



THE NEW MODEL OF THE UNIVERSITY: THE IMPACT OF MODERN INFORMATION TECHNOLOGIES

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<https://doi.org/10.5281/zenodo.7898634>

Abstract. The article analyzes the experience of Ulster University and Victoria University in distance education as a new model of university education. Development in traditional universities of a new educational environment based on modern information technologies; overcoming the resistance of the academic community of traditional universities to the development of new educational technologies; formation of special divisions of distance education in the structure of traditional universities; development of consortiums of universities and teleuniversities, virtual classrooms and universities.

Key words. Computer and telecommunication technologies; distance education; traditional universities; consortium of universities; teleuniversities; virtual universities; audio conferences; videoconferencing; education technologies.

An analysis of the development of university education in the world shows that under the influence of modern computer and telecommunication technologies in the conditions of market development in the field of education, a new model of the university is being formed. This model combines traditional education and several main types of institutional forms (organizational structures) of distance university education. The main new types of organizational structures of distance university education are such institutional forms as distance education units in traditional and open universities, university consortiums, teleuniversities, virtual classrooms, virtual universities. All these forms can be considered as components of a new model of university education.

Traditional universities around the world are essential to the development of a new system of university education. As centers of education with leading experts, traditional universities have significant potential to become centers for the development of modern distance university courses. This is based on the development of special units of distance education in traditional universities.

These units of distance education can, firstly, develop and deliver distance courses within their own university, especially when university buildings are located at a considerable distance or there are branches in different cities; secondly, to develop distance university courses for the market of educational services.

To develop these departments in the first direction, it is important to use the experience of such recognized leaders in the field of distance learning as the University of Ulster, which actively uses video conferencing to teach students on their campuses [1, pp.44-51].

The need for distance learning at this university is related to its structure: it was formed by the merger of several educational institutions and consists of four separate university territories, separated from each other by more than 72 miles. The merger of several institutions into one, on the one hand, means the rationalization of the learning process, since

the same course can be taught on different campuses. On the other hand, teaching the same course in different places meant, for example, that a university professor had to travel between campuses about 1,740 miles each semester. This stimulated the development of distance education methods. Another impetus was that growing government pressure on universities to become more cost effective has called into question the existence of courses designed for a small number of students. The development of distance learning methods made it possible to include people from different places in the group of course participants and thereby assemble a group of sufficient size.

Thus, the need to use distance learning methods at the University of Ulster was realized under the pressure of mainly economic factors.

The first step in this regard was the holding of an audio conference at the Faculty of Continuing Education and Adult Education in the mid-80s. The experience turned out to be successful both economically and pedagogically. Teachers have joined the world of distance education, understood its specifics, features of its methods. This made it possible in the early 1990s to develop the idea of using video conferencing, presenting it in the form of a research project. Video conferencing in this project was seen as an experiment in the development of new teaching and learning technologies. The key point of the project was the detailed development of a research environment in which training takes place by videoconference. The elements of this environment were the collection by professors of internal data on the progress of learning and the collection by a special researcher of data external to the educational process on learning by a new method. A methodology for questioning both professors and trainees was developed in detail. In addition, it was assumed that all participants in the videoconferences filled out weekly diaries in which they would record their reflections on the essence of new educational technologies. The opinions of the videoconference participants were also obtained during pre-scheduled interviews.

Of course, the detailed development of the research environment for the study of new educational technologies, the conduct of research and their constant analysis largely determined the success of the University of Ulster in conducting training with a new method - the method of videoconferencing. An equally important role, apparently, was played by the very choice of the composition of the classroom for the experiment on the development of a new educational technology. This audience consisted of adults (mean age 32), most of whom were teachers themselves by profession. Thus, the formation of a new educational technology was the result of the joint creativity of both the professors leading the videoconference and the students participating in it.

Since the development of distance education is largely associated with the need to improve the economic efficiency of the educational system, the evaluation of efficiency is always at the center of such projects. However, as we have already argued, assessing the economic efficiency of a new education system is a rather complex problem. So, with distance learning, the reduction in travel costs is obvious. However, in general, the cost-effectiveness of the new training system is rather difficult to assess. For example, this is how the cost savings of using videoconferencing at the University of Ulster are described: "The cost savings for three professors each making 7 trips instead of 14 was in the order of £785. However, there were other costs as a result of distance teaching via videoconferencing, such as for stationery, photocopying and phone calls. These costs have not been calculated. The professors did not calculate capital costs, depreciation, equipment maintenance costs, or the cost of renting

special telephone lines, so they could not make any judgments about the effectiveness of the experiment as a whole [1, p.50].

The development of distance learning, and especially in such expensive forms as videoconferencing, is costly. It is possible that at first these costs will be much more than the savings on travel costs. Therefore, it is no coincidence that professors from the University of Ulster emphasize that the fate of distance learning at the university depends "on the university's commitment to videoconferencing and its desire to develop this system, as well as whether the university is willing to use videoconferencing to strengthen its role in distance and open learning" [1, p.50] - that is, from factors of a managerial nature. However, with a fairly wide distribution of new educational technologies, with the manifestation of the effect of economies of scale in educational activities, the effectiveness of new forms of education exceeds the efficiency of traditional university education.

The development of distance education units in traditional universities often encounters serious difficulties and problems that are associated with significant resistance to the introduction of new educational technologies on the part of the teaching staff and other employees of traditional universities. These difficulties are well described in the work "Looking into the Future: Vocational Education in the 21st Century" by P.D. Murphy and M. Nixon, employees of the University located in the city of Victoria, the administrative center of the Canadian province of British Columbia, who, since the early 80s, have been developing distance education at this university.

The very appeal of the traditional provincial university to the field of distance education was due to the fact that in the early 80s the university became the object of serious financial restrictions, while the demand for education at the university and postgraduate levels not only did not decrease, but even increased constantly. In addition, the specifics of the Canadian province, in which small, widely separated urban and rural communities are settled over a vast territory, suggested the need to develop a distance form of education. In the 1960s, the first model of distance education, distance learning, developed in the province, in which interaction between teachers and students at a distance was carried out through materials sent by regular mail. However, the development of telecommunication technologies stimulated their use in distance learning, and already in the late 70s, the first experiment on the use of satellite communications in distance learning was conducted at the University of Victoria. In the early 1980s, a special organization, the Office of Open Learning, was established in the province to assist higher education institutions in the development and dissemination of their educational programs through artificial satellites and cable television. Thus, a very complex and extensive telecommunications network designed for distance education began to develop in the province.

All this contributed to the development of new distance education projects at the university, and such projects began to be increasingly proposed. However, throughout the entire decade of the 1980s, these projects encountered such strong opposition from traditional university structures that they could not overcome in any way. As a result, distance learning projects could not get out of the initial phase for many years.

The example of the University of Victoria is therefore of interest because such a situation with the development of distance courses is typical for traditional universities. The roots of this situation go deep into the structure of traditional university education. And analyzing their experience in the above-mentioned work, its authors come to the conclusion that "the main

sources of resistance to projects were associated more with philosophical, political and power problems than with technical and financial" [2, p.133].

The academic community of a traditional university often strongly resists distance learning initiatives, motivating its attitude by asserting the insufficient quality of new courses, resulting from the limited communication between a teacher and a student in distance learning. Of course, the problem of the quality of distance courses exists, but this problem is also characteristic of traditional education, and in an acute form. The development of distance learning technologies provides great opportunities to improve the quality of training courses. Sometimes, when resisting the development of distance education, the emphasis is on technical difficulties, the high cost of developing and implementing projects, their high risk, etc. However, behind all these objections there is usually resistance to the radical change in the educational system that the development of distance learning methods entails. One cannot but agree with P. Murphy and M. Nixon that the resistance of the academic community to their distance education project is explained by the fact that "this project was in conflict with the established practice of teaching at the university. Traditionally, courses have been taught to large groups of students in a face-to-face setting. And although it cannot be proven that the accepted teaching standards in higher education are superior to the recently introduced methods of distance learning, tradition has become a brake on the way of their implementation [2, p.134].

The teaching staff of traditional universities is often aware that distance education means a radical change in the place of the teacher in the educational process, his functions and style of work, requires significant retraining, can lead to radical changes in the regional structure of higher education, the style of the university and how it is managed, and therefore prefers to "preserve the status quo than to embark on such far-reaching transformations."

The reason for the change in attitudes towards distance learning at the University of Victoria is also typical - the emergence of a new university: "The emergence of a new institution of higher education, which was supposed to function on a non-traditional basis, created a potential threat to disrupt the status quo due to the redistribution of resources, traditional academic territories, power and influence, student population and political support. In this regard, the universities of the province were very interested in exploring possible initiatives. A climate favorable for change and the introduction of new forms of education has emerged." [2, p.135]. However, it is difficult to agree with the authors of the work that "the excitement generated by the creation of a new university will be forgotten in the near future. A new status quo will be established. The internal inertia of universities will gain strength, and experiments in the field of distance learning will again be very difficult" [2, p.141]. The fact that traditional universities overcome the barriers of a negative attitude towards distance education is due to the deep processes of the formation of the information society, the informatization of public life in general and the education sector in particular.

Distance education units have been developing very widely in recent years. A division of a traditional university can develop and deliver distance education courses based on two technology solutions called case technology and network technology. The characteristics of these two solutions are shown in Figure 1.

Figure 1

Distance education technologies

Case technology	Network technology
Teaching and practical aids (TPA) for courses, combined into a portfolio (case) for the curriculum: printed educational material and tests for each section of the course	Network electronic library: placement of TPA in a computer network, Web pages with educational material and tests
Face-to-face classes with a tutor of the training center: introductory seminar, face-to-face consultations 1-2 times a week, final seminar, testing by a tutor of tests	Independent study of the material of Web pages, sending tests to the tutor by e-mail
Consultations with a tutor via phone, fax, e-mail	Consultations with the tutor by e-mail: the student has the right to ask the tutor 5 questions, the tutor's response time is 3 days
Face-to-face examination at the training center	

The development of distance education is necessary for traditional universities, firstly, in order to expand the range of educational services provided and solve their economic problems, and secondly, in order to withstand competition from other, non-traditional course developers both from their region and from other regions and even countries. After all, distance education units in traditional universities work, as a rule, on the principles of self-sufficiency, which distinguishes them favorably from most other units. With a certain development of distance education, achieving economies of scale, these units bring significant income.

However, for its focus on profitability, distance education is often criticized by the academic community of the traditional university. However, this orientation is increasingly spreading in traditional universities, covering their most diverse departments. And the fact that the formation of distance education units in traditional universities contributes to their development on a market basis is fundamentally important for the formation of a new model of university education.

Distance education divisions of traditional universities are becoming an important element of the new model of the university, since, firstly, they change the structure, functions, methods of operation of a traditional university, and secondly, they are the basis for the formation of such new forms of university education as a consortium of universities, teleuniversity, virtual classes and universities. It is with the formation of these new institutional forms of university education that the development of the market of educational services is largely connected.

So, the development on the basis of modern computer and telecommunication technologies of a new university model involves:

- development in traditional universities of a new educational environment based on modern information technologies;
- overcoming the resistance of the academic community of traditional universities to the development of new educational technologies;



- formation of special units of distance education in the structure of traditional universities;
- development of these divisions, as well as other organizational structures of distance university education on a market basis;
- development of consortiums of universities and teleuniversities, virtual classrooms and universities.

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