

INTERNET-CLASSROOM: E-LEARNING IN RUSSIA

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ABSTRACT

Advanced computer technologies are used more and more actively by modern pedagogical community. E-learning courses give students wide area for researching and creative work according to their own curriculum. Advantages of E-learning are evident for Russia with its vast spaces. Russian education turned its attention to the computer based learning not long ago. It was quite predictable, that science teachers were more enthusiastic about computer technologies than others. Since April 2002 Moscow center of Internet education develops E-learning project "Internet-classroom". 157 students from distant regions of Russia (Altai, Karelia, Toliatty) participate in testing the system. They study chemistry, astronomy, physics, biology and geography. Software package, designed especially for the project, in combination with original methodic decisions forms accomplished educational environment, almost unique in Russian education. The project "Internet-classroom", though it continues for less than one year, presents great perspective of E-learning in Russia.

KEYWORDS

Federation of Internet education, Internet classroom, e-learning, tutor, student, innovative computer technologies, computer based learning.

INTRODUCTION

At the beginning of 2000 the YUKOS oil company developed the project "Pokolenije.ru (Generation.ru)". The President of the company Mr. Khodorkovsky took the lead in it. The main goal of the project was to bridge the gap between Russia and other developed countries in using modern technologies in education. The project assumed that 50 Centers of Internet education would be opened in different regions of Russia, and teachers would be taught to use Internet technologies in educational process. The project will last for five years. Generation.ru is the first non-commercial educational project in modern Russian history, which is held by one of the leaders of Russian business.

Federation of Internet Education

The Federation of Internet Education was established in April 2000 in order to realize the project. FIE is non-commercial organization, funded by YUKOS. There are leading specialists in education, members of the Russian Government, famous people in the coordination council of the Federation, such as vice-premier of Russian Government Valentina Matvienko; Minister of Education of Russia Vladimir Fillipov; the President of YUKOS oil company Michael Khodorkovsky; Russian astronaut, the Hero of the USSR Victor Savinykh; director of UNESCO Institute of information technologies and education Vladimir Kinelev etc.

The FIE has developed a "conveyor system", that allowed to create the Regional Center of Internet Education and organize its work in 2 – 3 months. The standard Regional Center can accept about 40 students at a time. All working places are equipped with modern computers connected to Internet. 28 Regional Centers are already created in Moscow, St. Petersburg, Voroneg, Samara, Tomsk, Krasnoyarsk, Novosibirsk, Nefteyugansk, Barnaul, Veliky Novgorod, Belgorod, Irkutsk, Bryansk,

Rostov-on-Don, Ulan-Ude, Saransk, Tambov, Tumen, Stavropol, Pensa, Kaliningrad, and Vladivostok... The project has already become the international one: the Center was opened in Minsk – the capital of Byelorussia.



Figure 1. Regional Centers of Internet Education on the map of Russia

The main task of the Centers all over Russia is to give teachers skills of using computers and Internet technologies in their work. The program is free of charge for the teachers: all expenses are taken by the Center.

Basic courses are:

- Internet technologies for the teacher;
- Specialist in educational methods of Internet Education;
- Tutor of Internet Education;
- The use of computer technologies in managing the educational process;
- Internet for the manager of educational institution;
- Internet for the manager of social institution;
- Manager of the Regional Center of Internet Education.

There are several other directions of activity for FIE besides education of the teachers.

FIE for young people – the main goal of the project is to popularize Internet Education among Russian youth. Business games, “Extreme Internet”, Internet – dancehall “The Faze”, virtual magazine “F-abrik.ru”, music projects, movie clips and so on.

WWW- projects of FIE – supporting for several educational Internet resources. You can reach projects Teacher.ru, Parent.ru, Teenager.ru, Writer.ru from FIE official site <http://www.fio.ru>

Revising the year 2000 in Russian education, the independent experts of “The teachers’ newspaper” decided FIE to be the “Firm of the year”. “It is the doubtless leader of our revision; - it wrote – The appearing of FIE is the only example of big business investing in education”.

Moscow Center of Internet Education

Moscow Center of Internet Education is the oldest and biggest one among Regional centers of FIE. Every month about 100 people study here, and during the time from its creating 3 years ago the Center accepted more than two thousand teachers from all over Russia.

Main projects of the Center, besides teaching, are:

- Developing programs and methods of teaching adults to use Internet technologies;
- Writing manuals and educational supplies both traditional – in paper – and computer versions;
- Organization and active participation in exhibitions and conferences on education. For example annual science and practical conference “Informational technologies in education”, annual conference “Russian school and Internet” etc;

- Localization and adaptation of the program Intel® “Teach to the Future” in Russia;
- Internet projects:
 - Network associations of specialists in educational methods – association supports teachers in methodical questions, creates distance education courses for the teachers, and provides communication between teachers;
 - Social project “Tutor.ru” – free of charge education for teachers from boarding-schools for orphans and disabled persons, orphanages and other orphans’ institutions;
 - Distance education – free of charge distance Internet education for the teachers;
 - Virtual magazine “The problems of Internet education” is published in Internet and on CD. It is free distributed by subscription among teachers;
 - Experimental work for development and testing of information environment’s model for educational institution, based on project from Samara.
 - “Internet classroom” – e-learning project for students, that will be described below.

INTERNET CLASSROOM

While e-learning is usual way of education in Western Europe, Australia, Canada and USA, it’s still exotic thing for Russia. Most of existing courses deals with economics, business and foreign languages. The use of innovative technologies sometimes is brought to e-mail correspondence only.

Since April 2002 Moscow center of Internet education develops E-learning project “Internet-classroom”. The main idea of the experiment is to create accomplished educational and technological model of e-learning course, including state educational standards, content of the courses, software and hardware, training of tutors, ways of communication between students and tutors. Software package, designed especially for the project, in combination with original methodic decisions forms accomplished educational environment, almost unique in Russian education.

Software package, designed especially for the project, consists of the course creating program “Uniar Producer 2002” and tests constructor “Uniar Builder 2002”. The author of the course can easily arrange lessons, lectures, tutorials, activities, simulations, graphics, multimedia of any existing format in the Producer’s shell, even without programming skills. Hyperlinks to useful Internet resources can be attached easily as well. During tests’ creating one can choose from 16 basic templates:

- Choose one answer amongst several possibilities;
- Choose correct answers from the list;
- Enter string of the text;
- Enter multi-string text;
- Fill in the form;
- Click graphic objects in correct order;
- Set up a correspondence between classes;
- Move objects in correct order;
- Assemble a schema;
- Enter a diagram;
- Enter a vector;
- Enter a formula; e.t.c.

Any graphics and multimedia can be used in tests as well as in the course material.

Educational software packages, encyclopedias, Web-sites and communication services (e-mail, conferences, forums, chats, Web-rings) give new opportunities to education. Enormous amount of information about any subject is available in the Web or on CD-ROMs. New communication environment makes corporative work in education more effective. E-learning courses should provide students wide area for researching and creative work according to their own curriculum.

Work of students, teachers and tutors in Internet-classroom is based on “new pedagogical paradigm”. Student is no longer object of teaching, but active subject. Knowledge are not *given* to the student, but are found, comprehended and put into practice during collaborative work of students and teachers.

Educational methods of Internet-classroom are based on:

- *Educational environment* – students discover and comprehend knowledge themselves; the teacher’s task is to provide conditions for students’ research work;
- *Constructing* – in order to build new data into student’s knowledge system, student should use existing or construct new educational structures;
- *Evolution* – teacher aims to develop capabilities of the student; the idea “educate and develop” is used instead of “evaluate and eliminate”;
- *Communication* – education really takes place only when significant personal communication between students, and between students and teachers exists; the more difficult objective the more important communication is; teacher’s task is to provide friendly communication between all members of educational process;
- *Cooperation* – though competition between students is useful sometimes, cooperative research enriches the educational process; experiments show that during collaborative work students usually achieve better results, than they show at individual works.

Structure of Internet-classroom includes:

- Moscow center of Internet education – content of the courses, students’ database are placed in the Center’s server; it also provides e-mail, forums, teleconferences, on-line tests;
- Specialists of MCIE – authors of e-learning courses;
- Tutors – regional specialists, working with students directly;
- Technology support – specialists, providing technology support in using software;
- Students – students from Moscow, Altai, Karelia, Toliatty, Samara, who participate in the experiment.

Students can study chemistry, astronomy, physics, biology and geography. One can choose several subjects to study.

Education in Internet-classroom includes:

- Set of activities - each activity consists of lectures, experiments, useful links, tasks for student’s original research; content of the course, ways of material’s presentation were developed by specialists of Moscow center of Internet education
- Off-line tests – they are used for self-control; results of that test are not sent to the tutor; student can pass the tests as many times as necessary to improve his knowledge;
- Forums and on-line conference – students can discuss their work with tutors and another students there; also forums give opportunity to conduct team-work with students from another regions; student can ask any sophisticated question in the forum, and he will receive answer not from the teacher, but from another student; teachers and tutors do not give definitive answers – they advise, how student can find it;
- On-line tests – student’s knowledge are evaluated during the test; when the test is passed successfully, the next portion of the course becomes available for the student.

Also students are encouraged to send detailed reports on their work and ask tutor about anything unclear by e-mail. The more detailed description of learning process student sends the better teacher can personalize educational trajectory of the student.

More sophisticated tasks are given for collaborative students’ work. One of the examples of team-work: the first student receives the task on research. The answer, found during his work, is used in the task of

the second student...e.t.c. The chain of students' works leads to the final *big result*, that is sent to the teacher along with intermediate answers.

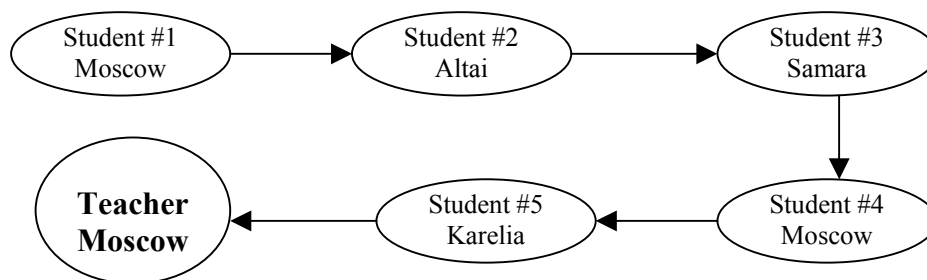


Figure 2. Schema of task for collaborative work

Since April 2002 the project Internet-classroom passed three stages.

April – May 2002: testing of the system in Moscow only. The main task of that period was to detect most obvious difficulties. 87 students from four Moscow colleges participated in the experiment. During two months they studied chosen subjects using Internet-classroom. Everybody found this way of learning more interesting and convenient than usual lessons in spite of some problems with interface usability.

June – August 2002: System was made more suitable for dial-up connections to Internet (that are most common in Russia). Interface of the courses and test pages became more understandable. Recommendations for regional tutors were developed basing on obtained results.

September 2002 – March 2003: testing of the project in five regions. 157 students from Altai, Karelia, Moscow, Samara and Toliatty participate in the experiment. Students show constant interest in learning and independent research work. On-line conferences are held regularly. Most of students note that they prefer to communicate with virtual teacher by e-mail, they would rather ask him than real teacher in the auditorium. Everybody marked that regional tutor's role is very important.

The project "Internet-classroom", though it continues for less than one year, presents great perspective of E-learning in Russia.

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