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Development of professional competencies of students with distance learning technologies in the School-College-University system

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Abstract

Relevance. The relevance of the study lies in presenting the problems faced by participants of the educational process during distance learning, and proposing possible mechanisms for their solution based on global experience. Here, it is necessary to develop a new way of professional implementation of remote technologies, considering modern achievements in science and technology. In addition, it is necessary to ensure the availability of material and technical equipment and the training of qualified specialists.

Purpose. The purpose of the study is to develop a full list of recommendations for the qualitative comprehension of educational material through using distance learning technologies in educational institutions of different levels.

Methodology. The methodology of distance learning is based on conventional approaches to the organisation of the educational process. Theoretical, empirical, statistical and other methods were used to achieve this purpose. In this study, the problem of assessing the quality of distance education in an educational institution was theoretically analysed.

Results. Considering the experience of developed countries, distance learning is applied with some restrictions. These restrictions are related to the level of the educational institution, the educational programme, and other important circumstances. In terms of the academic hours distance learning can be compared with low-residency programme. At the same time, it is possible to study at a convenient time, combining classes with work or homework. Access to quality

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education, considering its definition within the framework of long-term socio-economic development, is the most important value to citizens.

Conclusions. Distance learning was presented as a conscious, organised, and systematic process of independent control of knowledge, skills, and abilities under the guidance of remote teachers.

Keywords: education; students; research; educational material; distance learning; professional competencies.

Introduction

The development of the need for self-education is a necessary condition for the realisation of the idea of continuous education. The constant and convenient electronic communication contributed to distance learning is becoming one of the ways to acquire professional skills independently. Consistent training is the most practical area of distance learning for professional training. In fact, nowadays, distance learning faces a number of problems related to its performance:

- 1) lack of evidence-based methods for developing courses and materials;
- 2) reliable criteria for assessing the quality of students' training in this form of education;
- 3) inefficient training of professionals;
- 4) quality of education and professional skills [1].

To solve the above tasks, it is proposed to use distance learning in small groups, primarily for the development of students' theoretical knowledge; to strengthen the development, performance and support of a distance learning system and to financially reward teachers who are involved in this activity. Upon accreditation, the commissions should pay attention to the practice of distance learning [2]. The advantages of this programme are that the distance learning saves at least an hour every day, since there is no need to commute to the place of study. In addition, the modern world provides opportunities for education, which are still of little demand but not for long. Only high-quality education can prepare a qualified professional, who is mobile, responsible, creative, self-improving and ready for self-development [3].

Considering the paradigm of lifelong learning, preparation of graduates for continuous self-education, which is the core of personal development, provides them with the opportunity to adapt quickly to socio-economic changes, new developments, technologies and adopt new economic behaviour. Modern higher education changes the approach to training of graduates who can demonstrate a wide range of professional knowledge, are creative, proactive, ready to make decisions, constantly acquire knowledge and skills independently and do not train narrow specialists [4]. A high level of cognitive, educational, and professional work in the process of continuous learning allows for solving these problems. The modern personality-oriented educational paradigm, which lies in the transformation of the student from a passive consumer of educational information to an active and independent subject of the educational process, determines the increasing the role of self-sufficiency in the educational process [5]. The purpose of professional training is to prepare a competent, mobile, proactive specialist who is ready to solve professional problems effectively and independently under any conditions. For a competent specialist, it is immanent to develop general cultural and

professional skills. Despite a comprehensive study of the modalities, forms, methods and other aspects of the organisation of independent work of students, the issues of increasing its role in modern education and the conditions for organising independent work to solve the professional problem were not researched. The study of this issue in the educational literature, modern academic publications, academic research, the regulatory framework, as well as the analysis of educational experience, allowed for identifying a number of existing contradictions:

- between the need for dynamics, variability, meta-material in the development of professional skills as conditions for effective professional activity in the future, and the static nature of disciplinary training in the educational process of the school system;
- between the growing share of study time in the didactic process of the university for independent work of students and the reluctance of students to rationally use this time for the development of professional skills;
- between the need for independent personal and professional development of students during professional training at the university and the lack of competence and ability of students to organise independent and purely educational activities;
- between the need to focus the on development of professional skills and the convenience of the thematic, technological, methodological processes of independent work of students.

The resolution of these contradictions lies in solving the problem of this study, which is to determine specific conditions for the organisation of independent work of students that would ensure the effectiveness of the development of professional competencies during professional development. The theoretical significance of the study is:

- defining the professional skills of university teachers for distance learning and their need for training in the system of advanced training of teachers based on Web Course Tools (WebCT);
- summarising the main approaches to the WebCT educational environment and expanding its capabilities during teachers' training;
- developing the technology of training university teachers to create pedagogical and methodological units of distance learning based on WebCT;
- defining the stages of monitoring the life cycle of the educational and methodological unit (educational design, development, testing, reflection, implementation, support, improvement), each stage of the educational and methodological complex corresponds to a certain set of learned skills during the educational programme.

Materials and Methods

For the new information society, which experiences an insane increase of knowledge accumulated by humankind,

the intensity of updating the information necessary for various spheres of human activity increases, there is an objective need to develop and improve the mechanisms of knowledge transmission throughout life considering the needs of a person and society [6]. New information technologies, which contributed to the information revolution, gave impetus to the rapid development of distance learning methods and the development of the concept of open education.

At different stages of the study, a number of additional methods were used:

- theoretical method (analysis and generalisation of academic literature on the subject of this study; generalisation, extrapolation, modeling, system and technological design, research of directives, educational regulations and programme documents);

- empirical method (research, analysis of the current experience of continuous learning and distance learning systems, extended observations); questionnaires, heuristic conversations, content analysis, evaluation, Internet search, pedagogical experiment, retrospective analysis of personal pedagogical experience in shaping learning systems and the application of distance learning;

- statistics (quantitative and qualitative processing of experimental data, graphic presentation of the obtained results).

The implementation of distance learning technologies is based on general didactic teaching methods. The main methods of distance learning will be discussed below.

1. A method of learning through student interaction, consultation or repetition with educational resources with minimal involvement of teachers, mentors and consultants, academic and technical managers (self-learning).

2. Individual method of teaching and learning, described by the relationship of one student, consultant or client in need of scientific and technical services, with one teacher, supervisor, consultant or scientific and technical supervisor (individual training). This method can be applied in distance learning with the use of modern technologies.

3. Another method is based on the educational material provided by the teacher, while students are not playing an active role in communication (one-to-many learning). This method is used when the entire group is training and consulting, they are approximately equally prepared and achieve the same result.

4. There is also a method of the active interaction of all participants in the educational process (many-to-many learning). The unique process in this method combines three ideas, which are team learning, mutual evaluation, and small group learning. The teacher is responsible for coordinating and managing the discussions and preparation of the material, developing the working plan, the questions and topics for discussion.

5. The project method supposes a complex learning process that allows the student to demonstrate independence in planning, organising and monitoring their educational and cognitive activities, which result in the creation of a product or phenomenon. This method of teaching is always focused on the independent activity of students for a certain period.

6. The method of problem-based learning derives from the consideration of complex cognitive tasks, which

solutions are of a significant practical or theoretical interest. The problem-based learning keeps students' attention focused on important tasks that stimulate cognitive activity, promote the development of skills and abilities to solve these problems.

7. The methodology of research training is described by the clearly defined, relevant and significant goals for the participants, a well-thought-out and supported structure, a wide use of the range of research methods, methods of communicating with scholars and presenting the results obtained.

The primary means of distance learning are books (physical and electronic), online training materials, computer training systems in conventional and multimedia versions, auditory educational information materials, video educational information materials, video recordings, video conferencing and forum communication, laboratory remote of control seminars, simulators, databases with remote access, electronic libraries with remote access, didactic materials based on expert training systems, didactic materials based on information systems [7]. The use of forms, methods and means of distance learning in the educational process allows for concluding that distance education and distance learning are logically integrated into the system of distance technologies. The main technologies of distance learning are Internet technologies, case technologies and video technologies. The prospects of distance learning technologies are determined by the accumulated experience, which methodically proves its effectiveness through a book organisation.

Results and Discussion

The results of the study revealed general trends in the organisation of education at all levels of School-College-University and specific problems specific at individual levels. The main problem in the organisation of distance learning is the creation of learning environment (technical support, organisation of the Internet, distance learning system), as well as methodological support for training. Distance learning (training teachers for using distance learning methods). The main problem for higher education institutions and colleges was to encourage teachers to master the methodological and technical basics of distance learning since most teachers did not have the motivation to develop high-quality distance education. The search for alternative forms of education has become common. In most countries, different types of distance learning are used, including broadcasting lessons on TV channels, publishing video lessons on special platforms, broadcasting lessons on radio, e-mail, etc. Every country tries to choose the most appropriate option for itself, considering accessibility of the Internet, technical infrastructure, and the adaptation of content to distance learning, so that the distance learning is available to schoolchildren and students as soon as possible [8].

Continuous learning allows students to communicate with each other, while considering the integration of school, secondary and higher education, and a flexible open system afterwards. Continuous learning is the main principle of building a new model of education. The system of continuous education is also relatively expensive compared to local educational institutions, where the cost is low and defined by the level of training of specialists in

secondary and higher education. In addition, it offers unprecedented opportunities for development, improvement and comprehensive education in modern information society, regardless of location, economic and social conditions. Thus, continuous learning differs in its volume and access to education for the majority of the country's population [9]. Improving the system of continuous education in the current socio-economic development should become one of the main directions in modernisation of education. Considering practical experience, the successful application of continuous learning at several levels is achieved through educational units such as School-College-University or School-University, since they have created socio-organisational and psychological-pedagogical conditions to provide for this process [10].

At the same time, mentioned training units, which share common goals, objectives and development strategies, differ significantly in the implementation of the training mission at several levels, which will certainly contribute to this process. Therefore, the study will focus on the features of the application of training at several levels in the School-College-University system. Here, it is a core of professional education. In this system, there is a more flexible variation in the level of education at transitions between school and university than at transitions between university and school, since the aspects of education at these levels are very similar [11]. Processes, the use of educational innovations and technologies in the interdisciplinary of educational programmes and the professional competence of teachers. In other words, the principle of continuity of learning is guaranteed, and

students' adaptability is achieved in the most comprehensive way and within shortest period possible [12]. This positive resource must be used during the training of specialists of different levels. The professional development of students should be supported by the development of their creative potential through active participation in research [13]. This ensures the professional preparedness of the students for further study at the next stage of training. In addition, it is necessary to apply the principle of basic learning, which allows students to acquire basic theoretical knowledge for professional development and self-improvement [14].

Modern ideas imply that education is necessary if it is a non-linear interaction of a person with the intellectual environment, where a person perceives this interaction as opportunity to enrich one's inner world and, consequently, matures to increase the potential of this environment. The unity of the ontological and epistemological aspects of educational activity is achieved in primary education [15]. The ontological aspect is related to the knowledge of the surrounding world. The epistemological aspect is related to the development of methodology and cognitive abilities. An interdisciplinary approach to professional training is crucial for the multidimensional professional education, contributing to the development of systematic and basic knowledge necessary for further professional development and self-improvement. Higher education implies that there are opportunities and potential resources for the successful development of professionally important personal qualities of students at this stage. The structure of the education system in the Republic of Kazakhstan is presented in Figure 1.

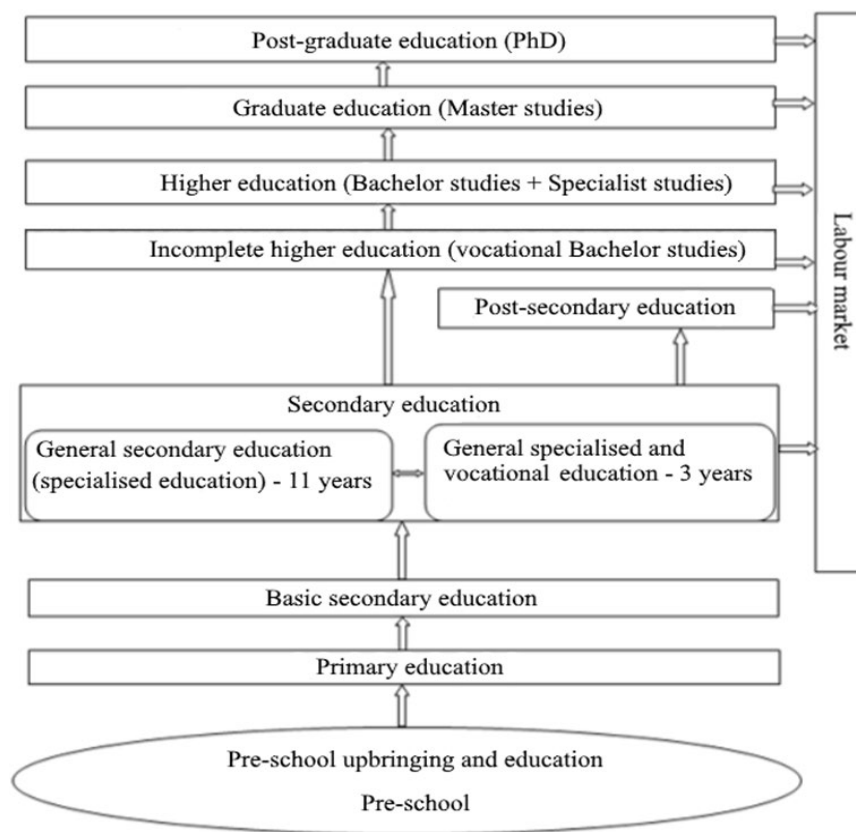


Figure 1. Structure of the education system in the Republic of Kazakhstan

The principle of continuous education, the integration of educational systems and the expansion of the concept of education in general determine the main approach to the development of a new educational system focused on using the advanced potential of computer and telecommunication technologies. Information technologies allow for experiencing one of the main advantages of the modern education system, which is a distance learning. The Internet provided the possibility to communicate and receive information from the teachers, regardless of their location. The spread of high-speed Internet allowed for using web seminars as part of "online learning". Distance learning is a new form of organisation of the educational process based on the principle of teaching independent students by using developed information resources. In distance learning, the subject is removed from the teacher, textbooks, or educational resources. Along with the development of distance learning, the environment for the implementation of the leading principles of 21st-century education such as "Education for all" and "Education for life" in the main UNESCO region was created. The entire system of interaction between the participants of the distance learning process has pronounced features. Distance learning is defined by:

- common activities of students in small cooperative groups;
- systematic discussion of the mentioned problems, difficulties encountered, interesting suggestions in an interactive mode by the entire group through the forum, chat, or video conference;
- the use of methods of joint research and creative activity such as the project method, problematic role-play or business games, the case method;
- forms and types are much more diverse, they combine both automatic control of knowledge and open types of control of the overall result of activity.

The concept of creating and developing a unified system of distance education in Kazakhstan also has the following features: Coverage, which implies simultaneous access to many sources of educational information (electronic libraries, databases, knowledge bases, etc.) for a large number of students. Convenience, which implies the use of the latest achievements of information and telecommunications technologies in the educational process. Social equality, which means equal opportunities to get an education regardless of the student's place of residence, health, class and financial security. Internationality, which means exporting and importing of global achievements in the market of educational services. The mentioned features of distance learning determine the functional purpose of the system described by systemic approach.

Career guidance and training, studying labour market demand, training based on multi-level programmes for high school and college, where training is performed at the basic, or advanced levels, which allows for identifying and developing the personality as much as possible. Opportunities and aspirations of students. Nowadays, it is necessary to prepare conditions that ensure the continuity of the learning path [16]. A learning process is the mechanism of functional communication between connections with the education system that develops self-identification and self-actualisation. The relevance and

significance of this approach is determined by the fact that the system sets the priorities for its activities considering the legislation of the Republic of Kazakhstan in the field of social regulation and education.

The main conditions for the continuity of the education system are:

- compliance of educational goals with the personal values of each student;
- common purpose at each level of the education system;
- the availability of technology that provides a functional connection between all stages of the educational process in accordance with their goals;
- technologies, activities, and training methods;
- achieving the set control goals.

The quality of education should be viewed as a multidimensional concept that should be applied to each process, document, type of activity and teacher that should have an individual approach to the student, be interested in one's profession, regardless of the specialisation [17]. The quality of education should be determined not only by the degree of harmonisation of educational and professional programmes and students' knowledge but also to ensure that the requirements of consumers (students, society, the state) for their quality are fully met, as well as to provide the graduate with the opportunity to be a specialist and work effectively in the relevant field. The concept of computerisation of education should be based on the fact that educational technology is not new. This process can be overcome during the transition to a modern society through the computerisation of education as a fundamental change in the essence and organisation of the learning process and human development [18]. Thus, the use of information technologies in the educational process, as well as the development of distance learning based on them, represent not only the methodological and organisational aspects of the educational system but also thoroughly explore a new model of education that meets the requirements of a new information civilisation. According to these requirements, the application of the competence approach should ensure the widespread use of active and interactive forms of learning in the educational process combined with extracurricular activities for learning and developing the skills necessary for students [19; 20]. The Modular Object-Oriented Dynamic Learning Environment (Moodle) system, along with other distance learning technologies, allow for planning and performing extracurricular or independent classes for students. The use of distance learning technologies is possible for all forms of education [21]. These technologies are used more effectively in low-residency courses, where the teacher must provide the necessary information within a short time. Even in ordinary education, distance learning can be used in many conventional forms and technologies, for example [22-25]:

- provide students with additional materials, since there is less time in the classroom, but there is a need to publish them in extended format. In addition, information technologies allow for presenting this material in any form (video, audio, reproductions, diagrams, figures, etc.);
- use simulators that allow students to quickly master the skills or definitions they need. However, using them in the classroom is not always beneficial, since everyone has a different level of memorisation, and some students

already have these skills. Therefore, simulators are useful for memorising the necessary material at home;

- conduct ongoing monitoring and continuous certification of students by electronic means (electronic tests, forums, surveys, etc.) using a personal identity card.

The development of information technology contributes to the fact that the student spends some of his/her academic time on distance learning, which he/she combines with regular education and self-education (independent work). Distance learning has the following advantages over in-class learning [26-28]:

- operational (overcoming barriers of time and space, getting new real information, quick feedback);

- informativeness (increasing the accessibility of educational series the user through interactive Internet channels, publishing via teleconferences, mailing lists and other Internet means);

- communication (increasing the number of students who communicate quickly via the electronic network in 2025; removal of territorial restrictions on online education, projects, academic contests);

- educational (due to the specifics of distance communication, learning becomes more motivated, interactive, technological and individualised; this facilitates online publications, research and evaluation of students' performance);

- psychological (to create more comfortable emotional and psychological environment for the teacher's self-expression, to eliminate barriers and psychological problems, to eliminate errors in oral communication);

- cost-effectiveness (overall training costs are reduced by saving on travel, rent and maintenance, reducing red tape, and duplicating benefits);

- ergonomics (students and teachers have the opportunity to plan their studying time considering the convenient schedule and pace, choose and use the most appropriate equipment and computer programmes for learning).

All these methods and many others are very convenient for using the Moodle learning management system, which is under the GNU's Not UNIX General Public License (GNU GPL) free software license. Therefore, the distance learning requires further progress in education, high development, improvement of the functional level and application in all systems (School-College-University).

South Korea is considered to be one of the leaders of digitalisation in Asia. The prevalence of e-learning in modern ordinary schools reaches 80%, there are projects of fully or partially online schools and cyber-universities. Since 2007, there is an electronic textbook programme in the country, where an online interactive book is created. Online interactive universal book is a three-dimensional textbook that uses the so-called augmented reality, which includes a combination of real objects and additional text images designed and used for additional information [29]. The results of an experiment that tested these textbooks showed that the overall academic attendance of students increased by 30%, along with students showing the lowest results. In the United States, where public schools will be closed for the rest of the academic year due to the pandemic, a government initiative of Shared digital textbooks began in 2012. It proposes a plan to transform all 12-year schools into a digital interactive education system.

In some states such as California and Utah, schools have already abandoned paper textbooks in favour of electronic ones [30]. This approach has dramatically reduced the price of many textbooks up to \$4 per unit, while the cost of a paper textbook ranges from \$30 to \$100. On April 1, US officials said that teachers are taking on the huge task to organise distance learning for about 6.1 million students. For every child to have access to distance learning before the end of the school year, the better access to the Internet and electronic devices would be needed. For example, California officials have teamed up with Google, which provides free wi-fi to 100,000 families [20].

Finland is considered to be the most advanced country in Europe in the field of e-learning [31]. Its progressive education system is accepted as a model for many countries. Innovations in education contributed to the fact that the country deprived of natural resources has acquired the leading status in the European Union (EU) for two decades [32]. The ranking of Programme for International Student Assessment-2015 (PISA-2015) places Finland on the fifth place after Singapore, Japan, Estonia and Taiwan. The teacher Heidi Tuominen described her experience as follows: "I work 10 to 12 hours a day, record videos, help students with voice or video conversations, create and share material, hold everything. The weekly goals are well known, I give feedback to students on their daily work and work with their families. I would not say that I have shifted the responsibility for raising children to their parents. Meanwhile, officials recognise that not every child have the equipment to do their homework online, and access to technology emphasises the inequality in Finnish education, as well as in the Finnish society" [21].

Digitisation of education is not much different from the Estonian model of studying the Finnish language. The results of participation in the PISA programme developed by the Organisation for Economic Co-operation and Development (OECD) rank Estonia on the second place after Japan in the field of education and science, as well as in mathematics. Informatisation in Estonian schools began in the 1990s, and in 1997 a project to provide all schools with the Internet connection before 2006 was launched. There has been an e-learning system that provides quick access to all online educational data since 2002 [33]. The electronic textbooks are all integrated into one educational platform Opiq [22], which is a library of reading materials for all subjects in 1-12 grades. The advantage of this system is to provide inter-subject communication in particular. For example, the information in the 8th grade geography textbook on the topic "Water resources" is provided by links, where one can find the necessary material in other textbooks and not only for the 8th grade. Opiq [22] can be accessed by Internet and from any device. Notably, Estonian educational technologies are being introduced in other countries, including Finland, Singapore and Kazakhstan.

"Almatykitap" publishing house started working on the portal in 2017 in partnership with the Estonian publishing house "Avita". During the 2018-2019 academic year, Opiq [22] e-textbooks were tested in 12 schools in five regions. The approval was performed by 350 teachers and more than a thousand students. The interface, functionality, search tools and organisation of comment section on the portal are similar to the Estonian design. The future plans

for the program include the adaptation of its functioning to the local reality such as introducing an offline mode, which is relevant in case of absence of the Internet connection. Nowadays, 75 manuals from various publishers ("Almatykitap", "ArmanPV" and "Edu Nakaduli") are already available on the Opiq [22] portal from levels 1 to 11 in Russian and Kazakh. So far, not all textbooks used in Kazakh schools have been presented on the platform, since not all local publishers have their e-book versions and not all are ready to cooperate. Publisher, who is the creator of the electronic textbook platform Opiq [22], points out Estonian experience, where the Minister of Education recommended all publishers to provide electronic textbooks on one platform. The state itself granted citizens access to this resource with a paid state license [34]. In the end, the project benefited everyone, including publishers, students, teachers, parents, and the state.

At the moment, there are no analogues to this portal in Kazakhstan, since it has not only topics for study but also the textbooks themselves. The information is structured and comprehensible, students and teachers do not need reinstatement. A digitised textbook is not a scan of a paper textbook, it is not an e-book. This is a proper textbook that fully corresponds to the school curriculum, including additional video and audio materials and interactive tasks [35]. This is the same lesson but with much more information. The electronic textbook allows children with different skills and features to learn to the fullest. If the student is better at understanding the information through audio, one can listen to it, and if the child understands visual information better, one can watch a video or a teacher's presentation. The student can update their knowledge by returning to the classroom, or explore the topic more deeply by studying other subjects and classes [36; 37]. In this case, any widget can use the platform.

Kazakhstan still lags far behind countries such as Singapore, South Korea, Japan, the United States, and the Scandinavian countries, mainly in terms of the implementation of digital technologies to the educational process. In any country, digitalisation is based on a developed information technology infrastructure (IT infrastructure) and the level of informatisation of educational institutions [38]. Nowadays, only 40% of all schools in Kazakhstan work online. However, such factors as geographical location, the remoteness of many resident placements from regional and district centres, as well as the insufficient number of staff members in almost half of the country's schools, mean that the information and communication technologies in education are not only a necessary but also conditional for survival [39]. The coronavirus pandemic has revealed that the share of online learning in the education market is small [40]. The rapid compilation of lists of online platforms and the

development of methodological recommendations shows that at present, when the entire country is forced to do it remotely, the process of digitalisation of education needs reformation.

Conclusions

The study reveals that each educational organisation has its goals, structure, organisational culture, isolation and interrelated elements. Depending on the types or executives, the elements of the organisation or its content may differ but the goals and objectives will always remain common for all educational organisations, which always strive to create an environment for following the educational standards of the modern state, and for the educational process in general. However, for the rapidly changing modern information society, value orientations are transforming, as well as approaches to learning. The current state of modern education with its forms of classroom learning contradicts the new goals and trends, since these forms of education do not allow for the application of the principles of individualisation and differentiation. Therefore, improvement of the quality of the modern educational process at a sufficient level depends on using distance learning to achieve its goals.

Currently, many schools in Kazakhstan operate online. However, factors such as geographical location, the remoteness of many localities from regional and district centres, as well as the insufficient number of staff members in almost half of the country's schools, mean that the information and communication technologies in education are not only a necessity, but also a condition for survival. The coronavirus pandemic revealed that the process of digitalisation of education needs reforming.

In general, after considering all the pros and cons, it could be stated that distance learning is a very practical and useful approach. However, primary education can function in this way only if the option of conventional education is not available for some reason (space, time, or financial obstacles). Still, additional training for patterns can be done remotely. They are very effective in further studies, since the student has already mastered the basics of the profession and knows a lot about full-time learning.

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Conflict of Interest

None.

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Анотація

Актуальність. Актуальність дослідження полягає в тому, щоб представити проблеми, з якими стикаються учасники освітнього процесу під час дистанційного навчання, і запропонувати можливі механізми їх вирішення на основі світового досвіду. Тут необхідно розробити новий спосіб професійного впровадження дистанційних технологій з урахуванням сучасних досягнень науки і техніки. Крім того, необхідно забезпечити наявність матеріально-технічного оснащення та підготовку кваліфікованих фахівців.

Мета. Метою дослідження є розробка повного переліку рекомендацій для якісного засвоєння навчального матеріалу за допомогою використання технологій дистанційного навчання в навчальних закладах різного рівня.

Методологія. Методологія дистанційного навчання базується на загальноприйнятих підходах до організації навчального процесу. Для досягнення поставленої мети використовувалися теоретичні, емпіричні, статистичні та інші методи. У цьому дослідженні теоретично проаналізовано проблему оцінювання якості дистанційної освіти в навчальному закладі.

Результати. Враховуючи досвід розвинених країн, дистанційне навчання застосовується з певними обмеженнями. Ці обмеження пов'язані з рівнем навчального закладу, освітньою програмою та іншими важливими обставинами. За кількістю академічних годин дистанційне навчання можна порівняти з програмами з низьким рівнем резиденції. При цьому є можливість навчатися у зручний час, поєднуючи заняття з роботою або виконанням домашніх завдань. Доступ до якісної освіти, враховуючи її визначення в рамках довгострокового соціально-економічного розвитку, є найважливішою цінністю для громадян.

Висновки. Дистанційне навчання було представлено як свідомий, організований і систематичний процес самостійного контролю знань, умінь і навичок під керівництвом дистанційних викладачів.

Ключові слова: освіта; студенти; дослідження; навчальний матеріал; дистанційне навчання; професійні компетентності.