THE PROBLEMS AND PROSPECTS OF ONLINE EDUCATION IN KYRGYZSTAN

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Abstract: This research investigates the issues and prospects of digital education in Kyrgyzstan. The significant development of distance in education, as well as the unlimited flows of international mobility of students and teachers, educational programs, or even the institutions of higher education, form another key aspect of the evolutionary process under consideration. It is characterized by such an indicator as continuity, flexibility, modularity, independence and provides access to education to all citizens, regardless of location, age, position, position, as well as people with disabilities. Distance education allows to respond adequately and flexibly to the needs of society, implement the constitutional norm of access to education, and ensure broad access to education.
Keywords: virtual training technology, mobility, distance education, information satellite educational system, training center terminal, network of the training center, stationary training terminal, information and communication equipment, set of recording telecourse works.

I.   Introduction

The Government of Kyrgyzstan has begun to improve access to education in this categories of people, including through the use of digital technologies, the application of distance learning for children. For example, amendments to laws are being prepared on education and social protection of children, which relate to the introduction of digital educational standards and methods to increase the coverage of the number of students in individual and group order. The introduction of distance education into practice may decrease due to the presence of obstacles that are difficult to foresee at the stage [2].

Distance learning is a new organization of the educational process based on the principles of independence. The individuality and modularity of learning are a flexible and democratic learning organization that allow almost every person to realize their right to education and receive information. In the modern information in the world, there is a desire to distance learning technologies, since the most people in learning process resorts to Internet resources, where teachers and learners can find absolutely any topic or information of interest. Today's youth is the information generation, i.e. availability for electronic educational programs, textbooks, assignments does not go beyond in habitual life. Information support helps students to acquire knowledge, skills in many ways and move with the times. In connection with the rapid development of technology, information educational technologies, in particular distance or online education. Distance education has the ability to replace traditional education that allows solving the problems of modernity – fast information development. Online education and distance education is considered a manifestation of the process of virtualization of society.

The analysis of some modern trends in the development of information processes in Kyrgyzstan, using materials from UN reports and reports from the World Economic Forum (WEF), showed the loss of Kyrgyzstan's positions in world rankings. Despite some progress in Kyrgyzstan in the field of informatization, it is necessary to note that other countries are developing faster. In the Global Information Technology Reports on the Computer Network Readiness Index (The Networked Readiness Index 2009–2010) Kyrgyzstan in 2008 was in 114th place out of 127, in 2009 - in 115th

place out of 134, in 2010 - in 123rd place out of 133. All this indicates the seriousness of the problems in the conditions of Kyrgyzstan and confirms the relevance of ongoing work on the integration of electronic distance education [1].

However, a significant development of distance higher education, such as unlimited flows of international mobility of students and teachers, educational programs or even the institutions themselves in education forming another key aspect of the evolutionary process under consideration. More people choose to study abroad, study under foreign programs in the foreign universities are located in their country or simply use the Internet to take a course or training program by foreign universities or other institutions.

II.   The methodology of research

In this study, in order to answer questions about the possibility of application of distance education for children receiving stationary treatment, questionnaires were developed to conduct semi-structured interviews among children, parents, health workers, and teachers. Asking questions were almost the same for all groups with slight modification for each group of participants. During participant selection, the researcher took into account the gender aspect in order to have a representative sample [8]. The selection of participants and institutions was based on different types of diseases:

- requiring hospitalization;
- institutions that have the ability to educate children;
- parents who are in hospitals to care for a sick child.

All participants voluntarily participated in the study and signed informed consent. Children who participated in the presence of parents or their legal representatives at the time of treatment. All participants were offered coffee, break in the form of lunch packages, for the time spent as a reward.

1.   creation of questionnaires for various population groups for conducting semi-structured interviews;
2.   processing of received data: obtaining analytical data (correlation, mean, etc.);
3.   to study the problem, the opinion of 4 main groups was taken into account communities: children on treatment/recovered from illness, parents of children, medical workers, teachers.

III.   Data analysis and discussion

The development is the result of a combination of different, but not mutually exclusive factors:
- the desire of countries to develop academic and cultural exchanges;
- the growing mobility of skilled professionals and professionals in the conditions of a globalized economy;
- the desire of modern institutions of higher education to receive additional income or improve their status and strengthening the reputation in the national and international arena;
- even the need to benefit from the economically active population with higher education in countries with developing economies or affected by population aging processes [4].

Although international mobility has traditionally characterized the academic world, its dynamics has seriously changed. Twenty years ago, mobility was largely conditioned by ongoing political, geostrategic, cultural processes or processes related to the promotion of international development: countries supported mobility as one of the ways to become more open to the outside world, in the hope of creating an elite international networks. The modern market of educational services is increasingly exposed to such factor and globalization of the educational environment. Therefore, non-traditional forms, methods and means of traditional education and distance education are beginning to occupy an increasing place. This is characterized by such indicators as continuity, flexibility, modularity, independence and access to education for all citizens, regardless of location, age, position, position, as well as people with disabilities. Without leaving home, the students have the opportunity to study regardless of their place of residence and do not waste time on endless meetings with teachers, task on the computer.

Distance education is a natural development of the ideas of decentralization of learning processes, offering a wide application of the latest information and communication technologies, satellite communications, cable television, multimedia systems, virtual environments in the educational process. Distance education makes it is possible to most adequately and flexibly respond to the needs of society, to implement the constitutional norm of accessibility of education, to provide wide access to education, including for those who, for some reason, traditional forms of education are unacceptable, and also to solve the problem of significant expanding the contingent of the population with higher and additional professional education.

Having studied the possibilities of distance education as a means of raising the educational level of the population of hard-to-reach mountainous regions, ten years ago the International University of Kyrgyzstan began active cooperation with Modern Humanitarian Academy (Moscow), which has accumulated extensive experience in this educational area. International University of Kyrgyzstan was created as a university of distance education for the first time not only relying on traditional educational technologies, but only on modern information and communication technologies [7]. The need to create such a university follows from the requirements of today's realities and the order of society. International University of Kyrgyzstan together with the Modern Humanitarian Academy, uses satellite communications and telecommunication technologies to distance learning for students of the Kyrgyz-Russian Institute of Distance training. One of the elements of this virtual training technology is educational planning. It provides for the development of an individual curriculum for each student based on variability as content of education, as well as the timing and pace of learning. Moreover, the decision to expand the content or, conversely, to reduce it to a minimum, which is established by state standards, as well as to accelerate the pace of learning or slow it down, is made by the student himself.

The virtual training technology is based on a modular principle which involves the division of an academic discipline into logically closed blocks, called modules or units, within both the study of new material and control measures to verify its assimilation. The module is designed for approximately 45 academic hours (50 minutes each) of classroom lessons, which includes work with a teacher and independent work of a student. KRIDO students study an average of 17 units during one semester. KRIDO - the only university in the Kyrgyz Republic that provides each student with a set of printed educational materials (unit) in all studied disciplines. The presence of a personal set of educational materials reduces the time of searching for educational literature and other sources of information, which is one of the important elements of on-the-job training. In turn, the openness of education means the freedom to enroll in a group of trainees and choose training courses, compiling of individual curriculum, as well as freedom of place, time, forms and pace of learning. Open education should be built on the basis of network information technologies that allow to combine the educational resources of the largest technical and classical universities.

As a technological basis for distance learning for the system higher professional education at the Kyrgyz-Russian Institute of Distance Education uses information and satellite educational technology. The basis of this technology is the Information and Satellite Educational System (ISES), which provides communication between KRIDO and the Modern Humanitarian Academy in Moscow, which provides access to significant information and library resources. The base terminal has a teleport for satellite television and transmission of digital information via satellite, the base server is large container containing the entire accumulated educational digital component, and also hosts the educational dossiers of all students, all archives, which performs a number of functions to support administrative actions, accounting, mail, etc. In terms of the amount of information it contains, the basic server can be comparable to largest libraries in the world.

The network of the training center is a high-speed (100 Mb) local network including:
- Training center terminal, consisting of a receiving antenna and a consumer server.

- Stationary training terminals - training places equipped with various types of electronic educational equipment for conducting individual and group classes using virtual training technology of education.

All materials planned for transfer to training centers within the framework of the ISES, converted to digital format. The concept of digital content has been introduced. The idea of the ISES is to create a unified network of electronic learning (jobs), students and staff of the training center, which is connected to the consumer server. The consumer regional server is constantly upgraded and updated with new digital content via satellite. To ensure the learning process with using information and communication technologies in the training center of the information and library resources prepared by the base university and transmitted through the ISES are implemented, including educational, methodological and administrative bases of documents. An important part of this system is the possibility of bidirectional communication, which is provided by the network of stations of the VSAT system of terminals (VSAT - Very Small Aperture Terminal - small satellite earth station) for bidirectional IP applications, which provides access from the terminals for KRIDO to the base terminal in Moscow [3]. Satellite channel - channel leased on the Express-AM-2 satellite, broadcasting in the Ki-band. The scheme of data transmission via satellite is asymmetric and consists of two information flows:

- a direct stream that transmits large amounts of information in the direction of base terminal, satellite - training center terminal;

- reverse flow, transmitting a small amount of information (reports and queries) in the direction: terminals of training centers - Internet or satellite telephony - base terminal. The terminal of the training center is a complex of ISES devices, consisting of a receiving antenna and a consumer (regional, local, individual) server.

The network of the training center is a high-speed one (at least 100 Mb), a local network including a consumer server and stationary training terminals. Information and communication equipment (ICT equipment) equipment designed for the implementation of teaching technology.

Stationary training terminal - is a training (working) place equipped with various types of electronic educational equipment, for individual and / or group classes on virtual training technology of education.

TV server - a computer device with an improved configuration designed for viewing digital video lectures, working in conjunction with a TV or video projector.

The technical means of informatization – the equipment that provides informatization of the training center, communication with the base university, data reception and transmission; the equipment is standard and basically does not depend on the number of students in the training center.

The technical means of administration - equipment that provides administration of the educational process and the work of other structures of the educational center; equipment depends on the number of students in the training center.

The technical laboratory equipment - equipment that provides for conducting laboratory and practical classes in specialized classrooms [5]. The equipment depends on the number of students in the training center. PT-1 is a device for testing. Testing is required for each module and uses automated technology, while the quality of the answer is automatically evaluated by the program. Test results are transferred to student's electronic file.

Telecourse recording set - designed for the preparation and recording telecourse work, includes a digital video camera, lighting device, (headphones, microphone).

IV.   The research results

Disadvantages of Distance Education are the lack of constant communication with teachers, as well as the students.

Were there any difficulties or what problems did your student/child/patient during distance learning? All teachers, i.e. 100% noted certain problems of students during Distant learning. During the interview, the same participant could name several problems.

Material and technical problems associated with the digital education:
- including poor connection/internet - 80%;
- lack of phones - 20%;
- no telephone units - 10%;
- problems with the television program Balastan;
- there are not enough TVs in the department - 10%;
- as well as 10% of the participants noted - there is no interest of students, possibly related to teachers.

Parents noted the following problems:
- 36.7% - Internet\connection\zoom;
- 27.3% difficulty in understanding teacher \ training format;
- 22.7% noted that everything was normal/good;
- 9.1% noted the disease.

In this question, the analysis of all answers among health workers does not match by the number of participants, since the same participant listed a few responses that were important to include for consideration. Main problems listed by health workers were:
- 35.7% - poor Internet;
- 14.3% - need a new phone\ need access to tablets, gadgets;
- 14.3% - it is difficult to exercise because it is bad after treatment;
- by 7.1% listed that in Balastan the time did not match \ did not understand the teacher \ good solution for children on long-term treatment, but conditions need to be created respectively;
- by 7.1% that there were no problems / no were engaged/do not know accordingly.

Children noted that they experienced the following problems 40% had the Internet signal is bad; 20% phone is bad; 20% noted that the explanation was not clear of teachers; 6.7% do not have the conditions to study at home; 13.3% had no problems, and more 13.3% did not attend classes even before school for health reasons.

How did your student/child/patient interact with the teacher? Teachers noted that 60% communication through the Internet platforms WhatsApp or Zoom, and 40% worked with children either at school or study. Parents noted: 77.3% that communication was via WhatsApp\Zoom, while 13.5% noted that there was no communication at all / there was no communication / did not communicate; a 9.1%

noted that the teacher is always in touch / the teacher is responsive. 78.6% health workers noted that the children communicated through WhatsApp and / or Zoom; 7.1% noted that the teacher came to the department; 7.1% each noted that they had seen the phone is probably Whatsapp and does not know how this happened.

To the question posed, 73.3% of children answered that they used Zoom, WhatsApp, Telegram; to 13.3% the teacher came to the hospital; to 6.7% came healthcare workers and other patients; and 6.7% failed to communicate.

V.   Conclusion

A significant impact on this study was the pandemic coronavirus infection, which was forced the introduction of distance education throughout the republic. Lack of communication/internet facilities developed methodologies for teaching influenced the general negative reaction in society. A major limitation in data collection was the start of the study during summer holidays, when it was not possible to recruit study participants. The next obstacle was the imposition of serious sanitary restrictions due to the epidemic of coronavirus infection on hospitals, and, limiting the

investigator's access to study participants. These studies cannot be extrapolated to the general population for these reasons.

According to the author, on-line education becomes one of the key means of ensuring access to quality vocational education in different levels of the population of the most remote regions, which will contribute to their socio-economic progress.

But to our great regret, to this day there are opponents of the introduction of the system of education of new information technologies, which consider the education of a person to be fundamental knowledge acquired by a person.

The development is the result of a combination of different, but not mutually exclusive factors:

- the desire of countries to develop academic and cultural exchanges;
- the growing mobility of skilled professionals and professionals in the conditions of a globalized economy;
- the desire of modern institutions of higher education to receive additional income or improve their status and strengthening the reputation in the national and international arena;
- even the need to benefit from the economically active population with higher education in countries with developing economies or affected by population aging processes [4].

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