



DISTANCE AND OPEN UNIVERSITIES: A NEW TECHNOLOGICAL BASIS

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Abstract: the article discusses new models of university education, such as distance and open universities, which are based on the model of correspondence education, modernizing it based on the use of modern computer and telecommunication technologies in the educational process. The experience of the Spanish National University of Distance Education - Universidad Nacional de Educacion a Distancia - UNED and the British Open University is analyzed. Standards for the development of distance courses and administrative systems, the principle of openness, the use of a computer conference system on a mass scale, economic problems associated with the use of new technologies and ways to solve them are also considered.

Key words: distance and open universities, modern information technologies, the principle of openness, TV and computer conferences, teaching loads, home computer, tutors-consultants. The initial characteristic of such elements of the new model of university education as distance and open universities is that they develop largely based on the model of correspondence education, modernizing it based on the use of modern computer and telecommunication technologies in the educational process.

Universities of correspondence education, in which education until recently was carried out on the basis of printed materials, often have a developed infrastructure, rich pedagogical and organizational experience in distance learning, which are used to develop a new system of distance university education.

As an example of the successful development of distance universities, one can study the experience of the Spanish National University of Distance Education - Universidad Nacional de Educacion a Distancia - UNED.

The need to develop one of the main goals of educational reform - equal opportunities for all - requires the use of such means that increase access to higher education for those who, for reasons such as place of residence, work, etc., cannot attend classes in programs offered by traditional universities.

UNED uses several different teaching media, although printed materials remain the most important. The National Radio of Spain (Radio Nacional de Espana) broadcasts the radio programs of this university from 20:00 to 23:00 every evening. Audio and video cassettes are also important media in UNED.

This university has created standards for the development of distance courses and administrative systems in order to support distance students. It has a network of regional learning centers and uses a range of distance learning tools.

UNED illustrates the emergence of a new model of university education through the development of a distance learning university based on modern information technologies.

The principle of open education means the freedom to enroll in the number of trainees and draw up an individual curriculum, as well as the freedom of place, time and pace of learning.

At the heart of open education is a rich and detailed educational environment in which the student navigates completely independently, striving to achieve the educational goals facing him.

This new form of organization of education is based on the principle of openness, which in relation to higher education means:

open admission to a higher educational institution, i.e. refusal of any conditions and requirements for enrollment, except for one - reaching the age of 18 years;

open learning planning, i.e. freedom to draw up an individual training program by choosing from a system of courses;

freedom in choosing the time and pace of learning, i.e. admission of students to the university throughout the year and the absence of fixed terms of study;

freedom in choosing a place of study: the educational process is organized in such a way that students can choose where to study for most of the study time.

The implementation of the principle of openness has led to significant organizational innovations, which have become practically feasible precisely due to the introduction of new technologies for storing, processing and transmitting information. The use of remote technologies makes it possible to implement the principle of openness to the fullest extent.

In the development of distance open education, rich experience has been accumulated at the British Open University (OU). The purpose of the educational institution is to provide adults with a "second chance" for higher education and the opportunity to improve their skills on the job.

The OU has its branches in 13 different regions throughout the country. There are no requirements for admission to the OU, except that the student must be at least 18 years old and be a citizen of one of the countries of the European Community (as well as several other countries with which there are special agreements). Important for the development of distance university education was the fact that in 1988 the Open University recruited 1364 students for distance learning in the DT200 course, which is partly taught through a system of computer conferences. Each of the 65 part-time tutors led a computer conference, which was attended by up to 25 students. The communication element was part of the course work. Thus, the OU has been conducting a large-scale course for several years using the computer conference system on a massive scale.

This experience showed how it is possible to conduct a large-scale course in a single system of computer conferences, when students are divided into smaller groups, each of which is led (managed) by a tutor.

The economic aspects of this experience in their connection with other aspects - pedagogical, organizational - are explored in the work of Ray Thomas "Benefits and costs of computer conferences in adult education" [1, pp. 65-72].

At the Open University, computer conferencing is used alongside teaching aids such as mailing lists, educational broadcasts on radio and television, audio and video cassettes, and classroom teaching. The introduction of computer conferencing required significant changes in curricula that could not have been implemented without solving the economic problems that arose from this. As R. Thomas notes, "the only way to change other components of the DT200 course

in order to ensure the use of computer conferences was to introduce payment for tutors for holding conferences and reduce the teaching time that they had to devote to classes in classrooms, teaching students. The tutor was paid £139 for the computer conference, which was the equivalent of 8 hours of classroom training." [1, p.66].

The implementation of a new learning tool required great attention to the workload of not only teachers, but also students. The DT200 course was considered by students to be the most overburdened of the 8 courses first introduced at the Open University. Both students and teachers in their majority immediately appreciated the advantages of computer conferences as a new educational tool, but they unanimously complained about the lack of time. This means that the implementation of new technology into the educational process requires its major organizational and economic changes.

In the course of such transformations, a new infrastructure of the educational process is being created. Thus, students studying the DT200 course were automatically connected to 4 computer conferences. They were members of a local conference chaired by their course tutor and attended by 15-25 students. The student also joined one of 6 regional conferences, each with 200-250 students and up to 16 tutors, and 2 national conferences.

This structure creates many economic problems. Since the students at the Open University are self-reimbursing for the use of telephone lines, "one of the main problems was the differentiated prices for access to telephone lines. About half of the students of the course live within access to the prices of local calls to one of the 17 local nodes of the Academic Computer National Network of the Open University. For these students, the cost of using the off-peak conferencing system is slightly more than 50p per hour. However, a proportion (13-18%) of students have encountered rates that are more than 4 pounds sterling in an hour" [1, p.67].

Thus, the use of new technologies in the educational process gives rise to many economic problems.

One of the sources for solving these problems is the redistribution of costs for the organization of the educational process. In the correspondence model of education, the main costs are associated with the preparation of educational material. In the case of teleconferencing, in particular computer conferences, the main costs are associated with the stage of conducting classes, and not the preparation of materials. Since the discussion held during the teleconference largely replaces the educational and methodological study of the material, insofar as the funds intended for the development of methodological recommendations can be directed to holding teleconferences. In this case, students may be sent not detailed methodological developments of courses, but "raw" journal articles, excerpts from books, statistical data, etc. The place of their methodological study will be taken by discussions during the teleconference. This method is both pedagogically and economically meaningful.

The costs of conducting a single course using a teleconference can be difficult to separate from the costs of building and maintaining a telematics system as a whole. A significant source of solving the economic problems of introducing new technologies into the educational process can be the economies of scale that arise when using telematic systems.

Computer conferences for the DT200 course at the British Open University have demonstrated the existence of such economies, the main source of which lies in the mutual learning of students, which allows one teacher to manage computer conferences in which hundreds of students participate.



A striking example of the successful implementation of information technology policy is the Home Computing Policy - Policy on the use of home computers.

The use of modern computer technologies in the educational process only contributes to the development of open education when an appropriate organizational infrastructure has been created. If it is not developed, then the introduction of high technologies into the educational process may, on the contrary, come into conflict with the principle of open education, creating significant barriers to knowledge for some potential students.

A. Jones summarizes the experience of the Open University in implementing the policy in question in the first years of its implementation [2, pp. 183-193]. This experience is of interest because it demonstrates what an important role in the development of a new model of university education is played by an adequate organizational policy for the development of an appropriate organizational infrastructure for a modern educational system.

The Home Computer Policy at the Open University had as its main goal the provision of wide access for students to modern computer technologies. During the first two years of this policy, more than 13.5 thousand students already had such access. Prior to the development of a policy on the use of home computers, Open University students used computers at local summer schools and regional training centers. However, it was found that for many students, the effort and time required to order computer time, required to travel to and from the training center, associated with learning to work on a computer, etc., turned out to be more than the benefits received. The sharp drop in the price of microcomputer systems in the 1980s made it possible to raise the issue of developing a policy for the use of computers at home.

Particular attention in the implementation of this strategic decision was given to measures aimed at alleviating the financial costs of students. To this end, a number of schemes have been developed, namely, reduced fees for computer-based courses; bank loan for the purchase of cars; computer rental schemes, discounts on the purchase of certain machines, etc.

The main problem in implementing a policy on the use of home computers is to ensure the necessary access to computer equipment. Access means both the availability of a computer, the student's ability to afford such a technical tool, and the choice of an appropriate way to ensure this accessibility (purchase, rent, use of a computer at work), and the reliability of equipment, and ease of installation and use, etc.

The second issue at the center of this policy is to ensure the widest possible use of the home computer. It is necessary to proceed from the fact that the computer located at the student's home should be used by him not only for educational purposes, and moreover, the machine should be used as much as possible not only by the student himself, but also by other people - members of his family, especially children, friends etc. This increases the return on investment for the purchase of a computer and promotes information technology.

The third problem that needs to be given special attention when implementing this organizational policy is the problem of the influence of a home computer on the student's workload and the organization of his work in these conditions. It turned out that often the use of computer training at home can lead to a significant increase in the time required to complete educational tasks and, as a result, to the fact that the student drops out of the training course. The discovery of this led to the development of special recommendations for

course developers using computer learning, in particular, the desire to more accurately predict the time it would take a student to study a course, etc.

Another significant problem turned out to be providing the necessary assistance to the student when working on a home computer. To solve it, an extensive system of help and support was developed: a university center for the provision of computer services, a faculty center, and a system of tutors-consultants.

An important consequence of a sound policy on the use of home computers was, for example, that the university was able to use the most advanced teaching technologies in its work, in particular, holding computer conferences for educational purposes.

The experience of the Open University of Great Britain clearly shows what an important role an appropriate organizational policy plays in the development of university education based on modern information technologies, as well as how consistently, purposefully and reasonably it should be carried out in order to ensure the success of the formation and development of a new educational system. The technologies it uses are printed materials, audio and video cassettes, computer training programs.

Summing up, it should be noted that the development of distance and open universities on a new technological basis is characterized by:

using the experience and infrastructure of correspondence education, a network of regional centers for the development of new educational models based on modern information technologies;

development of new economic and organizational mechanisms of the educational process in the course of changing its technological basis.

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