


Borys Grinchenko Kyiv University

# **OPEN EDUCATIONAL E-ENVIRONMENT OF MODERN UNIVERSITY**

Collected Scientific Works



Within the framework  
of the international project IRNET

# **ВІДКРИТЕ ОСВІТНЄ Е-СЕРЕДОВИЩЕ СУЧАСНОГО УНІВЕРСИТЕТУ**

Збірник наукових праць

У рамках міжнародного проекту IRNet

Kyiv – 2015

### **Editorial board:**

- N. Morse*, Vice-Rector on Informational Technologies, PhD, Professor, Corresponding Member of National Academy of Pedagogical Sciences of Ukraine, Borys Grinchenko Kyiv University;
- R. Makhachashvili*, Head of the Department of Romance Philology and Comparative Typological Linguistics, PhD, Borys Grinchenko Kyiv University;
- O. Buinytska*, Head of IT in Education Laboratory, PhD, Associate Professor, Borys Grinchenko Kyiv University.

### **Edited by:**

- N. Morse*, Vice-Rector on Informational Technologies, PhD, Professor, Corresponding Member of National Academy of Pedagogical Sciences of Ukraine.

### **Reviewers:**

- O. Zhiltsov*, PhD, Associate Professor, Vice-Rector on Academic Affairs, Borys Grinchenko Kyiv University;
- E. Smirnova-Trybulska*, Professor, Dr Hab., Coordinator of the IRNet Project, Head of the Department of Humanistic Education and Sciences of Pedagogy Support of the University of Silesia (Poland).

# CONTENTS

INTRODUCTION .....	E7
<b><i>Kostiantyn Bohomaz, Liudmyla Sorokina, Oksana Shelomovska, Maryna Romaniukha</i></b> IMPLEMENTATION OF E-LEARNING: NEEDS AND POSSIBILITIES (BASED ON THE RESULTS OF SOCIOLOGICAL survey) .....	E12
<b><i>Vasyl Bolilyi, Viktoriia Kopotiy</i></b> WIKI PORTAL AS PART OF OPEN E-LEARNING ENVIRONMENT OF MODERN UNIVERSITY .....	E23
<b><i>Dariya Buchynska</i></b> VIDEO USE IN EDUCATIONAL PROCESS AS URGENT REQUIREMENT	E40
<b><i>Mariia Gladun</i></b> ROBOTICS PLATFORMS AND ENVIRONMENTS IN EDUCATIONAL PROCESS IN PRIMARY SCHOOL .....	E48
<b><i>Dmytro Kasatkin, Olga Kasatkina</i></b> PECULIARITIES OF SPECIFIC DIDACTIC PRINCIPLES IMPLEMENTATION IN COMPUTER-ORIENTED LEARNING ENVIRONMENT .....	E54
<b><i>Nataliia Kushnir, Nataliia Valko</i></b> FLEXIBILITY OF FUTURE TEACHERS ICT TRAINING UNDER THE INFLUENCE OF FAST-CHANGING DIGITAL WORLD .....	E63
<b><i>Rusudan Makhachashvili</i></b> EDUCATIONAL E-ENVIRONMENT THROUGH ENGLISH VOCABULARY DEVELOPMENT .....	E74
<b><i>Oleksandr Marchenko</i></b> FUNCTIONAL COMPARISON OF OPEN EDX AND MOODLE PLATFORMS .....	E84
<b><i>Miao Fengchun, Tatiana Nanaieva</i></b> ENSURING EFFECTIVE USE OF ICT IN TEACHING AND LEARNING .....	E92
<b><i>Nataliia Morze, Olha Barna, Olena Kuzminska, Viktoriia Vember</i></b> IN WHAT WAY SHOULD MODERN COMPUTER SCIENCE TEACHERS IMPROVE THEIR TEACHING SKILLS TO DEVELOP STUDENTS' KEY AND IC COMPETENCE? .....	E102

<b>Nataliia Morze, Liliia Varchenko-Trotsenko</b>	
USE OF WIKI-TECHNOLOGY FOR MODERN UNIVERSITY LEARNING ENVIRONMENT .....	E114
<b>Antonio dos Reis</b>	
HOW TO BE A TEACHER IN THE 21 <sup>ST</sup> CENTURY .....	E128
<b>Viktor Sedov,</b>	
INFORMATION AND COMMUNICATION TECHNOLOGIES AS CATALYST FOR CHANGES IN TEACHER'S COMPETENCE .....	E134
<b>Eugenia Smyrnova-Trybulska, Peter Švec, Júlia Tomanová, Martin Drlík, Martin Cápaj, Josef Malach, Kateřina Kostolányová, Milan Chmura</b>	
OPEN EDUCATIONAL E-ENVIRONMENT AS FACTOR OF EXPANDING EDUCATIONAL OFFER AND INCREASING QUALITY OF EDUCATION .....	E146
<b>Ivan Stepura</b>	
PECULIARITIES OF USING <i>OPEN CONFERENCE SYSTEMS</i> PLATFORM FOR SITE <i>OPENEDU.KUBG.EDU.UA</i> DEVELOPMENT .....	E180
<b>Anastasiia Tiutiunnyk</b>	
USE OF CLOUD TECHNOLOGIES AND SOFT SKILLS IN EDUCATIONAL ACTIVITY OF STUDENTS AND TEACHERS .....	E189
<b>Tetiana Tykhonova</b>	
DIDACTIC ANALYSIS OF CONCEPTS "INFORMATICS COMPETENCE" AND "INFORMATION CULTURE" .....	E202
<b>Olha Zakhar</b>	
COMPUTER SCIENCE TEACHER'S IC-COMPETENCE AND WAYS OF ITS FORMATION .....	E216

## INTRODUCTION

The dynamics of modern society toward information and open one is naturally reflected in education that mirrors social and other actual relations in society. One of the newest forms at this stage of social development is open education that provides comprehensive and utmost implementation of new information and pedagogical technologies in teaching. It is caused the fact that the classical forms of getting education face crisis in all countries of the world one way or the other:

- inability to provide general access to necessary education (territoriality);
- lack of gained knowledge from the technology development level (conservatism);
- low adaptation level of education system to different social and economic environments (inertia);
- specificity of education received at local educational institution (locality);
- not all the programs are available at local universities for those who would like to study in a certain area (limitation).

Open education system is aimed mainly at the following problems:

- management of such access to education that would cater to the educational needs of people in the 21st century (available lifelong education);
- equality of access to education for all the people at all levels;
- education quality enhancement and its relevance to social needs;
- sharp increase in efficiency and productiveness of education system.

The main feature of an open education system is a less degree of normativity comparing to the traditional one. According to this feature, it can be identified the following aspects of openness in education:

1. Less degree of normativity as applied to the students: no norm to limit the age of a student, social or professional status, citizenship, territory, and threshold age, admission is possible at any point of the educational cycle etc. It should be mentioned evening or “open” schools as an example of open educational institution. The most openness according to applicants’ qualities provides distance learning institutions.

2. All of the above demands a flexible technological education system which becomes open according to freedom of transition from a form

of education to a form of course choice, individualization of aims and content of education, assessment forms etc. All this leads to construction of individual education routs and provides distant learning. This aspect of openness can be implemented in the institutions of supplementary professional education.

3. Systematic-synergetic view on education means understanding of openness in which education system is “open” outwardly, i.e. exchanges different resources with it: information, human, and material. The openness of education content (information resource) is performed in the following aspects: arrangement of study programs according to the newest data on the subject of study; creation of didactic and methodological environment; operational output (if necessary) beyond semantic standards, curriculum, content of the lesson (e.g. Web search and the use of information received at the lesson). Education system exchanges human resources if professionals, scholars and civil activists are involved as guest lecturers. Education system can exchange material and technological resources with the environment (the use of equipment, buildings and premises of external organizations; classes in the natural environment etc.). The main flow of resources exchange is approached from environment to the education system; the reverse flow in certain amounts is possible in the systems of higher and post-graduate education when the students have an actual impact on the environment while studying; this aspect of “openness” can be called socio-pedagogical interaction.

4. The synergetic openness of education system presupposes constant incomplete development. It means that at any given moment the system is open for (self-) development and further interaction with outward environment. The main frameworks of development are set up by management subsystem of educational institution and implemented by all subjects of study through educational process. Backgrounds to education system self-development are created in students and educators’ everyday routine. The open management subsystem (which includes administrators as well as all academic staff) monitors these backgrounds and develops them purposefully to achieve bifurcation points while minimizing risks of unpredictable or unmanageable development. However, from the viewpoint of the system openness, the self-development risks (positive feedback) are justified in particular, because creative abilities of all

subjects of training in educational process are developed in situations of uncertainty.

5. The openness is presented as “transparency” of an education system that means: comprehension of aims, tasks, values, technologies and pedagogical impact by all subjects of educational process; participation of all subjects in outlining and management of education system; certain accountability of an educational institution to internal and external subjects. In this sense a significant step towards openness is uploading information about educational process online with open or authorized access (programs, curricula, electronic magazines, home tasks etc.).

6. The openness of education is viewed as a reflection of the openness of society: tolerance, people’s willingness to the dialogue of cultures, attitudes, ideas etc. It suggests serious and purposeful training in national, religious or social cultures, multiculturalism, working out comprehensive views on globalization of society.

7. A peculiar problem of “open education” has arisen. It means education with implementation of distance developmental educational resources, foremost open-access online resources. High-quality cultural, scientific, educational, professional and other resources (alongside useless and harmful content) are accumulated over the Internet as well as the opportunity to manage the users’ activity with the Internet resources. *Open education deals with the problem of resources selection and creation of the methods of activity with them.*

8. Open education mostly is associated with distance learning. An outstanding British educator, J. Daniel, describing the principles of British Open University, stated that it “was created to be open with regard to people, to location, to methods and to the ideas... To be open with regard to people means to eliminate admission requirements. To be open with regard to location means to create the system of distance learning that gives people opportunity to study wherever they are. To be open with regard to methods means to implement any ICT innovations which make learning more efficient and pleasant. Finally, to be open with regard to ideas means the university mission: it means the Open University pays special importance of students’ research along with studying”.

However, as far as we’re concerned, distant learning should have a range of implementation limitations. Firstly, not any profession can be taught distantly, separately from a speech, practice basis. Secondly, since education presupposes not just learning, but upbringing and

development, formation of social relations experience — distance learning of children and full-time students can't reach important educational goals. It is expedient to use blended learning in this case. Adult education is a different case (second higher education, post-graduate education, additional professional training), when a student has social skills and relevant social experience, experience of self-development. Thus distant learning in open education for adults is preferable and appealing.

Education must cater to and fulfill the society needs. However, the forms of knowledge acquisition and update have remained unchanged. The actual steps toward solving these problems are:

- creation of a unified educational information environment;
- the use of open learning;
- providing open access to distributed information and technological resources.

Knowledge management has become a new educational principle as well as formalization of knowledge creation, knowledge (access to knowledge) transmission (distribution) and knowledge control have become new technologies of education. Equal access to such technologies should be provided at all levels of education system.

In-depth and objective processes for the formation of a single open educational environment are on-going in the world. Specialized open-type education structures are created for this purpose. The search of a corresponding management structure and educational institutions (especially educational institutions for adults) is carried out, the ones that would provide for the transition from the "education for life" to the "life-long education" framework that is the major problem of 20<sup>th</sup> century. Educational environments can become the social institutions, able to provide a various array of educational services that facilitate uninterrupted learning, acquisition of modern professional knowledge, build up the educational path that would correspond to a student's learning skills and needs, regardless of one's location.

The following environment can be created as a consortium of connected educational institutions that would presuppose a joint information and pedagogical space of educational services that would back up the consecutive nature of study programs (catering to the demands and needs of customers), the possibility of a multi-dimensional education customer dynamics in the information and pedagogical space and



the derivation of prime development conditions through professional and educational consulting in terms of a uniform framework of technology.

The following collection of scientific works is devoted to the problem of openness in education and development of open educational environment that is one of the criteria of modern quality education.

*Natalia Morze,*

*Vice-Rector on Informational Technologies*

*Borys Grinchenko Kyiv University*

*PhD, Professor*

*Corresponding Member of National Academy*

*of Pedagogical Sciences of Ukraine*