

NEWS

OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

SERIES OF SOCIAL AND HUMAN SCIENCES

ISSN 2224-5294

<https://doi.org/10.32014/2018.2224-5294.55>

Volume 6, Number 322 (2018), 209 – 213

УДК 371.31

G.K. Muratova¹, A.G. Shaushenova², C.D. Zhumasseitova³, M.B. Ongarbayeva⁴^{1,2,3}Kazakh Agrotechnical University named after S.Seifullin;⁴Taraz University of Innovation and Humanitiesmugk@mail.ru, shaushenova_78@mail.ru, samaljumaseitova@mail.ru, Ongarbaevam@mail.ruAPPLICATION OF CLOUD TECHNOLOGIES
IN THE EDUCATIONAL PROCESS

Abstract. The classical form of education implies a close relationship of the teacher with the students. In the difficult and noble teacher's work, at the present stage, more and more, help modern information and communication technologies. Digital literacy training is carried out in educational institutions in accordance with the generally compulsory educational standards of the respective educational levels, local executive bodies conduct courses to improve the digital literacy level of the population, as well as to continuously promote electronic services. At the same time, the initiative to learn computer skills, work on the Internet, and e-commerce is also supported by non-governmental organizations. Stimulating the growth of competitiveness of the population and business by improving their skills, competence and creativity through digital technologies.

Keywords: professional education, educational technologies, information, communication technologies, cloud technologies, training of specialists, the Internet.

INTRODUCTION

One of the promising directions for the development of modern information technologies is cloud technologies. Cloud technologies (eng. Cloud combinations) are technologies of distributed data processing in which computer resources and capacities are provided to the user as an Internet service.

The US National Institute of Standards and Technology has defined cloud computing as a model for providing ubiquitous and convenient network access (as needed) to a common pool of configurable computing resources (such as networks, servers, storage systems, applications and services) that can be quickly provided and released, with minimal management effort and the need to interact with the service provider. [1].

MAIN PART

There are several approaches to the organization of cloud services [2]:

- Software as a service (Software as a Service (SaaS)) is a remote software use model in which an application is hosted by a provider or in the cloud. At the same time, acceptable scalability can be achieved, and payment is made according to the number of service users. The user of such a service is exempt from system support for the health of applications running on the cloud structure; he only uses applications that are located in the cloud. Users access ready-made applications via a web browser from any mobile device.;
- platform as a service (Platform as a Service (PaaS)) - a model that provides the ability to remotely use the operating system and services, which allows you to create and deploy your own services based on the leased platform;
- Infrastructure as a service (Infrastructure as a Service, IaaS) is a model that provides the possibility of logical expansion of the enterprise information space by leasing hardware resources,

including servers and data storage devices. At the same time, the consumer has complete freedom to install the required software and services. Users get access to a remote virtual computer created for them with an installed operating system and pre-installed software.;

- Desktop as a service (Desktop as a Service (DaaS)), when as a service the user receives not a specific application, but a completely ready workplace with the necessary set of software. Such a desktop will be accessible from any device connected to a local network or the Internet.

- Database as a service (Database as a Service (DBaaS)), a model based on SaaS, in which the consumer is provided with a database of the required configuration.

The “cloud” is not always a product of condensation of water vapor floating through the sky. Surely, everyone has heard this modern phrase - "cloud technology" [3].

Not so long ago electronic textbooks appeared in the field of education. An electronic textbook is an electronic learning tool that can be a regular book support in digital format. No longer needed to carry around bulky textbooks, it was enough to have an electronic textbook on hand on any mobile media (cell phone, laptop, PC, etc.).

The electronic textbook has a number of advantages in comparison with usual books. Perhaps the most important advantage is the ability to place a large amount of educational material in a rather small format. Since all information is stored on a PC or any other mobile devices. Now, electronic textbooks are replacing more and more books. Having animations, charts, and diagrams allows students to more easily understand the learning material. The teacher can combine live communication with students and the use of electronic textbooks, which allows you to choose an individual approach to each of the students. There are practically no age limits for students. Any child who has computer skills can easily use an electronic textbook.

- For many educational institutions, the first step in using cloud computing was to send them email support (outsourcing) for their students. E-mail is a basic, well-standardized service that can be easily maintained externally and is not key to the operation of an educational institution. Both Google and Microsoft in many countries provide email to educational institutions for free. [4].

- Both of these companies include e-mail in a larger software package, which, as a rule, students access along with e-mail. Google Apps for Education and Microsoft Live @ education have communications support in the form of instant messaging programs along with an address book and a task scheduler. There are also applications for creating documents that allow you to work with texts, spreadsheets and presentations, as well as create websites. These documents can be edited with other users. Users get a lot of storage space for documents of all types, which they can use even after graduating from an educational institution.

Stimulating the growth of competitiveness of the population and business by improving their skills, competence and creativity through digital technologies will be implemented in the following areas:

1. Increasing digital literacy;
2. Training specialists for the digital economy;
3. Creating an ecosystem for nurturing startups.

Secondary education

- Adaptation of educational programs for STEM-EDUCATION;
- Opening interschool STEMLAB - university-based centers;
- Conducting industry Olympiads on ICT (software, robotics, Internet of things, etc.);
- Continuous professional development of schoolteachers.
- Technical and vocational education
- Actualization of educational programs of technical and vocational education in ICT specialties on the basis of professional standards;
- Increase academic freedom for technical colleges in ICT specialties.
- Higher, postgraduate education [5]
- Development of professional ICT standards;

- Improvement and accreditation of educational programs in the field of ICT in accordance with the request of production and in accordance with professional standards;
- Implementation of the project "Undergraduate Production Line" in pilot universities of the Republic of Kazakhstan and further transmission of experience to other technical universities.
- The science
- Creation of the Consortium of Kazakhstan supercomputer technologies.
- Digital literacy
- Developing a digital literacy training program in categories and priority sectors (medicine, mining and metallurgy, etc.);
- Digital literacy training.
- Other initiatives
- Development and approval of national standards of the Republic of Kazakhstan in the field of ICT;
- Creation of professional standards in the field of ICT;
- With the direct participation of the National Chamber of Entrepreneurs of the Republic of Kazakhstan, industry associations of employers and industry associations of workers, the development of professional standards that meet the modern requirements of the economy and aimed at improving the quality of training;
- Initiation of partnership programs between universities and businesses for the needs of Digital Kazakhstan.

The number of organizations using the Internet in Kazakhstan is growing inexorably, as Table 1 shows the growth dynamics over the past 5 years.

Table 1 - Number of organizations using the Internet [6]

	2012	2013	2014	2015	2016	2017	Change over 5 years of 2017/2012
The Republic of Kazakhstan	49 853	58456	52630	65186	75779	79658	59,79
Akmola	2 203	2 659	2 818	2 782	2 906	3 008	36,54
Aktobe	3 300	3 581	3 165	3 721	3 484	3 714	12,55
Almaty	1 830	2 637	2 551	2 911	3 121	3 434	87,65
Atyrau	1 647	2 042	1 741	2 455	2 303	2 346	42,44
West Kazakhstan	1 440	1 957	1 743	1 769	2 418	2 352	63,33
Zhambyl	1 320	1 653	1 543	1 947	1 838	1 930	46,21
Karagandy	3 900	4 493	4 639	5 732	6 321	6 896	76,82
Kostanay	2 737	3 057	3 339	3 238	3 601	3 939	43,92
Kyzylorda	1 227	1 235	1 385	1 719	1 695	1 635	33,25
Mangystau	2 182	3 124	1 979	2 079	1 744	2 667	22,23
South Kazakhstan	3 698	3 904	2 949	3 869	4 321	4 512	22,01
Pavlodar	2 284	2 761	2 805	2 979	3 691	3 770	65,06
North Kazakhstan	1 762	2 226	2 266	2 294	2 500	2 852	61,86
East Kazakhstan	3 988	4 249	4 135	4 148	4 452	4 940	23,87
Astana city	3 907	4 202	4 862	5 855	9 000	10225	161,71
Almaty city	12428	14676	10710	17688	22384	21438	72,50

In general, the number of organizations using the Internet by almost 60% has increased in Kazakhstan, but the leaders were enterprises of Astana 161.71% increased their number in comparison with all areas. The most lagging behind in this development are Aktobe, South Kazakhstan Mangystau regions, so the number of organizations using the Internet barely exceeds 20%.

Cloud technologies have become possible due to the rapid development of hardware: the power of processors are growing day by day, developing a multi-core architecture and the amount of hard drives. Moreover, the Internet channels have become much wider and faster.

CONCLUSION

Thus, the cloud is not the Internet itself, but the entire set of hardware and software that ensures the processing and execution of client requests. By the way, even such a simple action as a page request for a site is an example of cloud computing.

Cloud technologies come to the rescue, because with their help, it is no longer necessary to carry around with you a USB flash drive or cable to connect to a smartphone. Now your files can be stored remotely in cloud storage [7].

Paola Mazzucchi, chair of the Foundation, comments: "This expansion is great news and puts the IDF in an excellent position to move to the next stage of its development. We now have two new roles, in line with our aim for continuity planning, and two new brilliant people, with strong backgrounds and expertise in all the key areas of our activity. We are also delighted that Norman has agreed to continue to provide advice to the Board from his long experience with the DOI System, and welcome Jonathan and Paul in the team. [8]"

Everything around us is changing. Time inexorably requires us to new and new steps. It is no secret that the future of any state lies precisely in the younger generation. Therefore, it is necessary to do everything possible to ensure that the younger generation is educated, tolerant and competitive.

REFERENCES

- [1] HEWWIT C. ORGs for Scalable, Robust, Privacy-Friendly Client Cloud Computing // IEEE Internet Computing. Vol. 12, no. 5. NY, USA, Sep. Oct. 2008
- [2] Bazhenova I.Yu. "The use of cloud technologies in distance learning programming languages" Vestnik MGLU, vol. № 13 (699) / 2014
- [3] Sclater, N. (2010). eLearning in the Cloud, International Journal of Personal Environments, Vol 1, No 1, 10-19, IGI Global.
- [4] Dyachenko E. Yu. The use of ICT technologies in mathematics lessons in elementary school.URL: "Social network of educators"
- [5] Emelyanova O. A. The use of cloud technologies in education [Text] / O. A. Emelyanova // Young Scientist. 2014. №3. p. 90.
- [6] [Electronic resource] .- Access mode: <http://www.stat.kz> (in russian)
- [7] Andreev A. Pedagogical aspects when training at the MEP. E-learning world / URL: <http://www.elw.ru/reviews/detail/6271/>
- [8] Tuyakova A.E. Formation of patriotism in the framework of the program " Ruhani zhangyru " as a historical factor of the development of Kazakhstan. REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN. <http://reports-science.kz/index.php/en/archive>. DOI <https://doi.org/10.32014/2018.2518-1483>

Г.К. Муратова¹, А.Г. Шаушенова², С.Д. Жумасентова³, М.Б. Онгарбаева⁴

^{1,2,3}Казахский агротехнический университет им.С.Сейфуллина;

⁴Таразский инновационно-гуманитарный университет

ПРИМЕНЕНИЕ ОБЛАЧНЫХ ТЕХНОЛОГИЙ В ОБРАЗОВАТЕЛЬНОМ ПРОЦЕССЕ

Аннотация. Классическая форма обучения подразумевает собой тесную взаимосвязь учителя с учениками. В тяжелом и благородном учительском труде, на современном этапе все больше и больше, оказывают помощь современные информационно-коммуникационные технологии. Обучение населения навыкам цифровой грамотности проводится в образовательных учреждениях в соответствии с общеобязательными стандартами образования соответствующих уровней образования, местными исполнительными органами проводятся курсы по повышению уровня цифровой грамотности населения, а также непрерывно ведется работа по популяризации электронных услуг. Вместе с тем, инициатива обучения основам владения компьютером, работы в Интернете, электронной коммерции поддержана и неправительственными организациями. Стимулирование роста конкурентоспособности населения и бизнеса путем повышения их квалификации, компетенции и креативности через цифровые технологии.

Ключевые слова: профессиональное образование, образовательные технологии, информация, коммуникационные технологии, облачные технологии, подготовка специалистов, интернет

Г.К. Мұратова¹, А.Г. Шаушенова², С.Д. Жумасентова³, М.Б. Онғарбаева⁴

^{1,2,3}С.Сейфуллин атындағы Қазақ агротехникалық университеті;

⁴Тараз инновациялық гуманитарлық университеті

БІЛІМ БЕРУ ҮРДІСІНДЕ БҰЛТТЫҚ ТЕХНОЛОГИЯЛАРЫН ҚОЛДАНУ

Аннотация. Классикалық білім беру түрі мұғалімнің оқушылармен тығыз қарым-қатынасын білдіреді. Қиын және адал мұғалімнің жұмысында қазіргі кезеңде көбірек заманауи ақпараттық-коммуникациялық технологияларға көмектеседі. Сандық сауаттылықты оқыту оқу орындарында жалпы білім беру стандарттарына сәйкес жалпы білім беру стандарттарына сәйкес жүзеге асырылады, жергілікті атқарушы органдар халықтың санитарлық сауаттылығын жақсарту курстарын жүргізеді, сондай-ақ электрондық қызметтерді үздіксіз көтермелейді. Сонымен қатар, компьютерлік дағдыларды үйрену, Интернет желісінде жұмыс істеу және электрондық коммерция туралы бастаманы үкіметтік емес ұйымдар да қолдайды. Цифрлы технологиялар арқылы олардың біліктілігін, құзыреттілігін және шығармашылығын арттыру арқылы халықтың және бизнестің бәсекеге қабілеттілігінің өсуін ынталандыру.

Түйін сөздер: кәсіби білім, білім беру технологиялары, ақпарат, коммуникациялық технологиялар, бұлтты технологиялар, мамандарды дайындау, Интернет.

Information about authors:

Muratova Gulzhan Klychovna - Candidate of Physical and Mathematical Sciences, S.Seifullin Kazakh Agrotechnical University, ORCID 0000-0001-7131-577X;

Anargul Shaushenova - Candidate of Technical Sciences, S.Seifullin Kazakh Agrotechnical University, ORCID 0000-0002-3164-3688;

Zhumaseitova Samal Duysenbaevna - Master of Technical Sciences, S.Seifullin Kazakh Agrotechnical University, ORCID 0000-0003-4911-209X;

Ongarbaeva Maral Burkitbaevna - Candidate of Pedagogical Sciences, Taraz University of Innovation and Humanities, ORCID 0000-0003-0698-666X