig.2.

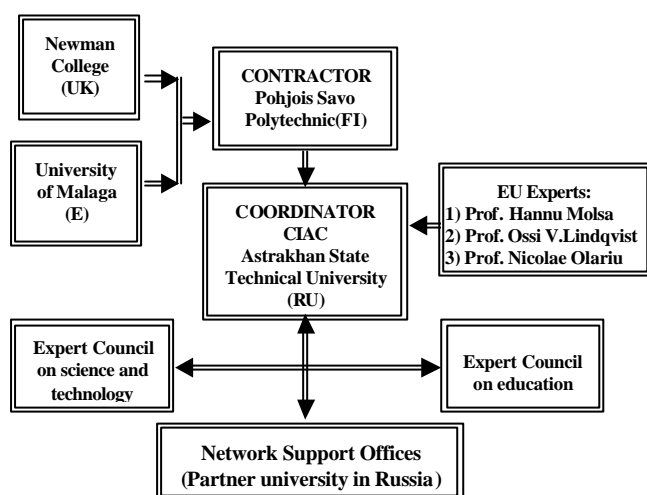


FIGURE 2.  
DECISION MAKING STRUCTURE IN THE "EURO-CASPY" UNIVERSITIES NETWORK

### MECHANISM OF QUALITY CONTROL

For controlling of quality of the whole project activity two Expert councils were established (fig.2).

- Expert Council on education
- Expert Council on science and technology

#### Expert Council on education

In the course of the project the curricula and syllabi in economic education should be collected and analyzed. The task of the Expert Council on education is:

- to make analysis and selection of syllabi and curricula collected in databases
- put collected curricula evaluation in accordance with ECTS (European Credit Transfer System),

Expediency of usage of the ECTS system in Russian higher educational institutions is evident. Agreed system of courses evaluation enables to compose educational programs out of modules made by agreed universities, and it also creates the necessary prerequisites for energization of students international academic mobility. Outlet to virtual educational environment enables to compare informative richness of different universities' courses. ???S has great potential possibilities and can influence positively on development and internalization of Russian higher education and to raise regional academic level.

In the course of the project the Russian universities' teachers should create 10 subject modules (25 pages.), 5 instructional manuals (100 pages.) and 3 electronic courses on CD-ROM.

To this effect, the Council has, as reported to the mission, launched a competition amongst the teaching personnel in each university to provide the education materials in economics and computing sciences for detailed design in the project. The Council has assessed the quality of these defined materials, course structures, forms of instruction, and in particular, the plans for utilising the distance learning methods and tools of teaching via electronic networks (i.e., the Internet). The Science Council of Kalmykia State University has after consulting with the other Expert Council announced the final results of this selection procedure.

#### Expert Council on science and technology

The innovation aspect of the project is involving in the consortium of the largest industrial enterprises from the Caspian Region which have bright prospects for development: oil-and-gas refineries, petrochemical plants, telecommunication agencies, shipbuilding yards as well as small and middle-size businesses. The project envisages conducting market research in order to investigate demand for economic education at these enterprises and developing new courses or course modules in economic subjects for retraining their staff. For this purpose the project envisages creation and constant work of industrial representatives Expert Council. In addition to large industrial enterprises representatives the Council involves representatives of Humanitarian Foundation "Assistance" which aims to assist the development of small business in the region

The Expert Council maintains links between the university education and the industry that plays in the region an important role in supporting the ASTU University activities and logistics. Regional banks, information technology industry, and other state institutions are interested in being involved in curriculum development, particularly in Economics and Computer Sciences, because these firms will be the main employers to many graduates from the ASTU.

#### MARKETING RESEARCH OF ENTERPRISES' NEEDS IN EDUCATIONAL SERVICES

The research was carried out among leaders of Astrakhan region's large enterprises. Enterprises of various industries took part in it (fig.3):

- Communication enterprises – 24%
- Trade enterprises – 21%
- Banks – 17%
- Construction firms – 17%
- Transport – 13%
- Intermediary firms – 8%

## Session 13 International Education and Accreditation

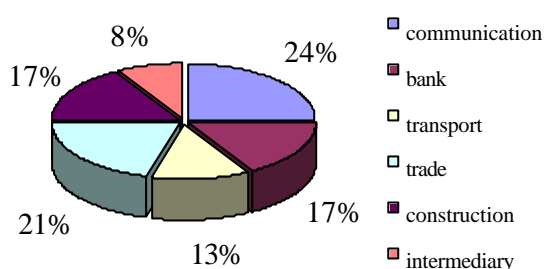


FIGURE 3  
CORRELATION OF INDUSTRIES

It should be marked that majority of questioned leaders were men (78%), women counted 22%. It shows that though women enjoy equal rights but till the time being there is a stereotype of a leader to be a man.

Average age of leaders-respondents is 30-40 (54%). This age is the most productive from standpoint of creative development and experience accumulation for leading an enterprise.

Majority of enterprises leaders prefer to support employee's initiatives in their skills and knowledge improvement on their own. Methods of encouraging:

- opportunity to obtain quick promotion
- financial stimulation – 38%
- other methods – 13% (getting education and other specific benefits were indicated by respondents)

Investigations were made on leaders' attitude towards Distance Learning methods or skills improvement. It is important to mention that 27% evaluate Distance Learning's possibilities not high because of absence of direct contact between educators and those to be educated, because of impossibility to get consulting on-site, insufficient supply with information methodical materials, absence of vivid advertising and marketing policy at educational market. 9% of respondents don't know what the technology of distance learning is. Majority of respondents consider the distance learning possibilities to be not high but middle (46%). Only 18% of chiefs rate highly the distance learning possibilities for improving their employee's skills. The results are presented on diagram (fig.4).

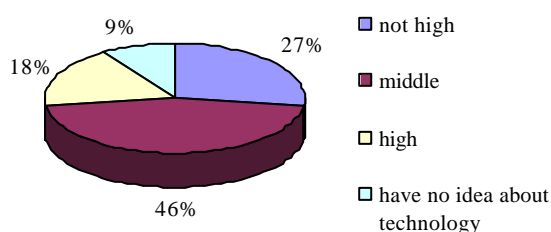


FIGURE 4  
EVALUATION OF DISTANCE LEARNING POSSIBILITIES

87% of respondents consider periodical improvement of their employee's skills at the expense of the enterprise to be cost-effective. But 13% think their workers don't need knowledge level improvement.

Majority of chiefs (46%) agree that training and skills improvement doesn't depend on age, thus they support life-long education. Twenty nine percent consider the age from 20 till 25 to be the best for the matter because the employees have got the main education just recently; 21% of respondents think that it is most effective to improve skills level of employees when they are 25-30 years old and their abilities are known by their chiefs. When sending a worker on a course the chief considers the work experience at the enterprise to be important factor. Forty six percent of respondents think that it is better to send those workers for studying who's work experience exceed 3 years (fig.3); 27% consider one year experience to be enough; 18% consider the work experience at the given enterprise to be not important factor. Nine percent of respondents answered that the workers training was possible only after 5 years working at the present enterprise.

In the course of this marketing investigation an analysis was made on enterprises chiefs' needs in courses for which manuals are being elaborated within the project's framework. The standpoints are as follows.

- Decision theory – 15% ;
- Advertising and marketing on the Internet – 14% ;
- Anti-crisis management – 11% ;
- Telecommunication technologies in financial management – 8% ;
- Information business – 8% ;
- Investment management: problems of leasing – 8% ;
- Innovation management – 8% ;
- Imitation modeling of economic processes – 5% ;
- Electronic commerce – 5% ;
- Economic cybernetics – 3% ;
- Mathematical economics – 3% ;
- Logistics – 3% ;
- Economical information systems – 3% ;
- Modelling of economic processes – 3% ;
- Economics of public health – 3% ;

The main result of the study is evaluation of correlation between enterprises' needs in economics merely and ICT-based economics. The poll shows that necessity in skills improvement courses which combine knowledge of ICT and economics is more than 55%. These requirements are typical for enterprises' engineering-technical staff of higher qualification.

### CONCLUSION

The project turned out well to obtain all outcomes planned for the 1-st year and provide good quality of their implementation. There was created an organizing structure

## Session 13 International Education and Accreditation

for the project realization - Euro-Caspy CIAC and network Support Offices in partner universities;

During the meetings of Expert Council on education the criteria were elaborated and both manuals and courses modules were selected. Curricula database was created enabling to accumulate information and to compare universities' curricula on the same economic subjects.

In the course of all meetings and discussions on the project implementation peculiarities all partners came to conclusion that one of the main project's directions is creation of interactive Web site of universities network [1] as communication medium for all the project participants.

As the main outcome of the EURO CASPY project, the harmonisation and co-ordination of the education principles, course contents, and the applications of long-distance learning will provide the students in other Russian partner universities opportunities to get equal instruction and competency for their future employment after graduation.

### REFERENCES

- [1] [http\www.eurocaspy.ru](http://www.eurocaspy.ru)