



Use of Web 2.0 Technology Services in Teaching Hydraulics

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Abstract: This article presents the composition of internet services for organizing independent learning of students using web 2.0 technologies, through which teachers can plan, manage and control independent work of students, and conduct assessment work. The use of the chosen internet services for educating students through Web 2.0 technologies is one of the most pressing issues today.

Keywords: Web 2.0 technologies, web project, live log, web platform, online diary, protocol, Google Classroom, Google Meet, Google Calendar, Google Docs, Google Sites, ICT, Cacao, blog, tag, forum, bookmark.

Introduction: Currently, the method of introducing modern Internet technologies in the organization of independent work of students is considered as a profession with the ability to effectively communicate with colleagues, save and ensure the results of its work, constantly adapt to the changing external environment, possessing information gathering technology for society and the employer.

Analysis of the literature on the topic. Research focused on implementing and utilizing Web 2.0 technologies in the educational process in our country is revealing a high potential for organizing independent learning. At the scientific and theoretical level, the relevance of this study is determined by the insufficient development of theoretical and methodological approaches to implementing web technologies for organizing independent education for higher education students. This issue gains particular importance in connection with the formation of an information society in our country and the widespread adoption of Internet technologies in the economy and education system of our republic.

Researchers from CIS countries, including Y.K. Babansky, L.G. Vyatkin, E.Y. Golant, V. Graf, K.V.

Gridnev, B.P. Yesipov, I.R. Ilyasov, I.S. Kon, V. Lyaudis, V. Okon, A.V. Usova, and I.V. Kharitonova, have conducted comprehensive studies on concepts such as "independent work," "organization of independent work," and "independence."

The direct application of Web 2.0 technologies in the educational process has been studied by foreign researchers Jason Fried, Paul Graham, and Tim O'Reilly.

METHODOLOGY

Tim O'Reilly is credited as the author of the term "Web 2.0 technologies" (he is the author of numerous bestsellers on computer topics, founder and CEO of O'Reilly Media, founder of Safari Books Online and O'Reilly AlphaTech Ventures, and a member of the board of directors of CollabNet and MySQL AB). In September 2005, in his article "What is Web 2.0?", he illustrates Web 2.0 with examples such as Doubleclick/Google AdSense, Ofoto/Flickr, Akamai/BitTorrent, and Britannica Online/Wikipedia. In his opinion, "like many important concepts, Web technology has no clear boundaries. It is a gravitational core of notable contention. You can imagine Web 2.0 technologies as a set of principles and practical solutions. They resemble a solar system composed of nodes, each of which is organized taking into account some or all of the stated principles and is located at a certain distance from the center." [1;3p].

Thus, Tim O'Reilly defines Web technologies as "a methodology for designing systems that take into account network interaction, where the more people use them, the better they become" [2;76p]. The main principle is to engage users with content that can be supplemented and reused.

Tim O'Reilly highlights the following characteristic features of Web 2.0 technologies [3;10p]:

1. A large number of internet service users, regardless of their composition and qualifications, ultimately achieve greater success than a limited number of specialists.
2. User participation. A web project is a network space whose content is a product of user activity. For example, "www.livejournal.com (Live Journal) " is a well-known Internet project for hosting online diaries. Its main value lies not in the software shell, but in the established community with a certain system of trust and in the content created by users. Here, the material is perceived as a whole - not only the author's text but also the comments on it, which results in the revelation of new meanings, new facets, and significant distinctions appearing.
3. As a web platform. To use the service, no software

other than a browser is needed to access the Internet. While previously a text editor (such as Microsoft Word) was used for writing, now this can be done using only a browser. This does not mean that browsers have all the functions of various programs. The browser only provides access to the website, and the site's mechanism is responsible for implementing all functions.

From a technical standpoint, Web 2.0 technologies are new protocols, languages, and standards, forming a pedagogical "network of cooperation and partnership." Modern network users themselves are content creators, able to add their own articles, photos, audio and video recordings to the network, leave comments, and customize the design of their pages. Within the scope of this article, Web technologies are defined as information and communication technologies that encompass a set of methods for developing services aimed at enabling users' personal activities.

Let's examine several services based on Web technologies.

Some products provided by Google. All services developed by Google are free of charge. To use these services, you must have a Google Account.

The "Google Classroom" service (accessible at <http://classroom.google.com/>) is one of Google's services that is convenient for students in creating and managing lectures, practical sessions, laboratory work, seminars, and independent study classes across various subjects. It is considered one of the large-scale information resources among educational platforms that play a crucial role in the learning process. This platform provides opportunities for teachers and students to provide educational materials, send and receive assignments, evaluate, advise, and provide other support options.[4;5p]

"Google Meet" (access mode <https://meet.google.com/>) provides encrypted video conferencing over the Internet. This service is the best program for online meetings, with users connecting through their accounts. This service primarily organizes virtual video conferencing and also allows for the transmission of text messages and files.

"Google Calendar" (access mode <http://calendar.google.com/>) helps you plan time together and performs the following functions: combining work schedules, publishing a calendar, distributing calendar access, broadcasting, and spreadsheet. This service is mainly designed for time planning, and practical work is carried out through a web interface, which, of course, must provide Internet access through the device.

The "Google Docs" service (access mode <http://docs.google.com/>) is designed for creating various documents, editing texts on them in real time together with other users, and storing text files on the Internet. This service has the necessary functions for creating and editing documents with text documents, tables, various images, videos, diagrams. The created documents are stored on Google servers, which ensures the reliability of data security[7;5p].

The "Google sites" service (access mode <https://sites.google.com/>) is designed to create websites that can contain text, videos, slideshow, calendars, presentations, various add-ons. The ability to view and edit this information can be given to both a small group of people and the whole world. The possibilities of working with websites created with the help of this service include: setting up the site; creating a hierarchical site structure for organizing content; selecting page types (advertising, card index); centralized storage of content and offline files;

"Cacoo" (access mode <https://cacoo.com/>) is an online service for creating, exchanging, and publishing charts. This service interface is almost a complete analogue of a conventional graphics editor. The toolbar contains buttons for adding graphic elements (lines, images, rectangles, axes, various sub-symbols), which allow creating very complex diagrams. For example, coloring, changing style, adding shadows, selecting the location of several objects, etc. You can save diagrams to your computer in *.png format in the form of a drawing so that everyone can use them.

This service is convenient for performing tasks of an analytical nature. Its capabilities allow creating such charts as mind maps, generating ideas, organizing data;

RESULTS

In our research work, I presented above information on the organization of independent work using Google services, which are universal, free, and have many services for organizing students' independent work. To apply Google services to the education system, several web 2.0 technology programs can be applied to independent learning. Including Google Classroom, Google Calendar, Google Meet, Google Drive, Google Docs, Google Sheets (<https://about.google/products/#all-products>).

In the course of analyzing the programs and documents of disciplines that carry out the training of students in technical specialties in the field of information technologies, we divided their content by topic into modules. Modules, as research has proven, ensure the controllability of educational processes, the integration of one topic into other topics, and the

growth of classroom activities.

The developed methodology is aimed at solving such problems as the development of students' independent activity, the realization of the individual characteristics of the student, and the student's readiness to solve professional problems in the future using the capabilities of ICT. The methodology for implementing web technologies in the organization of independent work of students in technical specialties consists of four stages: preparatory, developmental, supplementary, and monitoring.

In the process of theoretical analysis of various sources, we identified a set of pedagogical conditions for organizing students' independent work, which were previously considered, but do not provide a solution to the problem. Accordingly, the following pedagogical conditions for the implementation of the methodology of implementing web technologies in the organization of independent work in the subject "Information Technologies" for students of the humanities direction of education have been determined:

- planning and organization of independent student activities;
- development of an educational Internet service for organizing independent work in the subject "Information Technologies," aimed at mastering the means of collaborative work and communication of students.

Thus, summarizing the above, it can be noted that the identified pedagogical conditions for implementing the implementation methodology allow for increasing the effectiveness of web technologies in organizing students' independent work.

CONCLUSIONS

This article, written on the topic "Using web 2.0 technology services in teaching hydraulics," provides information on internet services designed for organizing independent learning in higher educational institutions, aimed at increasing the effectiveness of student learning through these services. Web 2.0 technologies are currently used in schools, lyceums, colleges, and universities and create broad opportunities for the development of the education system.

REFERENCES

O'Reilly, Tim What is web 2.0? [Electronic resource] / Tim O'Reilly. - access mode: <https://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>.

Патаракин, Е. Д. Образовательные возможности Веб 2.0. Веб 2.0-сервисы Интернета - новые формы коллективного педагогического взаимодействия. [Электронный ресурс] / Е. Д. Патаракин // Новые

возможности в обучении. - 2008.

Патаракин, Е. Д. Социальные сервисы Веб 2.0. в помощь учителю: практическое руководство / Е. Д. Патаракин. - М. : Интуит.ру. - 2007. -64 с.

EA Guzorovich. The Use of Web Technologies in the Organization of Independent Work of Students. Eurasian Scientific Herald horijiy jurnal. Volume 17. february 2023 yil. ISSN: 2795-7365, page 7-11

EA Guzorovich. Mathematical modeling and practice of differential equations. European Journal of Research and Reflection in Educational Sciences. Vol 8 No.12.12,2020. Page 130-134

БЖ Холикулов, АГ Эшмуродов. Динамическое моделирование политических процессов с использованием систем линейных дифференциальных уравнений. Интернаука-2018б 29-32 стр.

EA G'uzorovich. Analysis of the use of case technologies in the organization of independent work of students in the field of technical education. International Journal of Contemporary Scientific and Technical Research, 616-619

EA Guzorovich. Web 3.0 methodology of the implementation of the agro-technologists of independent work on the subject of information technology to students in higher education. Archive of Conferences, 29-31

Eshmurodov Azamat G 'uzorovich." TQ Shonazarovich. Oliy ta'lim tizimida axborot texnologiyalari sohasida zamonaviy kadrlarni tayyorlashda loyihalar usulidan foydalanish." International Journal of Contemporary Scientific and Technical Research, 367-370

EA G'uzorovich, The Evolution of Cybersecurity: Safeguarding the Digital Era. Synergy: Cross-Disciplinary Journal of Digital Investigation (2995-4827) 2.

A Eshmurodov, Innovations in IT: Shaping the Future of Digital Transformation. American Journal of Engineering, Mechanics and Architecture 2 (5), 118-125

A Eshmurodov, Artificial Intelligence and the New Wave of Information Technology. American Journal of Engineering, Mechanics and Architecture 2 (5), 110-117