

Modern Communication Technologies In Professional Education



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Abstract: *Communicative technologies in professional educational institutions form the basis for the activation of the educational process, contribute to the improvement of the level of formation of competencies of graduates. The purpose of the article is the consideration the effective experience of the implementation of communication technologies in professional educational institutions to identify the main functional aspects with subsequent usage in the educational process. The paper describes the experience of formation of professional competencies with usage communication technologies to students of higher education institutions enrolled in the master's program in the direction of training 44.04.04 "Vocational training (by industry)", profile – "Management of educational systems". The authors rely on the included competence of the Federal state educational standard "the ability to use modern communication technologies", which is proposed to form through the usage of various communication technologies in the training of graduates. The authors reveal the most frequently used in the educational process types: discussion, case, project, electronic and other types of technologies. Features of application and realization of each type are allocated. Presented the criteria for assessing the performance of students' tasks (on the complex module "Theory and methodology of vocational education") in the framework of the implementation of these technologies. The aspects identified in the process of analyzing the experience of usage communication technologies can be taken into account in the further improvement of the process of implementing communication technologies in higher education and better formation of competencies.*

Keywords: *Communication technologies, students, teachers, vocational education, higher education, vocational education system, e-learning, distance learning.*

I. INTRODUCTION

Modern communication technologies are an integral part of the modern educational process. Most often, modern higher education institutions use case technologies, discussion, design, and electronic. Electronic technologies activate the educational process and give it the appropriate dynamics. Formation of students' communicative competences with usage of the technologies which were mentioned by us becomes more effective.

Today, without the ability to include computer technology in their activities, it is impossible to get a good education, and subsequently a high position [1]. If earlier the process of development and application of information and communication technologies had a clear differentiation, today almost all spheres of society are subject to its influence [2]. Information and communication technologies are widely used. Education is not exception. The existing research does not sufficiently disclose the usage of communication technologies in teaching pedagogical disciplines [3]. Since a modern teacher must have these skills in full, one of the main issues in pedagogical higher education institutions is to develop students' ability to use modern communication technologies [4]. The ability to apply these technologies in future professional activities is formed throughout the learning process of students [5]. This process involves many different tools that these technologies include: electronic textbooks, glossaries, chat rooms, webinars, and many others [6].

The basis of these technologies are information and telecommunication systems which were built on computer facilities and representing information resources, hardware and software that provide storage, processing and transmission of information [7].

They are combined in an electronic course, during the using students get acquainted with their structure, algorithm of usage, basic concepts. E-learning courses are used in distance learning that allow the student to fully switch to distance learning [8].

In the process of implementing communication technologies, students acquire the skill of interaction in the group, form competencies that allow to achieve maximum results in the team.

The usage of communication technologies thus allows to expand learning opportunities.

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The usage of individual electronic tools allows you to solve more narrow problems, larger-scale elements, such as e-courses allow you to extend a large amount of material, using different ways of providing assignments to students. As a result, communication technologies act as a basis for the transition to distance learning, providing students with equal opportunities for education.

II. LITERATURE REVIEW

Communicative technologies in education contribute to the formation of a new generation of graduates who are able to navigate independently in the information space [9].

The introduction and using of information and communication technologies in higher education institutions is aimed at empowering students [10]. Communicative technologies meet the trends of modern education: they allow to form professional and general cultural competences, develop students' independence, their creativity, allow to build personality-oriented learning [11].

The concept of information and communication technologies is interpreted in different ways. D. M. Nurmukhamedov believes that this is a technology of creation, processing, transfer and storage of educational materials, organization and support of the educational process with the usage of telecommunications. A. P. Mukovoz considers that these technologies are complex pedagogical procedures in which the selection and arrangement of teaching methods and tools based on the usage of computer technology. I. G. Zakharova talks about information and communication technologies as an application of information technology to create new opportunities for the transfer of knowledge and comprehensive development of the students' personality.

On the basis of the studied material, we can say that the concept of new communication technologies includes methods of information processing, organizational and management concepts, a set of different information technology [12].

Information and communication technologies are represented by a wide range of tools [13]. These are electronic educational software and web-sites, virtual models, various computer tools, chats, cloud data storage [14]. They are used both individually and in aggregate [15].

Distance learning and online courses are being developed on a large scale with the help of information and communication technologies [16].

The developers of distance education distinguish the following features that characterize distance education: flexibility (independent choice of time and place of study for students) [17]; modularity (materials are presented in the form of modules for more convenient study and building an individual educational trajectory) [18]; accessibility (regardless of the location of the student and the educational institution, the student has permanent access to study materials) [19]; equality (learning opportunities are equal for all, regardless of gender, age, place of residence or health status); mobility (successful teacher feedback organization) [20].

Information and communication technologies as an area of scientific and technological progress are characterized by the dynamism of improving generations of technical, software and hardware; the need to constantly improve the skills of users and the skills of information system developers, as technological components are constantly being complicated and modified. Interactive dialogue is built

with the help of information and communication technologies; educational information is visualized; the studied objects, processes and phenomena are subjected to computer modeling; there is a possibility of audio support of the presented materials; large amounts of information are in constant access for students [21].

Many scientists are engaged in e-learning, considering it from different points of view [22]. V. G. Domrachev considers distance learning as a new stage of distance learning, which is based on the using of information technologies.

In our opinion, electronic technologies can be used in conjunction with traditional education, implementing blended learning, which allows students and teachers to interact both in person – directly in the classroom and remotely – through e-learning courses and student assignments on electronic educational platforms [23]. This form of training is the most effective [24]. A. N. Tikhonov believes that distance learning is a form of support for the potential of higher education, without distinguishing it as a form of distance learning [25]. He says that it provides an opportunity for the general population of Russia to receive education at a high level [26].

With the introduction information and communication technologies, the model of the educational process is changing.

With the help of technological and technical support, a competence model of training is implemented, in which the process of becoming a graduate becomes more effective [27]. For future teachers, the ability to use communication technologies is an integral part of their development, so their training should undoubtedly include these technologies in various forms for adaptation and further using in their own activities

A. Methodology

In this paper we study the experience of implementing communication technologies in higher education. We describe the types of communication technologies actively used in the training of students enrolled in the field of training 44.04.04 "Vocational training (by industry)", profile – "Management of educational systems".

As one of the most important complex modules we have chosen "Theory and methodology of professional education". Students were offered tasks on the topics: "Improving the teaching of the theory and methodology of vocational education with the help of communication technologies", "Theory and methodology of vocational education in the framework of communication technologies", "the Impact of the content of education on vocational training". Within this framework, students were engaged in the preparation of projects, discussions, problem solving. Students did not only study within the framework of communicative technologies, but also independently extracted information about them, applied in practice, thus forming communicative competence..

III. RESULT AND DISCUSSION

By way of example we will consider the experience of the formation of communicative competencies in higher education on the master's program in the direction of training 44.04.04 "Vocational training (by industry)", profile – "Management of educational systems".

In the working curriculum in this training field fixed competence, which must be formed within the framework of the using of information and communication technologies.

Undergraduates must master the ability to apply modern communication technologies [28].

Higher education institutions use electronic textbooks, educational films, electronic software and methodological complexes, electronic glossaries – elements are used in the implementation of communication technologies. The training material is full of computer graphics, video fragments, easy navigation – all this contributes to a more solid assimilation of the material, as are used and visual and auditory and associative memory.

In higher education among the most heavily used need highlight the following communication technologies: discussion; case, project, electronic.

Discussion technologies bring students together in groups to discuss different points of view [29]. In this process, the ability to express one's opinion in a reasoned manner is forming. The advantages of discussion technologies are the development of collective interaction skills, public speaking skills, the ability to make decisions in conditions of lack of information [30]. The technology of discussion communication includes several components: motivational (readiness to participate in the discussion); cognitive (extraction of useful information from the discussed material); operational-communicative (ability to defend their position in the discussion); evaluation (evaluation of their own activities and the activities of opponents). Several types of discussion technologies are using in higher schools: round table, brainstorming, analysis of specific situations, conference-seminar. Each kind of them has its own characteristics, but all of them are aimed at the development of communication skills. Thanks to the round table, students learn to build a constructive dialogue. Students should gather as much information as possible on the problem, to understand it and determine the direction of the solution. Brainstorming is a technology in the process of implementation of which the boldest assumptions can be made to solve the problem. At the same time, idea presented by students is not initially rejected. As further analysis of the issue students independently determine the viability of an idea. When analyzing specific situations, the teacher offers students a task that can arise in real professional conditions, which allows students to adapt for solving real professional problems and get used to future working conditions. Here students do not only learn to prove their point of view in a reasoned manner, but also make a presentation of the achieved results.

The most formalized discussion is a conference-seminar, where participants make presentations to the audience, and then answer questions. In higher education, students are preparing for a discussion for several days. And it takes place in several stages. At the first stage, the teacher prepares information, develops rules and presents them to students. At the next, main stage, they define the time, goals and expected results, the participants are divided into subgroups, discuss

the topic and present the results to the audience for further discussion. At the final stage, the discussion is analysed and the results are summed up.

The evaluation of the results of the discussion can be carried out according to the following criteria: a high level is characterized by the active involvement of the students in the discussion, they answer the questions, argue the answers, they ask questions, respect the opinion of his opponents; the average level – the students are included in the discussion, listens to opinions, but do not seek to ask questions; the low level is characterized by the passive position of the students in relation to the discussion, they do not ask questions, are distracted and are not interested in the work on the question. In the process of using discussion technologies, we form students' communicative competence, skills necessary in the process of future professional activity.

Case study – communicative technologies that allow you to create problem situations based on facts from the real life. This is a description of a specific situation that reflects a practical problem that does not have a single solution. Actions to solve the case are either described in it by the teacher, or these actions must be developed in the process of solving the problem. The solution of the case develops scientific thinking, goal-setting, and ability to work in a team. To solve the problem, students are combined into groups. At the first stage, the teacher sets the situation, and then students begin to work on it, in discussing possible solutions, attract various sources of information, at the third stage, students draw up the work in the form of a report and presentation, which are presented to the audience. Criteria for assessing the implementation of the case study: completeness of the topic; scientific validity of the results; the degree of creativity and independence in solving the problem; form of presentation (free or in your own words); quality of presentation; completeness and comprehensiveness of the conclusions; having your own view of the problem.

Project technologies allow students under the guidance of a teacher (as a consultant) to solve specific practical problems in the professional field. One of the key characteristics of the project are the openness of the project; the key role of the student; variability; cooperation; the realism of the project. During the project, students actively interact, solve issues that arise within the subgroup, independently develop assumptions and formulate a solution.

Higher education institutions widely use electronic technologies that provide ample opportunities for the implementation of communication technologies and the development of communicative competencies of students.

Teachers include students in the direct process of creating electronic educational resources. Quite often, students of pedagogical higher educational institutions are engaged in the development of electronic glossaries, thereby becoming involved in the development of new educational elements and mastering large amounts of information. E-learning is a larger element of communication technology. The most common platform used by Russian higher education institutions is Moodle. Moodle is part of the modern structure of communication technologies and allows you to implement distance learning at a high level. Distance learning is growing rapidly worldwide.

Since the pace of development of distance education is increasing every year, higher education institutions are trying to find various effective ways of using communication technologies. Among the information and communication tools are simulators, information retrieval and reference, demonstration, simulation, laboratory, modeling, calculation, training and gaming. To implement these tools in practice, pedagogy uses a two-level model of information and communication competence of the teacher: the functional level of literacy (high level of knowledge of programs for processing text, numerical, graphic, audio and video information), the ability to effectively work on the Internet and use its services; activity level (high level of functional literacy in the usage of communication technologies in the educational process). The activity level is divided into sub-levels: innovative and creative. If the teacher has an innovative level, it may include in educational activities a variety of specialized media resources developed by following under the requirements for the content and methodology of pedagogical disciplines. At the creative level, the teacher is engaged in the development of their own e-learning tools. Qualitative changes in the results of the education system are just due to the achievement of the activity level. The creative approach of the teacher helps to diversify the learning process. Communicative technologies within the framework of the activity level of the teacher allow to rationally organize the cognitive activity of students; to make the learning process more effective through the using of sensory perception of the student through the using of multimedia context; to build an individual educational trajectory of each student; to involve all students in the educational process; to intensify all levels of the learning process. It is worth noting that in modern educational conditions there is a tendency to increase the share of independent work of students. Even with full-time education, the student may not have enough time to clarify issues related to the educational part. Communication technologies allow you to establish a process of control by the teacher of such a level that is necessary for each student. The student has the opportunity to contact the teacher at any time. Above we have already mentioned the electronic educational platform Moodle. Here the student has ample opportunities to communicate with the teacher in a particular discipline, for each specific task (chat, webinar, message, forum). Can be carried out as individual consultations, and mass, for the whole group or its separate part (depending on the type of task). Students enrolled in the master's program in the field of training 44.04.04 "Vocational training (by industry)", profile – "Management of educational systems" in the studying of pedagogical disciplines are actively involved in the implementation of various communication technologies. For example, one of the most important complex modules is "Theory and methodology of vocational education". Students are offered tasks on the theme "Improving the teaching of theory and methodology of vocational education using communication technologies", "Theory and methodology of professional education through communication technologies"; "The impact of educational content for training". Within this framework, students are engaged in the preparation of projects, conduct discussions, solve problem situations, delving into the study of communication technologies and thus forming communicative competence. The educational value of communication technologies is to create an interactive learning environment with a lot of

potential opportunities for both the teacher and the student. Communication technologies make it possible to significantly accelerate the process of search and transfer of information, the transformation of the nature of the mental activity.

IV. CONCLUSION

Higher education institutions actively use communication technologies in their activities. To date, this process is quite successful. Formation of communicative competences of students is carried out in conditions organized in such a way that students work in a team, solving problems independently with the accompanying role of the teacher. Such conditions are created through discussion technologies, e-learning, cases, projects. Given the evaluation criteria of assignments in the framework, we discussed techniques to identify the success of mastering material and test readiness competencies. Thanks to communicative technologies the formation of students' competences becomes more effective.

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