

A Procedure of remote examination with video monitoring in case of the distance mode of study in higher educational institution

Bakytgul Abykanova¹, Salamat Idrissov¹, Gulmira Tashkeyeva²

¹Atyrau State University after Kh. Dosmuhamedov, Student Prospect, 212, Atyrau, 060011, Kazakhstan

²Al-Farabi Kazakh National University, Al-Farabi, 71, Almaty City, 050040, Kazakhstan

Abstract. The publication considers a procedure of remote examination with video monitoring in a higher education institution. Through the example of a Russian higher education institution represented by Moscow State University of Railway Engineering, the experience of applying the procedure of remote examination with video monitoring is described. Finally the article concludes that common use of informational and communicative technologies in distance education stimulates knowledge transfer and is the important driver of reformation of the traditional educational system with due regard to the requirements of the modern industrial society.

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Introduction

Under current conditions higher education faces a challenge how to improve the quality of the training process by means of mainstreaming of information technologies, information exchanging through computer networks and developing new means for automated check of students' knowledge. Nowadays it is generally recognized that access to information and its superior form, knowledge, has a strategic impact and is a crucial factor which defines evolution of the society and education in the age of rise of informational civilization and intercultural communication [1]. Informatization and computerization of the society introduce dramatic changes in the educational activity, offer new approaches to the contents and the functions of teaching. Due to the use of modern information technologies (first of all, personal computers, the Internet and multimedia) the training process can be transferred to the higher level where a personal computer connected to the Internet serves as a means of training and a knowledge check [2].

A term "informational and communicative technologies" can be interpreted both in narrow and general senses. In general sense the informational and communicative technologies (ICT) mean a set of methods, work processes, hardware and software integrated to gather, handle, store, distribute, display and use information for the benefit of its users [3]. In narrow sense, with regard to the educational process, the informational and communicative educational technologies represent means of informational and communicative technologies applied together with educational and methodological, regulatory and

engineering, organizational and instructive materials which ensure the optimal procedure of their use in education [4].

A computer network is one of the modern means of informational and communicative technologies in the educational process. The computer network is a complex of software and hardware which allow the computers (workstations) they integrate to share, gather and handle information. Computers are connected through modems, network cards and cables. Computer networks are also broken up into two large categories: local and global. Generally, a network is qualified as local when it integrates computers located within one building, one organization, district, city or country. In other words the local network is often a geographically limited one. The local networks are also widely used in the educational sphere [5]. Besides, the local networks may integrate computers of different educational institutions which means that there are local educational networks.

The global networks have no geographical limits like local ones. The most popular example of a global informational and communicative network is the INTERNET. Regarding all the existing variety of information technology and methods of data management in the course of their transferring by information channels, the global informational computer network Internet occupies the central position. Moreover, nowadays it is almost the only global informational and communicative network which is commonly used in the educational system of

any type and level, including the distance education [6].

The distance education is a type of the training activity in which either a teacher and audience, or a student and a source of information are geographically separated. The distance education possesses all components of the traditional education: objectives, contents, methods and organizational forms implemented by specific means of the Internet technologies or by other means providing interactivity. Thus, the distance education is an independent mode of study, the principal means of which is informational technologies. The modern distance education is based on the following key aspects:

1. An information-carrying medium (mail, video, radio, informational and communicative networks);
2. Methods depending on the engineering environment of information exchange [7].

The key difference of the distance education from the traditional modes of study is that trainees take more active participation in the training activity. This becomes possible because training involves all compulsory phases: “learning material” – “feedback” – “correction the knowledge received”. In this case it is very important to arrange in a rational way of the feedback from a trainee to the tutor. His functions usually are fulfilled by a subsystem of checking students’ knowledge. The system should set him free from the routine of interim knowledge assessment, provide self-testing of trainees and help the tutor during midterm and final examinations [8].

As it is well-known, among components of the training activity there is the check of knowledge received. It may be carried out in the form of pass-fail exams and examinations. An examination is one of the traditional forms of checking knowledge of certain educational subject. It is applied in both traditional and distance mode of study [9]. One of the modern forms of the examination is video monitoring. Experience of its application just starts to develop, and in this view it is worth to look at the educational institution, Moscow State University of Railway Engineering.

In general sense video monitoring means a possibility of remote observation and control of the system of recording events which happen in a room by means of special equipment. For supporting sessions of monitoring an examination under conditions of the distance education, computer and telecommunication technologies, including the Internet, are used. A training telecomplex consists in:

A server of a face-to-face tutor equipped with tools for large-scale replay, hardware and software for tele- and videoconferences, high-speed modem;

A server of a distance tutor equipped with hardware and software for tele- and videoconferences, high-speed modem;

A group of remote independent servers with teaching information;

A leased phone line;

A human factor: a face-to-face tutor, a distance tutor, audience.

In the process of the distance education a web-camera can be used as a means of a knowledge check. A web-camera is a small-sized digital or photo camera which can record images on a real time basis in order to transfer them further through the Internet [10].

Thus, the video examination can serve as one type of a knowledge check in the process of the distance education. The video examination should mean a knowledge check with a flexible data base able to change in any moment and under constant on-line remote control of the examiner through a computer network.

The video examination should be preceded by a trainees’ test and should not be limited by a video conference, since it means, first of all, free communication. When preparing for the examination it is advisable to use instrumental and technical protection of the transferred and received information. Thus, we see that common use of the informational and communicative technologies in the distance education stimulates knowledge transfer and is the important driver of reformation of the traditional educational system with due regard to the requirements of the modern industrial society.

Corresponding Author:

Dr. Abykanova Bakytgul

Atyrau State University after Kh. Dosmuhamedov
Student Prospect, 212, Atyrau, 060011, Kazakhstan

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