MODERN METHODS AND INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE SYSTEM OF TEACHERS' TRAINING FOR VOCATIONAL EDUCATION INSTITUTIONS

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Abstract: Various innovative methods and information and communication technologies (ICT) are used in the process of professional training of future teachers for vocational educational institutions. In the process of learning, students should not only master modern methods and ICT technologies, but also be able to apply them in their future training activities. This issue is also relevant for vocational educational institutions, where students acquire knowledge, skills and abilities in their chosen field of professional activity. As practice reveals, in vocational education institutions there is a significant discrepancy between the actual level of mastery and practical application of ICT by most teachers and the requirements for the level of their ICT competence.

Keywords: methods, information and communication technologies, higher educational institution, vocational education, teacher (educator), student, online learning.

1 Introduction

The priority objective of pedagogical higher educational establishments lies in the formation of the personality of a specialist capable of implementing modern teaching technologies in practice in the modern information and educational space. Various innovative methods and information and communication technologies (ICT) are applied and used in the process of professional training of future teachers in order to transfer information and ensure interactive cooperation of the educator and the student. The training method is a general well-ordered activity of the teacher and student aimed at achieving the learning outcome. Educational technologies include specific procedures for the interaction of a teacher and students (psychological, general pedagogical, didactic, etc.), aimed at achieving the intended goals, taking into account the abilities and inclinations of students. From the standpoint of the information approach, the content of the learning process lies in the movement and transformation of educational information. Educational technologies, based on the teacher's use of personal computers, computer networks and other information and communication means to transmit educational information, are called information and communication technologies (ICT). Such technologies differ in the number of procedures, the variety of subject and subject-object relations, almost limitless ability and high speed of obtaining and processing information per unit of study time. Intensive implementation of ICT in the educational process requires the development of appropriate methodologies.

In the process of learning, students should not only master modern methods and ICT technologies, but also be able to apply them in their future training activities. This issue is also relevant for vocational educational institutions, where students acquire knowledge, skills and abilities in their chosen field of professional activity. Training of highly qualified and sought-after specialists directly depends on the level of competence of the educator, his ability to organize the educational process and teach students the profession. Such a person should have strong fundamental knowledge and skills, use interactive teaching methods and ICT technologies in their professional activities. However, experience has proven that in vocational educational institutions there is a significant discrepancy between the actual level of mastering and use in practice of ICT by most teachers and the requirements for the level of their ICT competence.

Teachers' training for vocational educational institutions remains a complex research issue. A teacher in the field of vocational education should be a specialist who combines the qualities of a highly qualified worker and a professional educator. The relevance of the research is determined by the importance of solving the issue of training a teacher of vocational educational institution, who is able to organize educational activities at a high professional level, use modern methods and ICT technologies in the educational process in order to train highly qualified personnel.

The purpose of the academic paper lies in studying modern training methods and ICT, which are used by higher educational institutions in the process of training teachers for the vocational education system.

The research objectives are as follows:

1) to analyze modern methods used by higher educational institutions during training of future educators (including teachers of vocational educational institutions);
2) to reveal the features of ICT application in the course of specialists' training;
3) to study the features of distance learning using ICT in a pandemic COVID-19.

2 Literature Review

In order to reveal the theoretical aspects and features of the use of various educational methods and ICT by pedagogical universities, we will consider the scientific achievements of scholars who conduct their research on the subject of the academic paper.

I. M. Naumuk emphasizes the need for active use of ICT at higher educational institutions, which organically "fit" into the case-study method. She notes that the future computer science teacher should teach students to perceive and synthesize information from various sources, develop critical thinking, form skills, find, process and interpret information by using technical tools that require targeted training of such a teacher (Naumuk, 2018).

L. R. Kayumova and others classify the method of leadership formation and the method of extreme psychology as important methods of teachers' training. They note that communication and the proper emotional state of students - future teachers are the basic criteria for their behavior in conflict situations (Kayumova et al., 2020).

O. V. Razumova, E. R. Sadykova and R. R. Zamaliev consider the didactic model as one of the methods of training future teachers. According to scientists' viewpoint, the use of didactic methods by higher educational institutions along with information and communication technologies and metacognitive reflexive technologies for the training of future professionals will help expand their subject thinking (Razumova et al., 2018).

N. S. Bidabadi and others note that the mixed method is one of the modern methods used by higher educational institutions in the students' training. The essence of this method lies in the simultaneous orientation of the educational process on teachers and students. Based on the investigations on new training methods conducted in Iran, they argue that pure lectures have

lost their effectiveness, and the problem-oriented approach, in addition to improving the communication skills of students, not only enhances their critical thinking, but also contributes to the formation of educational skills and interest in learning (Bidabadi et al., 2016).

M. T. Floress, S. L. Beschta and K. L. Meyer, based on the results of the conducted studies, have come to conclusion that the praise method is one of the most effective methods that positively affects students' performance. This unconventional method is manifested through verbal praise, gestures, stimuli (Floress et al., 2017).

S. Assar notes that learning by using ICT will contribute to the deepening of knowledge and the formation of practical skills not only among students, but also among teachers, as they also improve their knowledge, skills and abilities (Assar, 2015).

K P. Hepp, M. À. Prats Fernández and J. Holgado García note that partner network is one of the types of ICT used by higher educational institutions. Relationships are established through partnerships between teachers of different higher educational institutions. In the course of the investigations conducted, scientists have come to the conclusion that ICT contribute to the transformation of education, in particular vocational education, updating the methodology and methodology of the educational process and increasing the digital competence of teachers (Hepp et al., 2015).

J. Pearson, based on the study of the role of ICT in teachers' training in Australian higher educational institutions, notes that information and communication technologies increase the training of potential teachers in the context of their vocational education, expand learning and improve their academic performance as a result of mastering special educational programs (Pearson, 2003).

S. Usun, considering the strategies used by higher educational institutions in Turkey in teachers' training programs, emphasizes the crucial role of ICT, which are implemented for: 1) Computer Assisted Education; 2) Distance Education (Usun, 2009).

T. Wang recognizes the importance of ICT for the training of teachers who receive professional education in the sphere of design, architecture and engineering. In this context, the use of ICT, according to the scientist's viewpoint, is aimed at creativity, social relevance, cooperation and communication (Wang, 2011).

N. Benitt, T. Schmidt and M. K. Legutke note the importance of digital media application in training students, thanks to which it is possible to manage educational platforms and participate in video conferencing, effectively use software for educational purposes (Benitt et al., 2018).

According to the results of the studies conducted, S.-K. Wang and others consider ICT as a cognitive tool that is used in the educational process of training teachers of vocational educational institutions, affects the level of their technological skills, the duration of professional development and features of the educational process (Wang et al., 2016).

D. Modelski, L. M. M. Giraffa and A. de O. Casartelli emphasize the importance of using digital technologies in the educational process, thanks to which teachers have the opportunity to share experiences on the specifics of vocational education (Modelski et al., 2019).

B. Bhattacharjee and K. Deb, note that the role of ICT in the educational process centers around gaining new knowledge by students and the development of new digital tools. From the point of view of scientists, higher educational institutions actively use such information and communication technologies as laptops, desktops, memory sticks, personal projectors to train students (Bhattacharjee & Deb, 2016).

O. Komochkova and O. Dorofeyeva on the examples of higher educational institutions of the UK identify key information methods used to train students - linguists, (Komochkova & Dorofeyeva, 2019) namely:

1) multimedia presentations of applications, web pages, websites, etc.;
2) conducting online discussions;
3) conducting web quests;
4) visual behavioral experiment;
5) development of computer projects;
6) cyber guide.

O. A. Khalabuzar in training of future linguists proposes to use the method of personality-oriented learning, which will create appropriate conditions for their professional growth, the ability to self-determination, self-realization, self-education and independence (Khalabuzar, 2016). In addition, O. Khalabuzar emphasizes the importance of using modern information technologies in the educational process, including Internet resources. Thanks to innovative technologies, future linguists acquire the necessary knowledge and expand their own thinking when obtaining professional education (Khalabuzar, 2019).

According to the results of the review of scientific sources, it can be claimed that the problem of teachers' training for vocational education institutions is insufficiently studied and requires more thorough research.

3 Methods

Realization of the purpose of the academic paper provides use of such research methods, as: method of experiment, descriptive method, method of abstraction, method of explanation, method of classification, method of analysis, method of generalization, method of comparison, method of modeling, method of observation.

The information base of the research is as follows:

1) Eurostat data, the use of which has made it possible to show the dynamics of the use of the Internet by students from European Union member states for online learning, searching for educational material, communicating with teachers or students through special educational websites, educational activities;
2) regulations and training programs for educators of vocational educational institutions, in particular Teacher subject specialism training, UCAS Teacher Training programs (for the training of teachers of vocational educational institutions in the United Kingdom).

4 Results

Currently, much attention is paid to the introduction of innovative training methods and ICT in the educational process in modern higher education.

The Organization for Economic Co-operation and Development (OECD), which brings together 35 countries, has conducted the International Survey on Teaching and Learning (TALIS).

In report, Teachers and School Leaders as Lifelong Learners, it has been stated that attracting the best and brightest to the profession will be essential to ensure that young people are given the skills they will need to thrive in tomorrow's world of work.

About 260,000 teachers and school leaders at 15,000 primary, lower and upper-secondary schools from 48 countries and economies took part in this third edition of the survey. This aims to help strengthen the knowledge and skills of the teaching workforce to support its professionalism.

Figure 1 shows the level of ICT use in the educational process in OECD member countries.

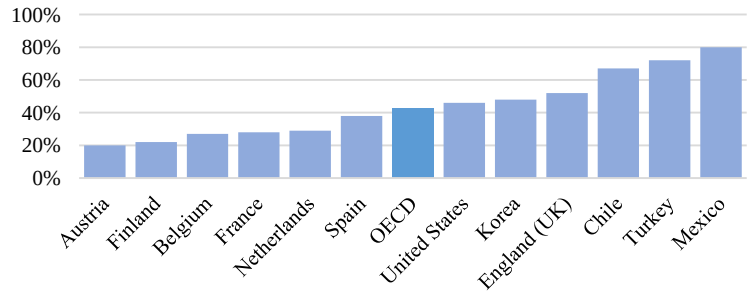

Figure 1. The use of information and communication technologies in OECD member countries
Source: TALIS 2018 Results Teachers and School Leaders as Lifelong Learners (Teachers, Teaching & ICTs. infoDev, 2020)

Table 1 shows data on the attitude of teachers to the use of ICT in the educational process.

Table 1. The use of ICT in the educational process

Countries/economies where the indicator is **above** the OECD average
Countries/economies where the indicator is **not statistically different** from the OECD average
Countries/economies where the indicator is **below** the OECD average

	Percentage of teachers for whom the "use of ICT for teaching" has been included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for the use of ICT for teaching	Percentage of teachers for whom "use of ICT for teaching" has been included in their recent professional development activities	Percentage of teachers reporting a high level of need for professional development in ICT skills for teaching	Percentage of teachers who "frequently" or "always" let students use ICT for projects or class work	Percentage of principals reporting shortage or inadequacy of digital technology for instruction
	Chapter 4	Chapter 4	Chapter 5	Chapter 5	Chapter 2	Chapter 3
Alberta (Canada)	71	42	56	8	66	12
Australia*	65	39	67	11	78	12
Austria	40	20	46	15	33	18
Belgium	51	28	40	18	29	29
Flemish Comm. (Belgium)	56	34	45	9	38	16
Brazil	64	64	52	27	42	59
Bulgaria	58	50	63	23	44	26
CABA (Argentina)	53	50	61	20	64	39
Chile	77	67	51	17	63	13
Colombia	75	59	78	34	71	64
Croatia	47	36	73	26	46	25
Czech Republic	45	28	41	13	35	24
Denmark	47	40	47	11	90	13
England (UK)	75	51	40	5	41	15
Estonia	54	30	74	19	46	12
Finland	56	21	74	19	51	20
France	51	29	50	23	36	30
Georgia	45	47	67	33	53	29
Hungary	51	66	69	20	48	36
Iceland	46	26	63	21	54	5
Israel	58	47	69	29	52	40
Italy	52	36	68	17	47	31
Japan	60	28	53	39	18	34
Kazakhstan	75	69	90	30	66	45
Korea	59	48	61	21	30	24
Latvia	55	48	77	23	48	41
Lithuania	45	57	69	24	62	30
Malta	70	49	48	14	48	6
Mexico	77	80	64	16	69	44
Netherlands	49	29	61	16	51	16
New Zealand	59	34	73	14	80	18
Norway	46	36	58	22	m	11
Portugal	47	40	47	12	57	55
Romania	70	70	52	21	56	50
Russian Federation	69	72	75	15	69	32
Saudi Arabia	73	72	76	28	49	61
Shanghai (China)	79	63	77	30	24	10
Singapore	88	60	75	14	43	2
Slovak Republic	62	45	60	17	47	25
Slovenia	53	67	59	8	37	4
South Africa	62	54	53	32	38	65
Spain	38	36	68	15	51	21
Sweden	37	37	67	22	63	10
Turkey	74	71	61	7	67	22
United Arab Emirates	86	86	85	10	77	31
United States	63	45	60	10	60	19
Viet Nam	97	80	93	55	43	82
OECD average-31	**56**	**43**	**60**	**18**	**53**	**25**

* Participation rate of principals is too low to ensure comparability for principals' reports and country estimates are not included in the OECD average

Source: TALIS 2018 Results Teachers and School Leaders as Lifelong Learners (Teachers, Teaching & ICTs. infoDev, 2020)

The findings show that little more than half of teachers across participating OECD countries received training in the use of technology for teaching, and less than half felt well-prepared when they joined the profession.

By the way, two-thirds of teacher's report that the most useful professional development they took part in focused on innovation in their teaching.

Schools appear to be recognizing the value of innovative teaching in responding to the challenges of the 21st century, according to the survey.

The vast majority of teachers say their schools are open to innovative practices and have the capacity to adopt them. On average across OECD countries in TALIS, 78% of teachers also report that they and their colleagues help each other implement new ideas. However, teachers in Europe are less likely to report such openness to innovation.

Only just over half of teachers (56 %) across the OECD received training in the use of ICT for teaching as part of their formal education or training. ICT training is lowest in Sweden (37%) and Spain (38%) and most common in Chile (77%) and Mexico (77%).

About 18% of teachers across the OECD still express a high need for professional development in ICT skills for teaching.

One in four school leaders report a shortage and inadequacy of digital technology as a hindrance to providing quality instruction.

The proper combination of traditional and innovative training methods helps develop cognitive interests and creative abilities of students - potential teachers of vocational educational institutions, prepare them for practical activities. It should be noted that the use of information and communication technologies in the educational process is more a means of learning than a means of computer literacy.

In the context of disclosing the practical aspects of training teachers for vocational educational institutions by relevant universities, it should be noted that the choice of a specific training method depends on the principles and specifics of obtaining education, the characteristics of educational approaches, including the orientation of the educational process and the nature of the use of educational materials.

In different countries, vocational education is based on different models: at the level of secondary or further education, in-service or as advanced training courses. With increasing frequency, higher educational institutions consider vocational education as a preliminary training, which makes it possible to reduce the curriculum at higher educational institution by partial transfer of academic subjects. Students can acquire the necessary skills and competences both in the workplace and in vocational schools. These features should be taken into account when choosing training methods by higher educational institutions in order to prepare future educators for the vocational education system.

In the practice of higher education, the following methods are the most common, namely:

1) Direct Instruction, which belongs to the standard strategy of training future teachers and involves the presentation of educational material through lectures. It is considered a low-tech method due to the passive form of knowledge acquisition by students.
2) Flipped Classrooms is a variant of blended learning, according to which the teacher provides material for self-study at home, and in the classroom there is a practical consolidation of the material The flipped class is characterized by the use of podcasts, vodcasts, and pre-vodcasting.
Podcast is a sound file (audio lecture) that a teacher sends to students over the Internet. Students can download podcasts to their devices, both desktop and mobile, or listen to lectures online.
Vodcast is the same as a podcast, only with video files.
Pre-Vodcasting is appled when the teacher creates a vodcast with his lecture for students to get acquainted with the material prior the lesson, where the topic will be discussed.
Work in the classroom consists in clarifying questions that have arisen among students, performing practical and research tasks, tests and consolidation of the material passed.
This method is aimed at developing students' skills of critical analysis of information, effective implementation of new ideas and the formation of the future specialist's intercultural communicative competence.
3) The method of Kinesthetic Learning involves the acquisition of new knowledge by students or the expansion of existing through physical activity (role-playing games, competitions, excursions, projects, laboratory research, business cases) instead of listening to lectures. The information is better acquired due to physical interaction.
4) The method of Differentiated Instruction lies in creating different learning conditions for various groups in order to take into account the features of their contingent. In differentiated training, the teacher takes into account the individual psychological characteristics of students, forms differentiated tasks, uses the individual and group organization of educational activities.
5) In the Inquiry-based Learning method, the process of constructing knowledge by students takes place through the formulation of their own questions and the search for answers to them The method includes the following aspects:
A) encouraging future teachers to ask questions that are important to them;
B) finding ways to solve a specific problem;
C) identification of ways to solve the problem on the basis of self-conducted research.
6) Expeditionary Learning methods involves the personal participation of potential teachers in solving a problem by assessing the real situation and comparing it with the situation that should occur under normal conditions.
7) The method of Personalized Learning involves personalized training of potential teachers of vocational educational institutions in accordance with personalized curricula that meet their individual interests and skills.
8) The method of Game-based Learning aims to enhance the learning process through the use of special software (including computer games), which allows to interest students and increase the efficiency of the process of acquiring knowledge in general.

The case-study method (the method of specific situations) has proved itself positively in the training of teachers of vocational educational institutions. Case studies are events that actually have taken place in a particular field of activity and are described by the author in order to provoke discussion in the classroom, encourage students to discuss, analyze the situation and make relevant decisions. As a rule, the case contains not just a description, but also a certain problem or contradiction; respectively, in order to solve the case you need to analyze the proposed situation and find the best solution.

The advantages of the case-study method compared to traditional training methods are as follows:

- practical orientation - case-study makes it possible to apply theoretical knowledge to solve practical problems;
- interactive format - case-study provides more effective assimilation of material by students, as the main emphasis is not on mastering ready-made knowledge, but on their development;
- specific skills - case-study makes it possible to improve the soft skills that are needed in a real workflow.

Pedagogical innovations are related to interactive learning, which, first of all, is a dialogic learning, during which the interaction of teacher and student is carried out. The use of interactive training methods in the training of teachers of vocational educational institutions affects the efficiency and

effectiveness of the educational process; it is an integral part of all educational technologies.

The term ICT covers radio, television, the Internet, satellite and Wi-Fi systems, mobile communications, computer hardware and software, audio and video conferencing, virtual reality, social media, 3D printers, and more. All these technologies make it possible to find, analyze and transmit information, knowledge, skills, ideas and experience.

In order to provide quality education, higher educational institutions use the following information and communication technologies, namely: Distance Learning, Open Learning, Blended Learning, Flexible Learning, Mobile Learning, Open Educational Resources and Open Courseware, Massive Open Online Courses, Digital Repositories, Virtual Reality, Simulations, Games and Role Plays, Augmented Reality, 3D Printing.

Distance learning is a set of modern technologies that provide information transfer using ICT in an interactive mode from a teacher to a student. With increasing access to the Internet, computers, portable devices, and social networks, distance learning is virtually synonymous with e-learning or online learning.

Open learning uses distance learning methods and technologies and provides open access to knowledge to anyone. Open Universities (The UK Open University) operate on the principle of "quality of output" and not "quality of input", that is, they allow anyone to enter the university and then, if students meet the required standards, issue them a certificate or a diploma.

Blended learning is a combination of traditional forms of classroom learning with elements of e-learning using special information technologies (computer graphics, audio and video, interactive elements, etc.).

Flexible learning gives students the right to choose the term and means of study according to their needs and circumstances (traditional or blended learning, full-time or part-time education, accelerated or slow pace of the course).

Mobile learning means learning with use of mobile technologies. With laptops, MP3 players, laptops, mobile phones and tablets, learning is available from virtually anywhere with a mobile signal. Mobile learning includes the exchange of multimedia learning materials, web search and teacher - student interaction and student - student interaction.

Open Educational Resources (OER) and Open Training Programs (Curricula) (OCW) are educational materials, course modules, and entire courses in digital formats that are publicly available or on the Internet and have an open license. Teachers and students can legally and freely copy, use and share these resources for their own purposes. OER and OCW promote pedagogical innovations, avoid unnecessary duplication, and reduce the cost of production and distribution of educational materials.

Massive Open Internet Courses (MOOC), as a later stage in the development of OER and OCW, include online courses that are freely available on the Internet, video lecture notes, and materials from Internet forums, self-assessment and external assessment assignments.

Digital repositories provide a convenient way to store and reuse digital materials for educational purposes. They are typically used to store OER, OCW, and MOOC.

Virtual reality (VR) makes it possible for students to learn accurate and realistic 3D models of machines, equipment in safe, convenient and better controlled environments.

ICT-based role-playing games are used in the learning process to simulate certain situations and involve students in imaginary or real situations that require the application of acquired knowledge and skills to solve the problem.

Augmented reality (AR) visually connects the world of real objects and the virtual world reproduced on a computer. It involves the implantation of barcode objects that open web pages on students' tablets and smartphones to superimpose these objects on digital information. This technology has significant potential in distance, independent and blended learning.

3D Printing technology makes it possible for students to download 3D projects and print them on 3D printers or, if necessary, create designs, print and recycle them.

Students use ICT in higher educational institutions to achieve educational goals, increase digital literacy and competence, and teachers apply them for administrative, communicative and educational purposes (Figure 1).

The purposes of using ICT in the educational process are as follows:

1) assessment of students' academic achievements;
2) conducting individual training for particular students, or for all students, in the case of distance learning;
3) providing access to Internet resources;
4) ensuring cooperation and relationships between higher educational institutions, between teachers, between teachers and students, between students.

The use of ICT is effective when the teacher transparently challenges students - future teachers, conducts a variety of discussions and debates in order to develop their critical thinking skills. In this context, the role of ICT lies in ensuring the transition from traditional methods of organizing the educational process, focused on the teacher, to methods focused on students - future teachers of specialized educational institutions.

Interactive digital boards, information and electronic devices designed for the educational process, personal computers, tablets and laptops, etc. are actively used in the educational process. The creation of e-learning resources is due to the need to use video and audio images in order to illustrate the content of sections of special disciplines, rapid change of content in accordance with new advances in science and technology.

Information and communication technologies are used by higher educational institutions in order to strengthen the practical component of training future teachers of vocational educational institutions. In today's changing world, where the competition is getting stronger every day, the lack of practical experience and skills of students can be a serious obstacle to their employment and career growth. In this regard, modern training methods aimed at developing certain students' practical skills are becoming increasingly popular. Therefore, an important component of the educational process at the university is pedagogical practice, which develops the teaching abilities of students, brings the process of professional training of future teachers of vocational educational institutions to real training activities, positively affects their professional development, motivation to learn, forms professional consciousness.

Information and communication technologies used in the educational process by higher educational institutions also influence the formation of digital literacy of students - future teachers. The use of special applications helps improve thinking, development of original and creative abilities and skills.

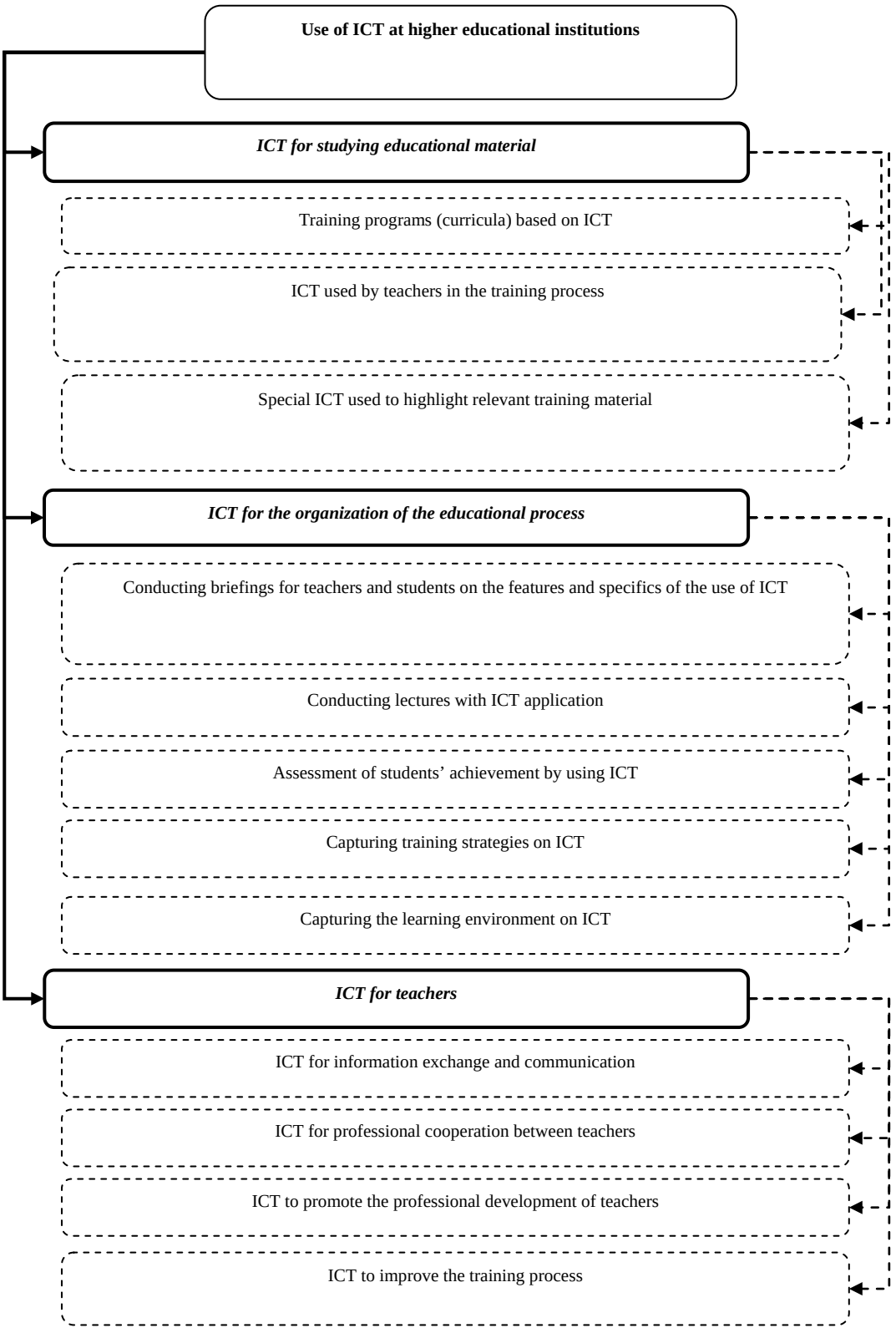

Figure 1. Objectives of the use of ICT by higher educational institutions in the training of teachers for vocational educational institutions (Source: Compiled by authors based on the data of PISA 2021 ICT Framework. Organisation for Economic Cooperration and Development (PISA 2021 ICT Framework, 2019).

It should be noted that higher education has undergone drastic changes in connection with the COVID pandemic. Under the conditions when the whole world is gripped by a pandemic, it is modern ICTs that allow students and teachers to stay connected and support the educational process. ICTs make it possible to transfer learning into electronic format, replace traditional classroom learning with distance learning, and, thus, minimize physical contact between people and reduce the likelihood of infection transmission.

Learning has been transformed into a hybrid form: classrooms are replaced by video broadcasts; teachers record their own

lectures or use courses and other online resources to which access is open. For instance, Coursera has made all its courses free of charge for the pandemic period, as well as numerous online platforms and individual universities.

During distance learning and using ICT tools, it is advisable to use the following forms of organization of the educational process, namely: synchronous online learning, in which the teacher and the student use digital platforms to communicate in real time, and asynchronous online learning, where students master the material at their own pace and can access the recorded content of multimedia courses when it is most convenient for them. Synchronous online learning should be carried out in the format of:

- online lectures (webinars), which provide one-way broadcast of video images, content of digital documents and the desktop of the teacher's computer;
- online seminars (video conferencing), which make it possible to provide two-way communication and ensure the same technical opportunities for all participants (a teacher and students).

Despite the convenience of asynchronous learning for students, synchronous learning is considered more effective, forasmuch as it provides feedback, increases the level of a student's motivation and obliges him to attend the lesson.

The massive emergency introduction of distance learning technologies was the result of force majeure due to the fact that the reproduction of even familiar forms of education in a digital environment requires special skills as teachers (acquaintance with digital solutions, a new format of interaction with students, etc.) and from students (additional efforts on self-organization, orientation in information flows, etc.).

The transition to online learning was carried out in the shortest possible time. However, as practice shows, the development of an online course takes an average of 6-9 months, and the skills of teachers using online platforms are formed during the first two courses. Therefore, one should not expect high results in higher educational institutions from the forced introduction of distance learning.

In the course of training future teachers of vocational educational institutions in the distance mode, higher educational institutions should take into account the practical orientation of the main vocational training programs (curricula). Training and production internship conducted in production conditions at enterprises, demonstration exams (the main form of final tests) are contact forms of training, and they are quite difficult to be transferred into online mode. Therefore, distance learning technologies under quarantine conditions should provide the use of specially equipped premises or their virtual counterparts, which would enable students to acquire general and professional competencies; work in "virtual groups", including using systems - conference - communication.

In contrast to secondary schools, where the structure of basic educational programs is limited to a narrow list of disciplines, curricula of vocational educational institutions that provide training in a wide range of professions and specialties include several hundred didactic units. Consequently, the objective of the higher educational institution is to develop quality training materials for the system of vocational education and their implementation in the educational process.

5 Discussion

In the process of training teachers for vocational educational institutions, higher educational establishments use a variety of innovative teaching methods, namely: the case-study method, the method of implementing a dual education system, the method of leadership formation, method of extreme psychology, traditional lecture method, method of inverted class, method of training on the basis of requests, method of expeditionary training, method of individual training, method of training on the basis of games.

B. R. Joyce and B. Showers, in addition to the traditional lecture method, distinguish the method of coaching, which is applied by higher educational institutions in the training of future professionals (Joyce & Showers, 2002). Coaching in the educational process is used to provide help for students, support their intention to acquire knowledge independently, promote maximum use of students' potential, develop skills, better perform their learning responsibilities and, as a result, achieve the desired outcomes.

S. Udartseva and others prove the advantages of dual learning, which involves parallel study at the university and practical consolidation of theoretical material in the workplace. The authors note that educational institutions that have experience in introducing a dual form of education, confirm that this training method helps get a decent education; it provides both knowledge and skill and guarantees employment; it helps graduates adapt at the enterprise and self-actualize in their professional activities. In turn, the company receives qualified experienced professionals after graduation (Udartseva et al., 2018).

A. Lorenceau, C. Marec and T. Mostafa emphasize that ICT literacy and the ability to use these technologies in the knowledge-based economy is a key skill of the 21st century. A successful student is the one who can use technology as a tool for research, management, analysis and transmission of information, being flexible and able to apply new technologies as they arise (Lorenceau et al., 2021).

S. A. Varela-Ordorica and J. R. Valenzuela-Gonzalez have conducted a survey to determine the attitude of future teachers to the use of ICT in the educational process. The results of the survey have revealed that the use of ICT promotes self-regulatory learning, social interaction between future teachers, the development of educational networks (Varela-Ordorica & Valenzuela-Gonzalez, 2020).

An educator of a vocational educational institution should be proficient in possessing methods of enhancing the communicative and cognitive activity of students; he should be able to use information and communication technologies to create information products and organize information processes related to solving professional tasks for training mid-level specialists and skilled workers in an information society.

It should be noted that although many teachers use ICT in the educational process, however, the problem lies in the fact that it is carried out unsystematically, that is, depends on the mastery of a technology by the teacher. At the same time, a high information culture of the teacher is a necessary condition for professional pedagogical activity, which involves the use of modern technical means of teaching and educational technologies, and if necessary, e-learning, use of distance learning technologies, ICT, e-learning and information resources.

In order to provide quality training to students of vocational educational institutions, it is necessary to train and retrain teachers in terms of their use of modern ICT in the educational process.

While studying the issue of teachers' training, H. Sari and R. Konuk Er note that the Applied Master's Degree Program has been developed in Turkey, according to which a comprehensive qualified training of future teachers of vocational (professional) educational institutions is carried out. Teachers who have passed this program, in the future will be able to carry out qualified professional activities in vocational educational institutions (Sari & Konuk, 2016).

There are programs for the training of teachers of vocational educational institutions in each country; various teachers' training courses have been developed and practiced.

In particular, there is the Teacher subject specialism training program in the UK; it trains teachers of vocational educational institutions in the following areas: mathematics, physics and modern foreign languages. Subject knowledge under this program is acquired only by non-specialists, that is, potential teachers who do not have higher education in the specialization provided for in Teacher subject specialization training and / or teachers who have decided to return to professional activity (Teacher subject specialism training (TSST), 2020).

In the United Kingdom, in addition to Teacher subject specialization training, UCAS Teacher Training is also provided; it offers a number of training programs in accordance with the educational regulations of England, Wales or Scotland. UCAS Teacher Training also offers postgraduate teachers' training. Upon completion of the curriculum, applicants receive the status of a qualified teacher - QST (UCAS).

There are ample opportunities for gaining practical experience for the development of ICT competence of teachers of vocational educational institutions. The teacher can improve their skills through self-education, as well as full-time and distance training courses. Programs (curricula) of such courses, as a rule, are focused on formation of positive motivation to use ICT in educational process; mastering the methodological bases of preparation of didactic materials by means of applied programs; use of the Internet and electronic educational resources in pedagogical activities.

Thus, the feasibility of using innovative teaching methods and ICT in pedagogical higher educational institutions is beyond doubt; it justifies its main pedagogical goals. If the use of modern technologies is not episodic, but is carried out systematically, the effectiveness of training will increase. The use of ICT in the educational process allows maintaining a high level of motivation of students - future teachers of vocational educational institutions and developing their professional, intellectual, creative abilities, as well as contributing to the development of communication skills in working with information.

6 Conclusions

According to the results of the study, it has been determined that higher education institutions use a significant number of innovative methods and modern ICT in the training of potential teachers of vocational education institutions in the educational process. The use of innovative training methods improves the process of learning the material; these methods teach students to think and apply in practice the knowledge gained in lectures.

Investigations prove that the maximum efficiency of the use of information and communication technologies is to a great extent ensured by the high qualification of teachers who conduct the educational process.

It has been established that information and communication technologies are used by universities in the context of training teachers of vocational educational institutions for educational, administrative and communicative purposes, for studying educational material and for conducting the learning process.

The results of the conducted analysis indicate that the Internet in the educational process is used to carry out online learning, search for educational material, communicate with teachers or students through special educational sites, and educational activities.

A review of the dynamics of Internet use by students of European Union member states has revealed that students in Finland, Estonia and Sweden use the Internet most of all to search for educational material, communicate with teachers or students through special educational sites and for learning activities. It should be noted that the Internet activity of students is growing in dynamics. It has been found that in 2019 the highest rate of students' use of the Internet for educational activities was in Finland (94% vs. 89% in 2015) among the member states of European Union. It has been determined that high rates of Internet use by students were in Austria, Estonia, Spain, Latvia, Lithuania, Malta, the Netherlands, Portugal.

It has been found that students use the Internet least of all for online learning, especially in such countries as Latvia, Malta, Poland and Slovenia. Herewith, the highest rate of Internet use for online learning was in Finland (55% in 2019).

It has been proven that the use of ICT in the educational process of higher educational institutions has benefits for both students and teachers. In particular, systematic use of ICT gives the opportunity to form students' ability to work with information; future teachers of vocational education develop their communication skills, creativity, independence, the ability to make optimal decisions. Active use of modern ICT makes it possible for the teacher to optimize the time spent on the educational process, increase the level of general culture in working with information, technological tools and students. In addition, the quality of the educational process increases, which makes learning and communication more comfortable and interesting for the student. The use of ICT allows increasing the motivation of students to educational and cognitive activities. The availability of almost any information makes it possible to search and obtain the necessary information when performing various educational tasks.

It has been noted that in the context of a pandemic, when preparing future teachers of vocational education institutions, it is advisable to use such forms of organizing the educational process using ICT tools: synchronous online learning and asynchronous online learning. Synchronous online learning should be carried out in the format of online lectures (webinars) and online seminars (video conferencing systems).

When training teachers for vocational educational institutions, universities should take into account their specifics and special requirements for distance learning technologies in quarantine, in particular, the use of specially equipped premises or their virtual analogues, which would make it possible for students to learn general and professional competencies; work in "virtual groups", including the use of video conferencing systems.

Despite the fact that modern training methods and ICT are actively implemented by higher educational institutions in the training of students, the issues of training for the vocational education system are insufficiently covered. Taking into account its features and the fact that vocational education plays an important role in the social and economic development of states, further research can be aimed at studying the world experience in training teachers for institutions of the vocational education system, advanced training of teachers in the field of ICT in accordance with international standards and the development of special recommendations and training courses aimed at certain groups of subjects of the educational process - administration, teachers of general disciplines, educators of professional disciplines, masters of industrial training, etc.

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Primary Paper Section: A

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