# The Usage of Educational Portal for Distance Learning

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**Abstract**. It has been solved in 2011-2012 years for masters of faculty of physics, mathematics and computer science within the limits of a subject "the Technique of teaching of computer science in higher educational institutions" to introduce the Distance learning and training with use the Internet-technologies. The purpose of course: to get acquainted with the systems answering to the standard IMS, SCORM; acquisition of skills of creation and use of remote courses.

**Keywords**. System of the distance learning, Open Source.

**Key Terms**. TeachingProcess, InformationCommunicationTechnology.

## 1 Introduction

It's mentioned in the Law of Ukraine "About higher education" that currently in institutions of higher education the distance learning is used as well as full-time, part-time and external learning. In this document the necessity of constant improvement of specialist's general and professional level of education is accented. [1, 2]. Distance learning has a powerful potential to carry out this task. It is proved by the experience of using such form of education not only abroad in the developed countries but in some Ukrainian institutions of higher education.

In modern system of education the transition from reproductive model of study to self-oriented, creative model in the center of which there's active independent cognitive activity of every individual resulting in change of all the components of the didactical system is observed.

The most prominent example is distance education which involves the implementation of up-to-date efficient learning technologies. Essentially, the distance learning presents students' organized and independent activity in mastering new branch of knowledge and using it in practice. At the same time the role of teacher in distance learning is essentially been changed and it is more encouraging the cognitive activity than declaration of knowledge.

Every educational system is based on a certain didactical conception. This fact determines the selection of content, methods, organizational forms and means of

study. We deal with a new form of education: distance learning with the use of up-to-date IT methods.

The appearance of up-to-date hi-technology educational materials and using them in the professional activity requires the certain qualification and work organization of teacher of higher school educator and mid-level teacher.

The presentation of educational material which involves the communication between the educator and students requires more active and intensive interactions among the members of the educational process. The up-to-date communication technologies give such an opportunity; however, more than usual educator's efforts are needed.

Planning and implementing the distance courses in the studying process a tutor has to be an expert not only in his/her subject field, but use IT at a high level and know the principles of computing projecting and design. So far as the technology base of courses is improving quickly, the process of planning and support of educational courses is getting more complicated. It requires special skills and pedagogical methods from the tutor. Besides, up-to-date IT also requires the certain quality of educational materials because a great number of users will have an open access to them.

Within preparation of future teachers of the higher school we tried to lead their knowledge, skills to requirements of today, namely – to prepare experts in the field of distance learning.

The purpose of this subject: studying, analysis, research of methodical and practical decisions of questions in subjects of a is natural-mathematical cycle and use of system MOODLE in training.

The essential obstacles of a successful implementation of distance learning in Ukraine are unregulated legislative and normative base of this form of education for institutions of higher education, the absence of unified standards and principles of the planning of distance courses, insufficient training of personnel and of course financial and technical support.

The problems and conditions of organization and implementation of the distance form of education were the subject for research studies of native and foreign researchers. They are Backer H., Bykov V.Y., Kukharenko V.M., Moiseyeva M.V., Morze N.V., Oliynyk V.V., Polat Y.S., Rybalko O.V., Smirnova-Trybulska Y.M., Trius Y.V. and others.

## 2 Main Problem Solution

In 2011-2012 in Kherson State University the discipline "Methods and technology of distance learning" was introduced into practice for students getting the master degree in Informatics.

The main goal of the course is to form the knowledge and skills to plan and to use distance learning courses in the future professional activity.

During the course students are offered to diverge from the usual full-time attending and to try to study "in distance", students are offered to regulate independently the time they learn new information. Students may do practical tasks at any time working

by means of Internet on the platform of the distance learning and listen to any lecture in the university. The individual schedule of educational process for each student is provided in the distance learning though all the test classes and consultations are held with educator and students interacting directly.

**The goals of the course:**

**Methodical goals**

- To form in students methodically competent in using distance learning in professional pedagogical activity.
- To expose the significance and essence of projecting didactical models, the notion of methodical educational system, its structure and implementation.
- To clarify the psychological and pedagogical aspects of learning of the main notions of professionally-oriented disciplines. To direct students towards the need and opportunities of changing the content and methods of tutoring the professionally-oriented disciplines according to the IT state of development.
- To form the knowledge and skills in the area of objective estimate and analysis of advantages and disadvantages of the distance learning, models and types of distance courses.

**Cognitive goals**

- To develop the ability and feeling of necessity to self-educate and to self-improve, to research the ways of improving the process of teaching of professionally-oriented disciplines.
- To develop and extend the general idea of ways and perspectives of global informatization in the area of education.
- To provide the knowledge and to form the skills in planning academic disciplines in the institutions of higher education to use the distance learning in professional activity.

**Practical goals**

- To form the knowledge, skills, which are necessary for the creative teaching the academic disciplines in different conditions of technical, programming and methodical support.
- To provide future educators with the knowledge and skills concerning theme planning; development of the methods for conducting lectures, practical and laboratory classes; selection interactive methods and forms of study; use of Internet for educational purposes; assessment of the results of study according to the Bologna system.
- To form the knowledge, skills of distance courses planning and support.

The course “Methods and technology of distance learning” is both attended and distance. The material of distance part of the course is introduced in the system of the distance learning KSU ONLINE, which is built on the base of the open platform Moodle. The distance course consists of 16 weeks. First and second weeks are basic where students get acquainted with the models of the distance learning, the principles of structuring the courses, its resources and elements which are built on the Moodle platform. (fig. 1)

On the 3rd-12th weeks they form the skills of planning of the distance courses and the use of up-to-date technologies of study acquainting with the lectures, additional

data resources, the experience of educators of KSU chair of Informatics, deal with the development of methodical material and creating their own distance course.

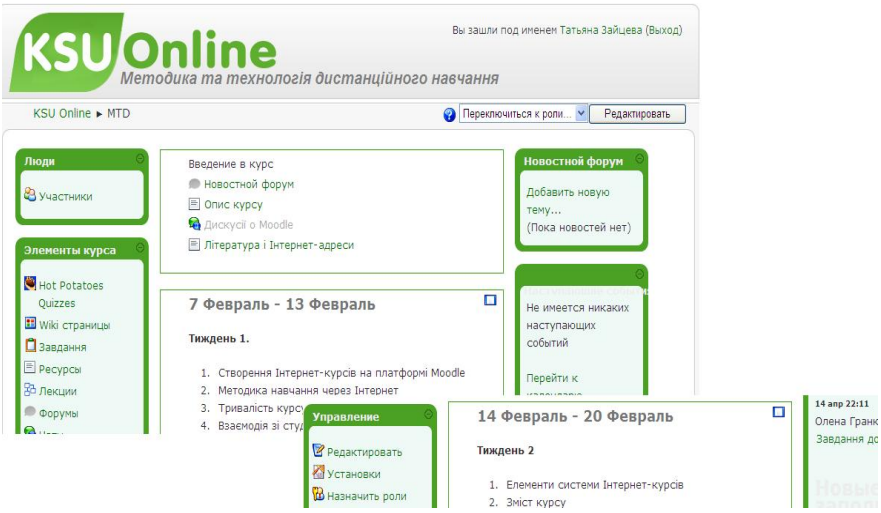


**Fig 1**. Distance course “Methods and technology of distance learning”.

On the last weeks students are signed up to other distance student courses which were developed on the alternative system of the distance learning. That is several studying groups are organized and students study and analyze other students’ distance courses, and in their own course they act as tutors.

Students take active part in the discussion of interesting problems on the forum and chats, and the virtual academic environment provides them with all necessary educational material.

Course study finishes in the presentation and defense of one's own distance course. They evaluate the quantity, diversity and relevance of the elements of the distance course, used by students – Lesson, Resources, Task, Exercise book, Tests, Questionnaire, Voting, Seminar, Dictionary, and synchronous and asynchronous forms of communication with students as well: Chat, Forum, Internal system of message exchange, communicator program, e-mail etc. (fig. 2)

Students were proposed the topics of distance courses, which are connected with their future professional activity. E.g. masters in specialty "Computer Science" developed the following courses: “Basic Principles of Internet Technologies”, "Basic Principles of Software Development (by example of C++)", "Data and Knowledge Bases".

Lecturers of the course “Methods and Techniques of Distant Learning” are advisors in the educational process and direct students’ academic activities, check tasks, organize interaction and communication, analyze the educational process and correct the course permanently.

See the course "Methods and Techniques of Distant Learning" and students’ distance courses on the distant learning platforms at the websites: http://www.ksuonline.ks.ua/, http://www.ksu.ks.ua/dls.

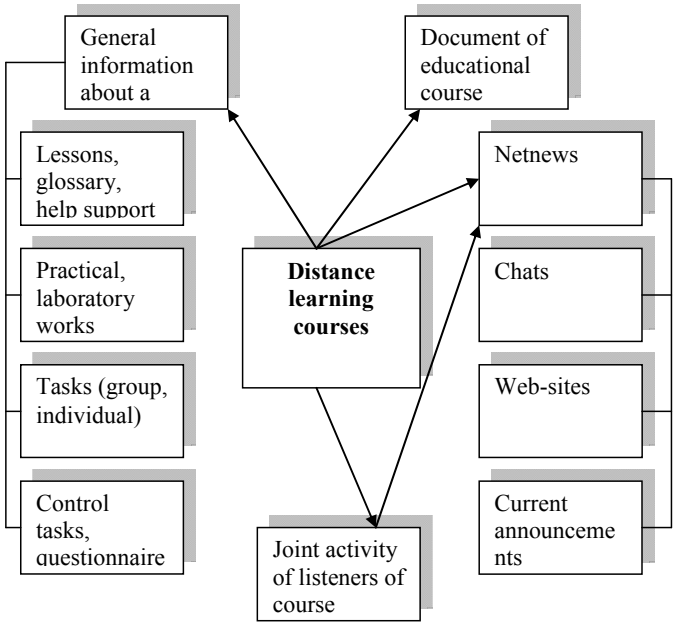


**Fig. 2**. Model of course of the distance learning courses.

To create their own courses students used two distant learning systems KSU ONLINE and "Kherson Virtual University". Both systems satisfy the IMS, SCORM standards (fig. 3).

Almost all distance courses, developed by students of the specialty "Computer Science" are connected with the computer programming, that's why the demand of methodologically based selection of the material for informational and didactic content of distance courses and testing systems caused some difficulties. Distinctly formulated standards of distance courses, which are connected with the computer programming, improving of the methodical training system of skilled staff and creation of the international distance learning platform to provide the experience exchange and researches could help to solve this problem.

Approbation of the distance courses was organized during the complex scientific pedagogical students' practice. The main thing, that students have studied, is the methodologically based approach to the selection and using in professional activities of informational communicative technologies (notably distant learning platforms) to achieve pedagogically important results.

Distance learning system KSU ONLINE is developed on the basis of Moodle open platform. The server part of module was implemented as standard LMS Moodle mode. Moodle is a Content Management System (CMS) developed to create online courses. Such systems are often called Learning Management System (LMS) or Virtual Learning Environments (VLE).

Moodle is an instrumental environment for development both online courses and educational websites. The project contains inherently the theory of social constructivism and its using in education.

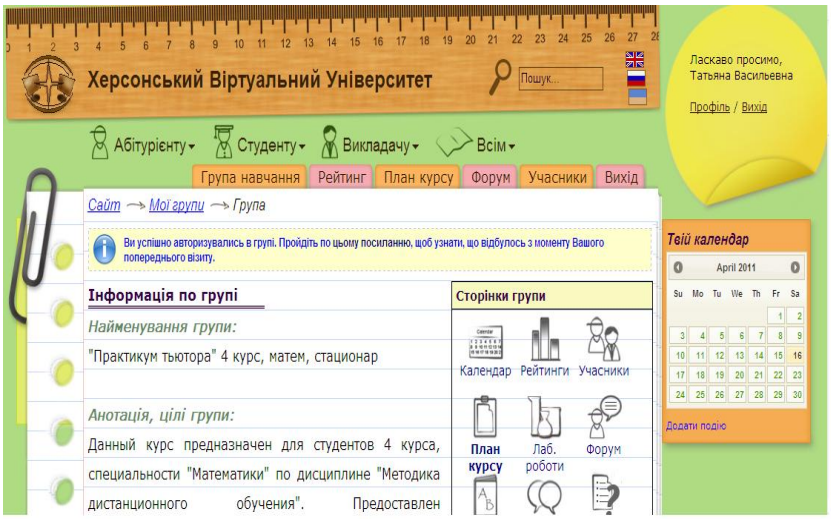


**Fig 3**. Distant learning systems “Kherson Virtual University”.

This free program complex meets the most e-learning demands of users by its functions, simplicity and convenience.

Moodle proposes the wide range of opportunities to support completely educational process in distant environment – different ways of giving curricular material, knowledge and progress monitoring.

Moddle is being distributed as the software with an open entry code (http://www.opensource.org/docs/definition_plain.html) under the GPL license. Moodle open program code is available on the following website: http://www.moodle.org/ to make changes, improving, modifications, which is developed almost every day by the world community specialists in the field of the software development and education programs support.

## 3 The Conclusion and Ways of Further Researches

There are a lot of variants for distance learning systems, which have different technical capacities, options, spheres of using, prices, hardware demands. Among them there are commercial products, such as Oracle (i-Learning), IBM (Learning Space), WebCT, e-Learning of “Hypermethod Company” (St. Petersburg), etc and Open Source products: MOODLE, ATutor, Dokeos, Claroline.

In result of different comparisons and tests, due to didactic, organizational, technical and, especially, pedagogical reasons, users and a certain educational institution may choose and install Open Source MOODLE system under GNU/GPL license. It can support LMS, CMS and VLE at the same time (i.e. it can be used to support all project, implementation and administrative stages of the educational

process). It meets the majority of modern demands concerning distance learning support systems as well.

System administration, creation of courses and their publication by a simple web-browser interface do not require the user to have any special computer study skills, but gives possibility to give mind on the subject filling of courses and their introduction in an educational process.

Students within the limits of course "Methods and technology of distance learning" purchased knowledge and ability not only in relation to development of the controlled from distance courses from an informatics but also had the opportunity to visit a role both tutor of own course and in a role of listener of other student courses.

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