Scientific Papers (www.scientificpapers.org)
Journal of Knowledge Management, Economics and Information Technology

Issue 7
December 2011

Development of Distance and E-Learning Based Higher Education in Uzbekistan in Framework of International Collaboration

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Today international collaboration and cooperation are being considered as one of the main trends of higher education development all over the world. Knowledge has become increasingly international. For example, the total number of foreign students worldwide was approximately 200,000 in the 1950-1960 years. This figure changed in 1987 up to 1.2 million partially thanks to establishing international mobility programs such as European Comission funded ERASMUS MUNDUS. In 2004 this number reached 2.5 million (UNESCO Institute for Statistics, 2006).

Keywords: *E-learning, Higher education, Uzbekistan*

J.Knight defines internationalism as the activities of higher education institutions in response to the economical, political and social forces pushing higher education towards greater international involvement [1]. More broad definition of the internationalism in higher education is given in the U.Teichler's monographs where this term has been employed regarding seven themes: (i) physical mobility of academic staff and students; (ii) recognition of study achievements across borders; (iii) different modes of transfer of knowledge across borders; (iv) internationality in the substance of higher education; (v) international orientation and attitudes, (vi) the similarity of heterogeneity of national systems of higher education; (vii)

internationalization as an argument for almost any higher education reform. [2].

In Uzbekistan the processes of internationalization of higher education started in 1991, when this former Soviet republic became politically and economically independent. In 1997, when the new Act on Education and the National program on Personnel Training was approved by the government the international collaboration got its legitimate bases. Even the formal structure of higher education, consisted of 4-year of Bachelor studies and 2-year Master courses which was launched that time underlined the country's endeavors to be implemented in international education.

The government decree on development of measures to strengthen material-technical base of higher education institutions and radically improving training highly qualified specialists announced this year is also aims to improve the quality of training specialists with higher education, demanded by industries and sectors of the economy through the strengthening and modernization of the logistics of higher education institutions, equipping them with modern educational and scientific and laboratory equipment, optimization of areas and specialties training of qualified personnel, further develop international collaboration, especially in the areas of academic staffs mobility.

Many Uzbek universities are strongly engaged in international educational and scientific collaboration. For instance, Urgench State University has managed the several cooperative projects: ZEF/UNESCO project entitled "Restructuring the use of land and water recourses in the Khorezm region", International MA courses in collaboration with Weihenstephan University of Applied sciences, 145171 TEMPUS-1-2008-1-ES-SMHES PERSEUS project, 158918-TEMPUS-12009-1-At-TEMPUS-JPCR CANDI E-Learning project, 511172-TEMPUS-1-2010-1-DE-TEMPUS-JPCR CIBELES project, UNESCO funded project on utility for production of biogas for supplemental supplies, UNESCO funded project on development of the efficient use of water recourses, another UNESCO funded project on growth of "Indigofera" and acquisition of color by using water saving technologies, the US Embassy sponsored English language teaching courses for academic lyceum and college students, ICARDA project for improving the quality of regional wheat production, CRDF aided canal lining and afforestation

project to prevent raised groundwater tables and field salinization in the Khorezm region of Uzbekistan.

Among different international components of higher education distance and e-learning based courses stand for one of the major means of broadening the horizons of the global world. Distance learning is confidently asserting itself, especially in higher education. This is a more flexible and liberal form of education, as any people paying relatively low costs could get a new profession or improve necessary skills and knowledge. First of all, it is important to understand what is meant by distance learning because now you can meet a variety of interpretations of the concept. This includes any form of self-learning and distance education and external studies.

Compared with traditional forms of education, distance learning offers more freedom in choosing the learning mode, and is easily adaptable to suit the learner's individual needs and circumstances. One is not limited in distance and learning in higher education regardless of the place of residence. One is also not limited in time and learn when it is convenient and optimal for own pace, instead of attending classes at certain times, as in traditional full-time education. However, one has a wellstructured curriculum, implementation of which is strictly controlled by the teacher.

Distance learning provides an opportunity of individual personal approach to the teacher for each student. The courses are held in continuous online contact between the teacher and students by: recording the attendance, checking the assignments, testing and discussion of the test results and difficulties and problems of the students during the e-seminars, forums and chats, answering the questions individually and explaining the most difficult topics by an individual approach. Currently, the TEMPUS project entitled "158918-TEMPUS-1-2009-1-A T-TEMPUS-JPCR CANDI" began to develop an international distance learning course in Informational Technology and Chemistry. The aims of this project are: (i) creating a sustainable infrastructure of e-Learning in Uzbekistan and Kazakhstan together with European partners; (ii) examining the needs and developing a simple platform of e-Learning; (iii) training local young professionals for further development of the platform; (iv) involving the representatives of varies sectors of the economy such as manufacturing and industry and

universities to determine a road map of cooperation for innovation research, including characteristics of the platform and content of training courses.

The CANDI project will develop both the infrastructure for e-Learning/retraining, and the skills necessary to transfer existing courses and curricula to an e-Learning environment. The project is set up in a way to address the following multiple problems simultaneously:

- assisting to educate large numbers of students;
- assisting to narrow the gap between the education level in central universities and the provinces;
- training the local university staff in systematic and effective use of e-Learning, presentation technology, and related didactic skills;
- using e-Learning not only to teach students, but also to teach university staff, in particular at institutions in provincial cities;
- supporting the retraining of the staff of the manufacturing and industry sectors. On the other hand, CANDI will also open opportunities for industry to deliver applied courses and lectures to a university audience;
- employing cheap open source solutions for e-Learning;
- providing a pilot phase where existing courses from European partners will be transferred into the e-Learning framework. Since these courses will reflect the state of the art in their respective areas (mostly Computer Science, Chemistry, Computational Science, Chemistry, Chemical Technology, Software Skills), they will by their nature improve the quality of the curricula inside and outside of e-Learning;
- improving the English and software skill knowledge of all participants, thereby improving the ability of Central Asian staff to achieve sustainability through international grants [3].

CANDI project is planned as a three-year project in which the competence of local actors in the field of e-Learning will be developed in several stages. The first year will focus on learning needs and development of the first simple e-Learning platform together with the first e-learning. CANDI provides training to local young professionals on the use and development platform. Using the demo and experience available at the beginning of the second year of the project, the consortium will involve representatives of the manufacturing sector and universities to determine

the road map, including characteristics of the platform and content of training courses to be developed at the pilot stage of the second and third years. Throughout the duration of the project from first to third year CANDI will deal with the introduction of prototypes of e-Learning (with respect to both course content and e-Learning platform development), taking into account the contribution of European researchers. Technically, CANDI will primarily use the free, open educational platform, such as MOODLE or TUD's Digital Classroom for e-learning. CANDI platform will support multiple languages: English, Uzbek, Kazakh and Russian and will ensure the flow of knowledge and information between the partner universities. Due to large differences in quality networks in different countries CANDI will support a variety of paradigms of e-Learning, from online courses with streaming video and video conferencing throughout the day to stand-alone devices such as DVD.

Urgench State University, together with the National University of Uzbekistan and the Tashkent Institute of Chemical Technology are the regional partners of the project. In collaboration with Vienna University of Technology, Open University of England, Technical University of Munich, University of Vienna, Kazakh National University and International Kazakh-Turkish University distance and e-learning based courses on Informational Technologies and Chemistry are being developed and proposed to implement in current teaching curriculums For instance, the aim of the course "Simulation of molecules and processes" is to teach students the principles of mathematical representations of chemical problems associated with studying the structure and properties of chemical compounds, and development of practical methods for solving the given tasks by using computer systems.

This course is based on the latest achievements of computer technology and its implementation in applied research. Mathematical modeling of even a very simple chemical system necessarily require a high level of computer tools and software. Students should be familiar with the general course of chemistry, mathematics, and have the necessary skills to work on personal computers. From the students of chemical disciplines knowledge on stereochemistry, quantum chemistry and physical methods of researching are necessary for the mathematical modeling.

Thus, development of distance learning courses will lead to a reduction of tuition fees, due to the phasing-out of hardcopies of publications and possibility of introducing a new course or improving the existing course at no additional cost. The further development and deep implementation of distance and e-learning courses will involve more deeply Uzbekistan universities through international educational collaboration and cooperation. Hence, the higher education institutions in Uzbekistan are well-prepared for implementing distance and e-learning in broad scales, which is demonstrated here in the example of Urgench State University.

References

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