Asesorías y Tutorías para la Investigación Científica en la Educación Puig-Salabarría S.C.
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TÍTULO: Recomendaciones metodológicas para trabajar con la recopilación y el análisis de estadísticas de servicio 1C: Empresa 8 para instituciones educativas a través de Internet (desde la experiencia laboral).

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RESUMEN: La tecnología de nube es el procesamiento de datos en el cual los recursos y la capacidad de la computadora se proporcionan al usuario como servicio de Internet. El artículo describe la experiencia de utilizar el servicio "1C: Enterprise 8 a través de Internet para instituciones educativas" como sistema de información automatizado de recopilación y análisis de estadísticas en el proceso de aprendizaje. Como resultado del trabajo a largo plazo, el Departamento de Informática de negocios y métodos matemáticos en la economía del Departamento de Economía del Instituto Naberezhnye Chelny de Kazan Federal University, se ha acumulado una experiencia exitosa de capacitación de profesionales con Productos de software "1C".

PALABRAS CLAVES: tecnologías de la información, tecnologías en la nube, 1C: plataforma Enterprise 8, educación electrónica, recursos de aprendizaje electrónico**.**

TITLE: Methodological recommendations to work with the collection and analysis of 1C service statistics: Company 8 for educational institutions through the Internet (from work experience).

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ABSTRACT: Cloud technology is the processing of data in which the resources and the capacity of the computer are provided to the user as an Internet service. The article describes the experience of using the service "1C: Enterprise 8 through the Internet for educational institutions" as an automated information system for collecting and analyzing statistics in the learning process. As a result of the long-term work, the Department of Business Information Technology and Mathematical Methods in Economics of the Department of Economics of the Naberezhnye Chelny Institute of Kazan Federal University, has accumulated a successful experience of training professionals with software products "1C".

KEY WORDS: information technologies, cloud technologies, 1C: Enterprise 8 platform, e-education, e-learning resources.

INTRODUCTION.

Today, our lives are changing day by day, many factors, including the rapid development of high-speed Internet, the expansion of mobile coverage and devices, continuous reduction in price and multi-functional gadgets. I would like to note a few trends, thanks to which cloud technologies are actively introduced in the field of education:

- World in the clouds-learning in the clouds.
- Mobile gadgets as an instrument in almost all spheres of human activity, including education.
- Cloud services provide an opportunity to organize efficient infrastructure management, and serve different groups of users within the same cloud (Service "1C: Enterprise 8 via the Internet" http://www.1cfresh.com circulation date 14.12.2017).

It is based on hardware, software and information resources. The effectiveness of training is determined to a large extent by the consistency and coherence of the studied theoretical disciplines, supported by courses that have a practical orientation. Thus, Junior students get acquainted with the history of it, architecture and design of computers and communication systems, learn the theoretical foundations of economic information systems. On the basis of theoretical knowledge and in parallel with the study of economic disciplines, students are immersed in the development of methods and means of it. Final qualifying works of students have a practical orientation and are often used by organizations in their work (Lysanov, D.M., Karamyshev, A.N., Eremina, I.I., 2017).

Worldwide interest in statistics is growing. In the statistical data showing work of students with information base dynamics and intermediate results is visible. Moreover, one of the essential conditions for the correct perception and even more practical use of statistical information, qualified conclusions and reasonable forecasts is the knowledge of statistical methodology for the study of the quantitative side of the learning process.

DEVELOPMENT.

Currently, the teacher and the service "1C: Enterprise 8 for educational institutions via the Internet" face urgent problems of further improvement of the system of indicators, and methods of collection, processing, storage and analysis of statistical information. This binding allows you to analyze and interpret the results. This is important both for the teacher and for students in order to develop and improve the efficiency of work with software products (it is important at the stage of independent work of students with databases) (Irina I. Eremina, Ekaterina V. Abrosimova, 2017).

Modern reality shows that automated data collection, processing and storage are useful not only for financial and economic management in the education system. It is increasingly the core of learning management and support. One of these features is provided by the service "1C: Enterprise 8 via the Internet" www.1cfresh.com Our school was registered in the cloud 4 years ago. During this period,

we not only actively mastered the provided technologies, capabilities and applications, but also gained some experience with automated information system for collecting and analyzing statistics of 1C: Enterprise 8 for educational institutions through the Internet (Grigoreva, D.R., Gareeva, G.A., Eremina, I.I., 2016).

Cloud computing provides a high level of customer service and government training standards. This technology has influenced the architecture, existing services and implementation phases of the training courses. For educational institutions trained cloud technologies provide the opportunity to use modern services, while minimizing the cost of Finance (Eremina I.I., Faizullina A.G., 2016).

Methods.

In modern Russia, cloud technologies are not only a rapidly developing technology, but also a technology that is promising and that is increasingly being used. The presented topic is not only poorly studied and relevant, but also allows popularizing the spread of cloud technologies in education. We are interested in a number of issues that we wanted to reflect in this study: who is familiar with the term "cloud"? who is an active user of "clouds"?, how are cloud technologies of 1C: Enterprise 8 used for educational institutions via the Internet? and what are the advantages and disadvantages of "clouds"?

Research of possibilities of application of cloud technologies in pedagogical activity, namely the automated information system of collecting and the analysis of statistics of 1C: Enterprise 8 for educational institutions through the Internet served the purpose of this work.

The theme of cloud computing are studied by many authors: Z. S. Salamatova,S. N. Seitalieva, E. Grebnev, Carl Nicholas, Neil Sklyarom, I. P. Vasil Klementiev,V. A. Ustinova,E. S. Plachkova, D. M. By Ustinin, M. N. By Ustennis. Of particular interest is the recent study "Cloud services in the corporate sector, Russia 2017. The current state and prospects of development", prepared by

in4media and Forrester Russia with the support of SAP CIS, which notes that by 2020 the volume of the Russian cloud market will amount to 48 billion rubles.

According to the study, a large business is now as ready to use cloud services: in this segment, more than 90% of respondents know about cloud services, in small businesses – more than 70%. In large businesses, 54.5% of respondents use cloud services from two or more categories simultaneously, in medium business – 50%, in small business – 43%.

Research methods: search and selection of information, structural analysis, comparison, survey, and statistical data processing.

With the development of the information technology market, a new term "cloud" technology (cloud computing), which has been used since 2008. From the point of view of using "cloud" technologies, clouds can be public or private.

The cloud	Level of use
Private cloud.	An infrastructure that is designed to be used by a single organization that includes multiple consumers (for example, departments in the same organization). A private cloud may be owned, managed, and operated by the organization itself or by a third party (or any combination thereof) and may physically exist within or outside the jurisdiction of the owner.
Public cloud.	An infrastructure designed for free use by the General public. A public cloud can be owned, managed, and operated by commercial, scientific, and government organizations (or any combination thereof). The public cloud physically exists in the jurisdiction of the owner — service provider.
Hybrid cloud.	A combination of two or more different cloud infrastructures (private, public) that remain unique entities but are interconnected by standardized or private data and application technologies (for example, short-term use of public cloud resources to balance load across clouds).
Community cloud.	A type of infrastructure that is designed to be used by a specific community of consumers from organizations that have common goals. A public cloud may be in the cooperative (cooperative) ownership, management, and operation of one or more of the community organizations or a third party (or any combination thereof), and it may physically exist both within and outside the jurisdiction of the owner.

The concept of "cloud" technologies refers to innovative technology that provides dynamically scalable computing resources and applications over the Internet as a service managed by a service provider [What is cloud (scattered) technology. [Electronic resource] / Blog for "Dummies" - access Mode: http://albas.ru/cloud-computing/tchto-takoe-oblatchnerasseyane-tehnologii.html].

It is possible to distinguish the following fields of application of "cloud" technologies:

Model for cloud	**User group**	**Comments**
Infrastructure as a service (IaaS)	Network architects	Infrastructure for rent. The user is provided with a "clean" virtual server instance with a unique IP address or a set of addresses and a part of the storage system. The provider provides the user with a programming interface (API) to manage parameters, start and stop of this instance.
Platform as a service (PaaS)	Application developer	PaaS can be represented as a ready-to-use virtual platform consisting of one or more virtual servers with operating systems and specialized applications installed. Most cloud providers offer the user a choice of a host of ready-to-use cloud environments.
Software as a service (SaaS)	End user	The SaaS concept provides an opportunity to use the software as a service and do it remotely over the Internet. This approach allows not to buy a software product, but simply to use it temporarily when the need arises.

Significant prospects for the use of cloud computing in education today can be traced in scientific research, applied development, as well as for distance learning. And therefore, there is a rapid spread of cloud technologies in the educational institution.

In Naberezhnochelninsky Institute of Kazan Federal University, for several years cloud technology helps the formation of new information culture of the teacher and the student, provide a unique opportunity to connect the project methodology and information and communication technologies that can effectively organize the educational process in connection with the transition to new educational standards.

Teachers of the Department of Business Informatics and mathematical methods in Economics, teaching students directions 09.03.03 Applied Informatics (in Economics), 38.05.03 Business Informatics, actively use cloud technologies in the educational process (namely 1C: Enterprise 8 for educational institutions through the Internet). Such opportunities allow to make educational space open, and use of the automated information system of service to organize qualitatively and effectively collecting and the analysis of statistics of work of users.

Initial acquaintance with the software products of "1C", students of these areas takes place in the first year in the study of the discipline "Computer Science and Programming". Students learn the interface of the platform, elements of programming in 1C. One of the sections is devoted to the continuation of work with the program "1C: Accounting as the platform, 1C: Enterprise 8.2(3)", which includes the program, powerful tool in solving a huge number of organizational and economic management of any organization.

Students master the elements of programming in "1C", acquire configuration skills, gain experience in creating applications based on the platform "1C:Enterprise", and get acquainted with the approaches to the implementation of programs of the "1C" family at the enterprises of various sectors of the economy. Another section is devoted to the development of the software product "1C: management of a small company", which is the propaedeutics of the use of corporate information systems. At this stage, the cloud is actively used.

Results and Discussion.

In addition, in the third year in the study of the discipline "Design of information systems" in future professionals in the field of Economics, Finance and management, it is important to get an idea of the practice of corporate information systems, directly during the training sessions to try yourself in the place of the head, decision-making, which depends on the success of the enterprise. This

possibility gives the use in the educational process of the software product of the Company "1C" - "1C: enterprise Management".

Familiarity with the software product "1C: enterprise Management" is aimed at the formation of students' system of interrelated knowledge about the practical application of ERP-solutions, readiness and ability to use them in their work. The wide use of "1C: manufacturing enterprise Management" in the Russian, Ukrainian and Kazakh companies guarantees the relevance of the knowledge obtained from the employers.

In the fourth year of the curriculum provides discipline "Information management". In the process of its development, students have the opportunity to work with the materials of the company "1C". Materials posted on the website of the company "1C" on the Internet, as well as presented in periodicals. Information "1C" is useful to students when preparing reports, essays and reports on such issues of course, as the forms and methods of implementation of standard software products; assessment of the advantages and disadvantages of purchasing ready-made standard software products; approaches to the implementation of programs of the family "1C"; monitoring of the implementation and operation of programs, and many others. Thus, the students of the directions of training "Applied Informatics (in Economics)" and "Business Informatics" created the conditions of continuity in the study of specialized programs of the company "1C" in various aspects, taking into account the content of the main educational programs.

Figure 1. Start window in the service for the user.

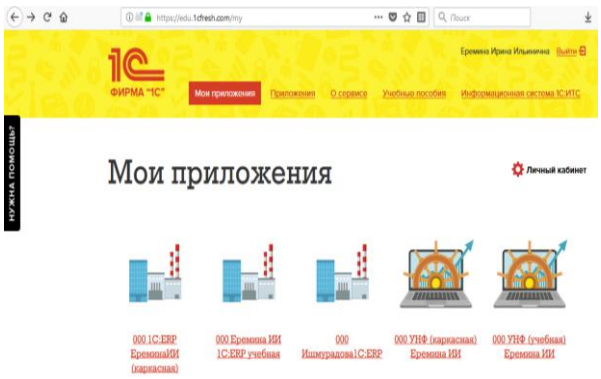
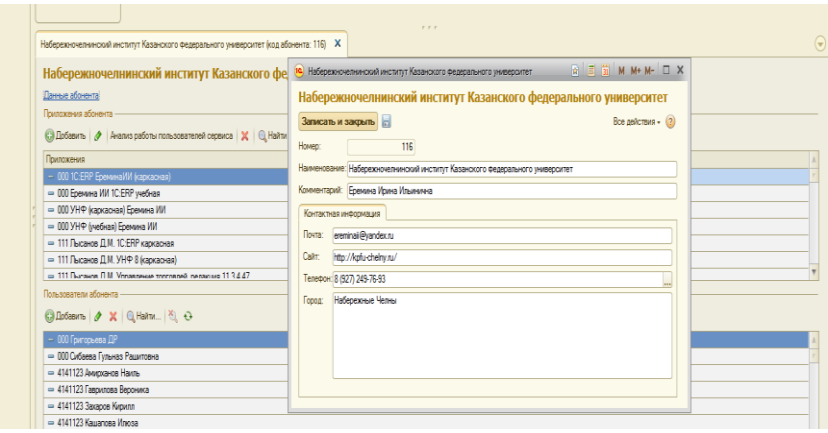
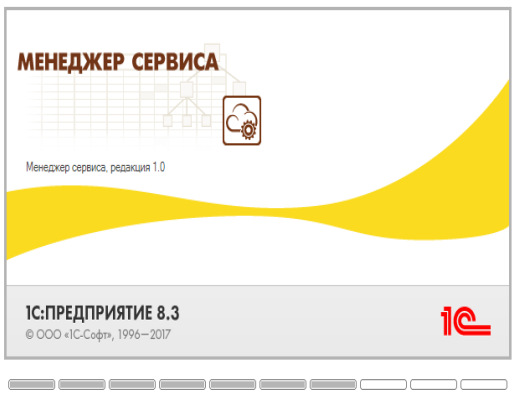


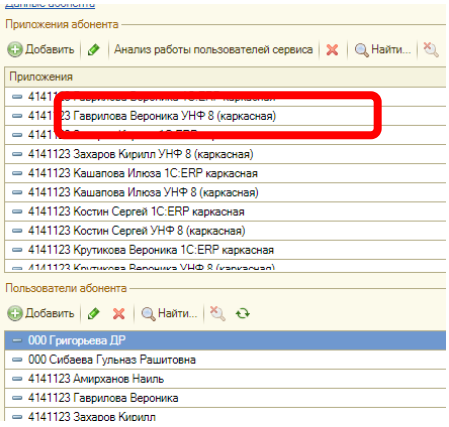
Figure 2. Data on school registration.



To register for the service, fill out the standard form. Having received confirmation, we get to work. The service requires registration of trained users and adding them to the relevant information databases of software products. Note that when adding frame (working) application databases for students, a certain input mask for the name of the database was installed: "XXXXXXX Surname and Name of the application", where the first 7 digits indicate the group number of the student. It is convenient not only for database registration (students work for several courses with different databases), but also for the analysis of the user.

Figure 3. Login to Your personal account

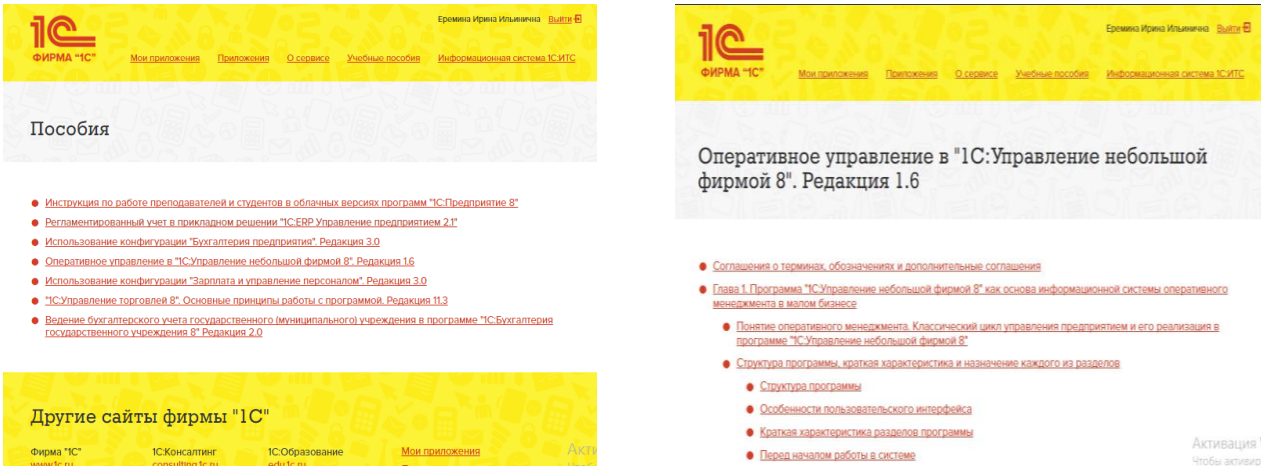




Users are registered according to the proposed instructions; students are registered by the teacher at the provided e-mail address. After the registration procedure is completed, the trainees are provided with a skeleton application base and a training base. In the frame database, the student works and

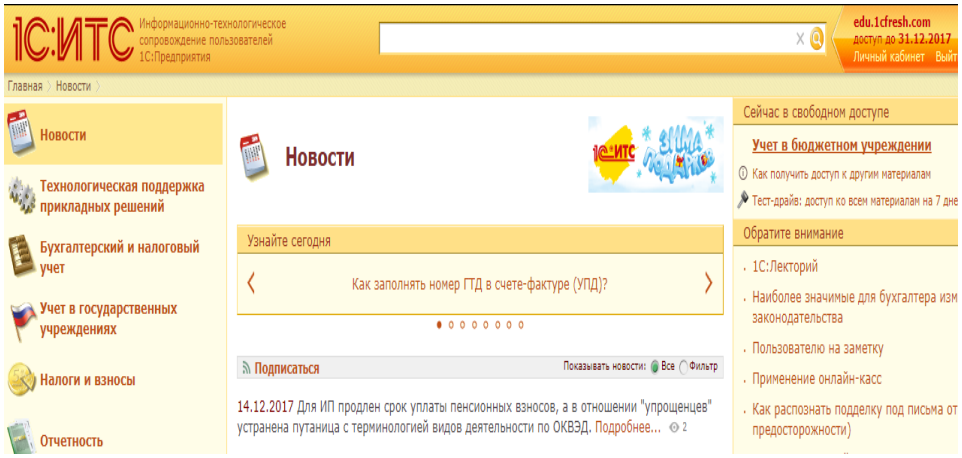
performs tasks according to the proposed tutorial. The educational base is given to the student for a live example, it can be opened, look at documents, directories and the entire organizational structure, which is not little important for independent work.

Figure 4. Training manuals provided by the service.



I would like to thank the developers for the opportunity to use its here in the cloud, without switching to another space.

Figure 5. Login to its system.



Summarizing, the demand for this in professionals with business intelligence and economic analysis skills in the environment of modern information systems (is) is very high. It equips and reproduces almost all methods, techniques of financial management, marketing and logistics, rules and regulations of accounting and tax accounting, accounting policies and standards of IFRS and

management accounting. Therefore, more and more often in the training programs of bachelors there are disciplines with a target orientation, revealing the use of information systems in business management and economic activity in large enterprises.

Interest in statistics is growing worldwide. In the statistics showing the work of students with the information base, the dynamics and intermediate results are visible. Moreover, one of the indispensable conditions for the correct perception and even more so the practical use of statistical information, qualified conclusions and reasonable forecasts is the knowledge of the statistical methodology of studying the quantitative side of the learning process.

Currently, the teacher and the service "1C: Enterprise 8 for educational institutions through the Internet" are faced with urgent problems of further improvement of the system of indicators, methods and methods of collection, processing, storage and analysis of statistical information.

Figure 6. Analysis of the work of users of the service.

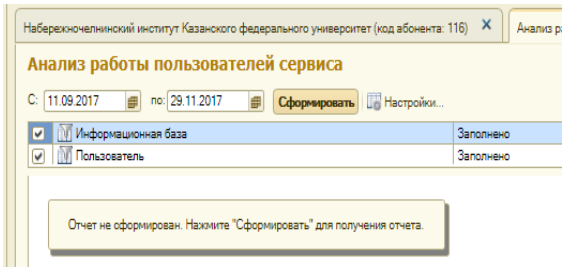
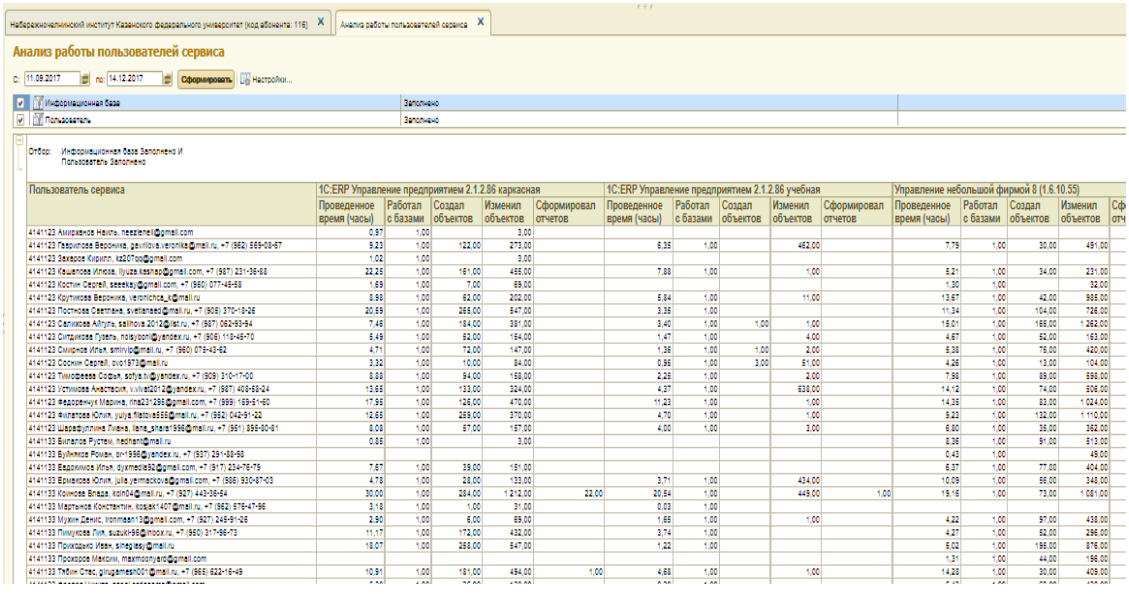


Figure 7. The generated report on the user experience.



The generated report Peresechenie in the format of an Excel Sheet .xls, .xlsx and then perform data processing in a form convenient for analysis. This binding allows you to analyze and interpret the results. This is important both for the teacher and for students in order to develop and improve the efficiency of work with PP (it is important at the stage of independent work of students with bases).

CONCLUSIONS.

Now, there is a need to modernize the methods and tools that accompany the educational process, allowing students to get acquainted with the main trends of informatization of the professional field, to master the theoretical foundations of the discipline, hardware and software complex, practical skills of using information technology in professional activities.

In the Naberezhnye Chelny Institute at the Department of Business Informatics and mathematical methods in the economy since 2015 operates a certified training Center, on the basis of which students of the economic Department areas 09.03.03 Applied Informatics and 38.03.05 Business Informatics read certified courses related to the development of configurations on the platform "1C: Enterprise". These courses are read using the cloud service "1C: Enterprise 8 via the Internet", and lay the basic knowledge of the solution developer on the platform "1C: Enterprise". The course structure is focused on that.

In the educational process, the use of "cloud technologies" is late and has not yet found extensive use. Although modern students read about "cloud technologies", and some use some of them in their personal activities. However, the sooner teachers and other users start using cloud services in their work, the sooner they will get an effective tool to create a personal learning path, the more effective and interesting they will be able to do the learning process.

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