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Opportunities to use educational resources in the context of distance learning

The article describes the importance and necessity of using Internet resources and digital educational resources in the context of distance learning. The content of the concepts “Internet resources”, “educational platform”, “educational resource”, etc. is given, the effectiveness of their use in teaching students is revealed. Definitions of electronic resources, digital educational resources, Internet resources are given. The importance of distance learning today is emphasized. The authors classify the most widely used educational platforms in Kazakhstani schools and focus on their capabilities. To educate an independence-oriented person, you need not only a fairly large amount of information, but also a large variability of information that reflects different approaches to solving the same problems. Only in this case, a person has a subject to search for truth, facts, and evidence to support or refute a particular idea, point of view or task. The effectiveness of the special course “Methods of using digital educational resources in primary school” is considered in the preparation of future primary school teachers for the effective use of digital educational resources.

Keywords: informatization, educational platforms, digital educational resources, Internet resources, electronic resources, distance learning, synchronous learning, asynchronous learning.

Introduction

The number of people living outside modern information and telecommunication technologies is declining every year. This is due to the development of computer technology and the expansion of access to global information networks. The mass dissemination of information media now affects all areas of human activity. Therefore, the active introduction and use of information technology in the education system should be recognized as a natural phenomenon. On the one hand, modern means of information processing allow to significantly increase the effectiveness of training, on the other hand, the education system is a tool that is formed by members of society, who live everywhere in the conditions of informatization.

Description of the problem

This issue is also highlighted in the documents in the field of education in the country. The state program “Digital Kazakhstan” emphasizes that “the content of all levels of education should be completely reconsidered through the development of digital skills of all professionals” [1]. The standard for the development of digital educational resources for e-learning systems in general secondary education states that “digital educational resources should be information in different formats that are convenient for each user, regardless of where they connect to the Portal. Digital educational resources will be available for teachers to conduct lessons, as well as for students to prepare for lessons on their own and as reference materials. Digital educational resources should allow teachers to create learning materials for different learning purposes” – said [2].

The education system is actively using information technology and computer communications. The system of distance learning is developing rapidly, for example, several factors, most importantly – the provision of educational institutions with powerful computer equipment, the creation of electronic textbooks in all areas of study and the development of the Internet.

Researcher-scientist A.H. Sarybayeva in her study “Electronic textbook – a tool for improving the professional training of future teachers” identified the Internet as a comprehensive source of information in various fields of education [3].

There is no doubt that the information resources available on the Internet today can significantly increase the effectiveness of teaching many subjects by providing visual, audio and video information, which contributes to the formation of students' motivation to learn subjects. As a result, the use of Internet resources is in demand and it becomes clear that teachers need to be introduced to such resources and the basic ways to use them.

In general, there are many scientists who study this problem: the theoretical and methodological bases of the use of digital educational resources in higher education (Eliseeva E.V.), the activation of educational and cognitive activities of students based on the use of digital educational resources (Radevskaya N.S.), improving the quality of education of students of pedagogical universities through digital educational resources (Steimark O.V.), methods of development and use of digital educational resources in distance learning in secondary vocational education (Surova N.V.), Internet in primary school – methods of resource use (Tautaeva G.B.), methodological preparation of students for the use of information technology tools (Bidaybekov E.Y.), the formation of information culture of students in distance learning (Dzhusubalieva D.M.), methodological development of electronic methodological systems in the context of informatization and technological problems (Kurmanalina Sh.Kh.), studying in primary school Problems of formation of network readiness of students (Akhmetova G.B.), pedagogical bases of preparation of future ecologists for use of information and telecommunication technologies (Meirbekova G.P.), etc.

Aims and objectives of the study

Analyzing the research conducted by scientists from the CIS countries and Kazakhstan, we conclude that in many countries today the humanistic approach to education based on the task of comprehensive development of the individual, as well as his independent creative and critical thinking prevails. Therefore, a wide range of information services, different sources of information, different views and views on the same issue, motivates people to think independently, to seek their own arguments. This approach requires the creation of certain conditions for the organization of such a system.

Electronic resources are general-purpose applications (or curricula) and are created in accordance with the content of the subject and the methodology of teaching the subject. They may include a system of computer tasks, reference information, research content (using text, graphics, animated plots, etc.) and control materials.

Digital educational resources – educational resource is a ready-made interactive multimedia product aimed at achieving didactic goals or solving specific learning tasks.

Internet resources – computer training programs, including electronic textbooks, simulators, laboratory workshops, test systems; databases by field of education, sites and presentations reflecting various aspects of pedagogical activity.

The education system is a holistic, but at the same time open system, the predominant feature of which is the information content. Information support of the education system is not limited to sources such as textbooks, manuals or reference materials, the media.

Not only sound education but his alertness and dedication too are most required. Only in this case, a person has a topic to search for truth, facts and evidence to support or refute a particular idea, point of view and task.

The Internet provides unique opportunities for school education and personal development. It is not only a practically inexhaustible collection of educational information, but also a tool for its search, processing and presentation. The Internet is a special source of active intellectual and communicative activity of the student, his creative self-realization, as a result of which he has the opportunity to acquire the necessary knowledge, skills and abilities. Currently, the process of creating and organizing resources on the Internet for school educational purposes is in full swing. As educational websites have become an important element of new educational information technologies, it is important to familiarize subject teachers and methodologists with the didactic potential of the network and the opportunities offered by such sites for teaching and educating school-children.

Research methods

Distance learning has long been in demand in the world. During the pandemic, the online learning system proved to be effective. The research and use of modern digital tools and services in the learning process is not particularly difficult and allows for the rapid development of training, testing, modeling or demonstration programs.

In this regard, since the beginning of the school year, several educational platforms for distance learning have been launched in the country. Each of them offers online training with ready-made training materials. Effective use of such resources in the educational process is one of the most relevant and promising areas for the development of the education system.

S.S. Kozhageldieva considers distance learning as one of the most relevant methods of achieving goals and a form of cooperation of interactive sources of information resources. Distance learning is a way of

implementing the learning process based on the use of the latest information and telecommunication technologies that can allow distance learning without direct, personal contact between teacher and student [4].

Distance learning is a form of learning between a teacher and a student at any distance, accompanied by Internet resources, i.e. learning at a certain distance using the Internet.

Features of distance learning:

- flexibility – in the system of distance education, students work at a convenient time, place and at a comfortable pace;
- modularity – each course forms a holistic understanding of a particular subject area, which allows you to create a curriculum, taking into account individual and group needs;
- a teacher of distance learning is the coordinator of the cognitive activity of the student and the leader of the educational process;
- special control over the quality of education – remote control, computer intelligent testing systems are used.

There are three different forms of distance learning: synchronous, asynchronous and webinar.

Synchronous learning is a form of organizing learning by currently viewing the teacher's screen at a certain distance using Internet resources.

Asynchronous learning is a form of learning that allows the exchange of information between teacher and student through Internet resources (e-mail).

Webinar is a form of conducting seminars and trainings via the Internet [5].

Analyzing the existing distance learning systems, we realized that today TV-technology and network technologies are widely used to support distance learning.

TV-technology, as its name suggests, is based on the use of television lectures.

Network technologies include Internet technologies that use the capabilities of local and global computer networks. In Internet technology, the World Wide Web is used to provide students with teaching materials, as well as for cooperative interaction between teachers and students. The ability to communicate with many people is a fundamental difference between Internet technology and other distance learning technologies.

Educational platform – learning management system. This is an application software that can be used by all participants in the learning process. The modern concept of “educational platform” combines a wide range of different possibilities. The name of this concept is associated with the introduction of many software products, systems and complexes in the educational platform.

According to the “Basic provisions of the concept of creating educational portals”, the portal is called “a set of nodes connected to the Internet through high-speed channels”, a wide range of information resources and services aimed at a specific audience with a developed user interface and a single concept and content [6].

The table below shows the educational platforms widely used in Kazakhstani schools and their capabilities.

T a b l e .

Educational platforms widely used in Kazakhstani schools

Name of platforms	Applicability	Links
BilimLand.kz	widely used online educational platform in schools, any teacher and student can conduct lessons in synchronous and asynchronous formats	https://bilimland.com/kk
OnlineMektep.org		https://onlinemektep.org/
Daryn.online	an educational platform based on the previous achievements of the world's e-learning leaders	https://daryn.online/
Күнделік	unified educational system, automated system of electronic journals and diaries	https://portal.kundelik.kz/
Opiq	an innovative online platform that includes the most relevant learning materials for students and teachers	https://www.opiq.kz/
Sphere	allows to study and teach school subjects remotely and interactively, as well as to monitor the learning process and academic progress	https://slp.kz/

All learning platforms increase students' motivation to learn independently, develop a culture of teaching and learning. The use of the platform as a tool for individual learning, combined learning, allows students to develop a personal approach to traditional learning.

Resources based on the school curriculum on educational platforms are an indispensable tool for teachers and an interesting learning tool that allows students to work independently.

Features and instructions for use of these platforms are available at <https://informburo.kz/> [7].

E.G. Baikova and O.A. Krutskikh said that “any stage of the lesson should be equipped with new technical aids and appropriate visual aids: audio-video materials, slides, DIGITAL EDUCATION RESOURCES, etc. will be significantly revitalized by the introduction of [8]”. The use of digital educational resources to transform the lesson, to maximize its content; increase the pace of the lesson; to create learning motivation; to ensure the visibility of teaching; to manage students' independent work at a radically new organizational level; allows you to increase the individualization of training. In addition, online testing on educational platforms can quickly assess student performance. That is, it differs from traditional methods of assessing the quality of education: to significantly reduce the time required to process the results of knowledge testing; automate the process of checking answers; allows to reduce the subjective opinion of the teacher.

E-learning resources are educational materials that are stored and distributed in digital form, using information and communication technologies for its creation and maintenance [9].

Researchers from the University of Leiden School of Higher Education (ICLON) Jinxiang Wang, Dinecke Tigelaar, and Wilfried Admiral suggest that providing digital resources to all students is a strategy that can improve students' interests and diverse needs, as well as teaching and learning methods [10].

In addition, in the process of digital transformation, digital educational resources, teaching materials, software and tools used in teaching practice are considered to be an important source of knowledge related to learning that primary and secondary school teachers share with others on a daily basis [11].

Russian research scientists A.V. Ponachugin, Yu.N. Lapygin argue that the important task of integrating digital educational resources into the educational process is to create an e-learning environment for students to work independently at an individual rate of unlimited access to the material., competent and logical content; lesson materials and professionally oriented practical tasks; detailed study of current and control material (competent formulation of all definitions, emphasis on important rules, development of methods of selection and application based on Digital Education Resource, depending on the goals and objectives of the lesson) [12].

Research results

Based on the analysis of various scientific literature, we found that there are different classifications of educational resources.

A resource for independent work of students. Requirements for resources in this category: simplicity of presentation, taking into account the age characteristics of the contingent; compliance with the curriculum; availability of a knowledge control system that allows the student to correctly assess learning outcomes and receive recommendations for further organization of lessons.

A resource for teacher preparation. This category can be divided into two sub-categories: resources for the selection of visual aids and teaching aids. The main requirements for this type of resource are the accuracy and precision of the information contained therein.

A resource for teacher self-study. This category of resources includes various distance learning sites, as well as sites of institutes and communities, etc. included.

A resource for organizing practical work in the classroom. This includes virtual experiments, laboratory work, etc. resources that allow the use of the Internet and multimedia technologies for conducting.

A resource for organizing extracurricular activities on the subject. These include various interactive quizzes, contests, sites with materials on the organization of interesting experiments, etc.

The following forms of lessons using the Internet and digital educational resources can be divided into: presentation lessons, research lessons, virtual experiment, laboratory work, thematic project, electronic quiz, knowledge control, elective, online project, individual training, consulting. There may be other facilities, such as online games, “virtual tours”, press conferences, lessons and creative reports, distance Olympiads, telecommunications projects, etc.

Digital Education Resource allows you to organize new forms and methods of teaching and education. The prospects for using digital educational resources in the classroom are very diverse and endless. As we can see, today the expansion of the information space is a key area of social development that meets the needs of society. Therefore, it is necessary to constantly update and search for the most effective methods of work in education. The use of digital educational resources meets these requirements.

Digital educational resources can be used as a means of presenting ready-made information or describing the reported fact, concept and law in question.

The scope of use of educational Internet resources is as follows:

- in preparation for the lesson, i.e. the selection of didactic materials necessary for their use in the classroom offline;
- download computer training or modeling programs from the network for later use in the classroom;
- conduct classes online using online resources, such as animations, applets or interactive virtual labs;
- organization of learning and knowledge control with the help of distance learning lessons and tests;
- send students to the educational resources of the network to do homework;
- organization of participation in extracurricular activities with students, for example, in project activities, distance Olympiads and quizzes;
- professional development by participating in various teleconferences and virtual pedagogical councils or interacting with colleagues in chats and e-mails, as well as by studying the many materials posted on the websites of methodological associations.

The Internet offers a choice of information: basic information on servers, databases of leading libraries, research centers, museums, websites of leading companies, various analytical reviews, magazines, etc., which significantly exceeds the volume of any print media.

This allows you to deepen the content of the material, but also helps to develop students' practical skills and abilities in mastering the material. The use of educational information on Internet servers provides a basis for the organization of independent activities of the teacher for the analysis and generalization of material, using a wide range of individual and group forms of the learning process.

The use of different forms of synchronous and asynchronous Internet communication (e-mail, chat, forums, web conferences, etc.) has a positive effect on the formation of communicative competence of students.

Internet resources themselves are an invaluable and broad basis for creating an information and subject environment, knowledge and self-education of students, meeting their personal interests and needs.

The main didactic tasks in using the Internet:

- Replenishment of vocabulary;
- Formation of reading and writing skills;
- Acquaintance with cultural knowledge;
- Formation of a permanent motivation to study;
- Involvement of passive students, visualization of lessons;
- Improving listening skills;
- Increasing the intensity of the learning process;
- Implement an individual-oriented and differentiated approach.

Advantages of using Internet technologies:

- High interactivity;
- Development of creative and innovative potential of teachers;
- Overcoming the linguistic difficulties of students;
- Motivated students to learn independently with the help of accurate sources of information;
- Increasing the volume of practical and creative work of exploratory and research nature;
- Improving lexical and grammatical skills, reading and writing skills in accordance with the exam.

Difficulties in using Internet technologies:

- The need for a classroom with Internet access;
- Impossibility to verify and assess the accuracy of the information;
- Preliminary preparation of students for work on the Internet;
- Technical difficulties that arise when working online;
- Class time limit.

Forms of work with Internet resources:

- Use of Internet resources when moving to a new topic;
- Participation in international projects;
- Correspondence by e-mail;
- Independent work of students with Internet resources for the preparation of reports, messages.

Use of Internet resources in teachers' self-education: teaching technology has not stood still. Most of the current educational Internet projects are designed for open placement on the project website (portal), use a set of links to Internet resources on the subject of the project as a means of visualizing the results of their work. Teachers from all over the world create something new and share their experiences on the Internet.

Internet resource is a set of information with a single logical structure, creating a single information educational environment through the development and formation of a unified information environment [13].

Special Internet and digital educational resources:

- virtual library;
- search engine;
- Internet – catalog;
- information dissemination service (internet broadcasting).

Database for electronic information products; electronic journal; multimedia recording.

Criteria for selecting sites for use in the classroom:

- compliance of the topic with the given standard;
- language authenticity: websites themselves can be both original and textbook;
- suitable styles of texts used;
- modernity of the material, its reliability;
- methodological potential of educational Internet resources;
- source of information outside the school program;
- organize group or class discussions;
- text, graphics, photo, audio and video materials on the studied topics;
- organization of project activities; individualization of teaching.

During the special course “Methods of using digital educational resources in primary school” students majoring in 6B01301-Pedagogy and Methodology of Primary Education got acquainted with the concept of digital educational resources and their main types. An overview of the digital educational resources used in primary school, showing their different modes of operation. On the basis of the provided digital educational resources developed various tasks and demonstration materials for primary school students, videos of refreshing exercises. At the same time, future teachers used a variety of digital and Internet resources, such as text and graphics editors, presentation programs. The main forms of lessons: project games, group and individual project work, expert discussions, presentations, project and practical demonstrations, other ways to activate the cognitive, reading, research and reflection activities of students.

When developing a Digital Education Resource, it should be borne in mind that the resource should be easy to use for teachers and students with an intuitive interface [14].

In addition, using Internet search engines, students learned how to find a variety of digital materials for elementary school students: ready-made presentations, audio and video files, extracurricular activities, and the use of online educational platforms and websites.

Conclusion

The first pedagogical condition aimed at improving the quality of education of students using Digital Education Resource is the acquisition of skills and abilities of teachers and students to work with the ever-changing flow of information. This condition assumes that teachers and students have the skills to competently formulate their information needs and requirements, rationally select quality information from the information flow, create information products and provide services in the field of future activities on the basis of existing Digital Education Resource [15].

The work plays an important role in the formation of students' information competencies. In addition, students who are interested in a deeper study of other aspects of the use of digital educational resources in the primary school during the special course are offered to organize appropriate research in the preparation of term papers and projects.

Due to the distance learning format, students defended their work on the ZOOM platform and sent it to the mail.ru cloud database.

Group and individual work focused on developing short-term lesson plans using different Digital Education Resources. The peculiarity of such work was the need to describe the specifics of the use of certain quantitative educational resources at different stages of the primary school. The pedagogical tasks of the proposed tasks showed the specifics of the primary school teacher's activity, for example, students analyzed the types of educational resources for primary school via the Internet, selected digital resources for educational purposes, taking into account the type or period of lessons used.

Thus, the use of educational resources in distance learning allows to make lessons interesting, to fill them with modern content, to increase learning and cognitive motivation, to develop social and psychological qualities, intercultural competencies of students, acting as an interactive Internet tool.

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Қашықтан оқыту жағдайында білім беру ресурстарын пайдалану мүмкіндіктері

Мақалада қашықтан оқыту жағдайында Интернет ресурстары мен сандық білім беру ресурстарын пайдаланудың маңызы мен қажеттілігі баяндалған. «Интернет ресурстары», «білім беру платформасы», «білім беру ресурсы» т.б. ұғымдарға мазмұндық сипаттама беріліп, олардың білім алушыларды оқытуда пайдаланудың тиімділігі ашылып көрсетілген. Қазіргі таңдағы қашықтан оқытудың маңыздылығы айтылған. Авторлар қазақстандық мектептерде кеңінен қолданылатын білім беру платформаларының жіктелімін жасап, олардың мүмкіндіктеріне тоқталған. Болашақ бастауыш сынып мұғалімдерін сандық білім беру ресурстарын тиімді пайдалануға даярлауда «Бастауыш мектепте сандық білім беру ресурстарын қолдану әдістемесі» арнайы курсының тиімділігі қаралған.

Кілт сөздер: ақпараттандыру, білім беру платформалары, сандық білім беру ресурстары, Интернет-ресурстар, электрондық ресурстар, қашықтан оқыту, синхронды оқыту, асинхронды оқыту.

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Возможности использования образовательных ресурсов в условиях дистанционного обучения

В статье изложены важность и необходимость использования Интернет-ресурсов и цифровых образовательных ресурсов в условиях дистанционного обучения. Дана содержательная характеристика понятий «Интернет-ресурсы», «образовательная платформа», «образовательный ресурс» и других, раскрыта эффективность их использования в обучении обучающихся. Отмечена важность дистанционного обучения на современном этапе. Авторы классифицировали образовательные платформы, широко используемые в казахстанских школах, и описали их возможности. Рассмотрена эффективность спецкурса «Методика использования цифровых образовательных ресурсов в начальной школе» в подготовке будущих учителей начальных классов к активному использованию цифровых образовательных ресурсов.

Ключевые слова: информатизация, образовательные платформы, цифровые образовательные ресурсы, Интернет-ресурсы, электронные ресурсы, дистанционное обучение, синхронное обучение, асинхронное обучение.

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