

Educational Web resources in the educational process of preschool institution

Abstract:

The article substantiates the important role of systematic use of educational web resources in the educational activities of preschool education, which is one of the requirements for informatization of education at all levels and directly affects the quality of professional activities of educators. An analysis of existing classifications for educational web resources is presented and our own classification by target audience is presented, which consists of two main groups and additional components and concrete examples i.e. social search systems (Kiddle, KidzSearch, Allsafesites (for children) and Google, Ukrainian search engine, Google Scholar or Google Academy (for teachers), systems for creating digital practical tasks (MegaZnayka, Pustunchik and Google Classroom, LearningApps, StoryJumper), systems for creating web magazines (LiveJournal, Wordpress, Blogger), wiki-encyclopedia (Web project "Reader" And Wikipedia, Portal of educators of Ukraine "Pedrada", Ukrainian educational online portal for teachers "Na Urok", electronic magazine "Educator-methodologist of preschool institution", storage systems of multimedia web resources (YoutubeKids and Pinterest, Flickr, Youtube, SlideShare), platforms for online interaction (Google Meet, Skype, Zoom, Moodle), systems for joint creation of various types of documents (Google-documents and spreadsheets, Google Calendar, Google Groups). We believe that this classification significantly optimizes the implementation of information and communication, including network, technologies in educational practice. Prospects for further research are seen in a detailed study of the methods of using educational web resources of each group,

as well as in the study of other types of educational resources, theoretical and methodological basis and practice of their implementation in the educational process of preschool education and etc.

Keywords:

Resource, web resource, educational web resource, educational process, preschool institution

Streszczenie:

W artykule pokazano rolę systematycznego wykorzystywania edukacyjnych zasobów internetowych w działaniach edukacyjnych podejmowanych w obrębie wychowania przedszkolnego – co zresztą jest jednym z wymogów informatyzacji edukacji na wszystkich poziomach i bezpośrednio wpływa na jakość działań zawodowych pedagogów. Przedstawiono analizę istniejących klasyfikacji internetowych zasobów edukacyjnych oraz zaprezentowano własną klasyfikację ze względu na grupę docelową, która składa się z dwóch głównych grup oraz dodatkowych elementów, tj. ukraińska wyszukiwarka, Google Scholar lub Google Academy (dla nauczycieli), systemy do tworzenia cyfrowych zadań praktycznych (MegaZnayka, Pustunchik i Google Classroom, LearningApps, StoryJumper), systemy do tworzenia magazynów internetowych (LiveJournal, Wordpress, Blogger), wiki-encyklopedia (Projekt internetowy „Czytelnik” i Wikipedia, Portal edukatorów Ukrainy „Pedrada”, Ukraiński edukacyjny portal internetowy dla nauczycieli „Na Urok”, magazyn elektroniczny „Pedagog-metodolog placówki przedszkolnej”, systemy przechowywania multimedialnych zasobów internetowych (YoutubeKids i Pinterest, Flickr, Youtube, SlideShare), platformy interakcji online (Google Meet, Skype, Zoom, Moodle), systemy do wspólnej twórczości na różnych typach dokumentów (Google-dokumenty i arkusze kalkulacyjne, Kalendarz Google, Grupy dyskusyjne Google). Uważamy, że ta klasyfikacja znacząco optymalizuje wdrażanie technologii informacyjno-komunikacyjnych, w tym sieciowych, do praktyki edukacyjnej. Perspektywy dalszych badań upatruje się w szczególnie w badaniu sposobów wykorzystania edukacyjnych zasobów sieciowych dla poszczególnych grup, a także w badaniu innych rodzajów zasobów edukacyjnych, podstaw teoretycznych i metodologicznych oraz praktyki ich wdrażania w wychowaniu przedszkolnym i itp.

Słowa kluczowe:

zasoby sieciowe, edukacyjne zasoby sieciowe, proces edukacyjny, instytucja przedszkolna

Introduction

The web technologies usage is growing significantly in all spheres of human life, in particular in the field of education. One of the main reasons for the growing attention of teachers to the problem on implementing web technologies is the convenience and easy conducting of existing tools for searching, creating and using educational web resources. By using web resources, you can significantly increase the educational process efficiency, in particular, in preschool education.

Recent studies in this direction (N. Morse, V. Bykov, R. Gurevich, M. Kademiya, M. Kozyar, O. Spirin, O. Pinchuk, L. Raitska, G. Tkachuk, M. Shishkina, M. Popel and etc.) reveal the general theoretical principles for the use of information and communication technologies, web technologies, cloud and remote technologies, educational electronic resources, etc. in education. However, these studies mostly provide partial lists and descriptions of educational web resources, often focusing only on specific areas of their application.

Based on the above, we consider it necessary to highlight the classifications of educational web resources applied in preschool education.

Educational web resources include electronic learning tools, where the use of web technologies is the basis, V. Bykov, R. Gurevych, M. Kademiya, M. Kozyar, O. Korotun, O. Pinchuk, M. Popel, O. Spirin, G. Tkachuk, M. Shyshkina, etc. Define them as information technologies, the use of which allows the processing and use of web resources (text, graphics, audio, video resources), interconnected by hypertext links and posted in the web space of computer networks (local or global)¹.

To reveal the role and importance of web resources, we will analyse the essence of the concept.

¹ R. Gurevich, *Information and communication technologies in vocational education*, Spolom, Lviv 2012, p. 149; G. Tkachuk, *Methods of using educational web resources in the process of training future teachers of computer science*, Publisher "Sochinsky", Uman 2011, p. 25; M. Shyshkina, *Formation of a cloud-oriented learning environment for mathematical disciplines based on SAGEMATHCLOUD*, "Information Technology in Education" 2016, no. 1 (26), pp. 148–165.

The concept of resource is interpreted as a source, stock of something (natural, energy, material, labour, financial resources).

When we use the term "web", we mean an information resource that refers to the web space. As you know, web space can be organized both locally and globally.

Thus, using the adjective "educational", we refer this resource to the field of education. Therefore, it is necessary to determine the place (role) of educational web resources in the field of education.

The main way and means of obtaining education is studying. In the educational process, educational web resources are learning tools. With the help of educational web resources you can organize the acquisition of personal knowledge, the formation of practical skills and abilities, and so to ensure education at all levels.

Educational web resources by functional purpose (by the function performed in the educational process) are divided into:

- program-methodological (curricula and educational programs),
- educational and methodical (methodical instructions containing materials on the methods of teaching the discipline, studying the course, term and diploma works),
- educational and didactic (textbooks, manuals, lecture texts, lecture notes),
- auxiliary (workshops, collections of problems and exercises, textbooks, reading books, reference books),
- controlling (test programs, databases).

According to the purpose the educational web resources are divided into:

- official (published on behalf of state bodies, institutions, agencies or public organizations that contain normative and policy materials),
- scientific (contain information about theoretical or experimental research, historical documents),
- popular scientific (contain information about theoretical or experimental research in the field of science, culture, technology, presented in a form accessible to non-specialist reader),

- reference (contain brief information of scientific and applied nature, arranged in an order convenient for their quick search, but not intended for sequential reading),
- advertising (containing interested form messages about products (eg, curricula, books, essays, etc.), educational services, training activities to create demand for them).

By the nature of the basic data, the following educational web resources are singled out as:

- text (symbolic) i.e. containing mainly text data presented in a form that allows character-by-character processing,
- overview i.e. stocking mainly electronic samples of objects that are considered as a holistic graphic entity, presented in a form that allows viewing and printing, but that does not allow character-by-character processing,
- audio i.e. including a digital representation of audio data in a form that allows it to be listened to, but not intended for printing,
- software products i.e. are independent works that represent the publication of the text of the program or programs in the programming language or in the form of executable code,
- multimedia i.e. characterizing by the fact that they contain different types of data (text, graphics, audio, video, etc.) exist equally and interconnected to solve various problems, and this relationship is provided by appropriate software.

Depending on the property, they can be:

- open (their use is free),
- closed (their use is carried out only with permission. With permission, the user must enter their login name (login) and password (password), which are issued by the developers' administration),
- combined (access to individual parts or to the whole OER is free, but in demo mode) (so-called demo versions)².

² O. Lytvynenko, *Educational web resources as a component of the educational process*, <http://timso.koippo.kr.ua/hmura11/osvitni-veb-resursy-yak-skladova-navcha> (access: 10.04.2022).

V. Proshkin distinguishes educational web resources on the basis of purpose and methods of application in the pedagogical institution educational process of preschool education and divides them into the following main groups:

1. Educational web resources for classroom work with future teachers: hosting for storing media files, systems for creating and storing educational materials (online presentations, knowledge maps (memory), infographics, interactive crossword puzzles, test environments, etc.), shared systems creation of various types of documents focused on the organization of joint work with text, tabular documents, presentations, etc. (Google Docs & Spreadsheets, Google Calendar, Google Groups, etc.),
2. Educational web resources for independent and extracurricular work of future teachers i.e. web resources for the organization of future teachers project activities, distance learning systems, virtual communication systems.
3. Educational web resources for research work of future teachers: institutional repository i.e. electronic archive for long-term storage, accumulation and provision of long-term and reliable open access to research results conducted in the institution, electronic library-distributed information system that allows to store and use diverse collections of electronic documents (text, graphics, audio, video, etc.) thanks to global data transmission networks in a user-friendly form, electronic periodical scientific publication contains scientific publications in a particular field of scientific knowledge³.

Based on the analysis of scientific and pedagogical literature, we have identified several areas of use of educational web resources in education:

- the work organization on the study and generalization of pedagogical pedagogical experience,
- the exchange of experience by means of on-line communication (TV-Internet conferences, forums, chats, e-mail, etc.),

³ V. Proshkin, *Educational web resources in the training of future teachers*, "Educational Discourse" 2017, no. 1-2, pp. 183-197, http://nbuv.gov.ua/UJRN/osdys_2017_1-2_17 (access: 11.04.2022).

- the information support for the activities of a specialist who is in search of innovation (data banks of the best pedagogical experience and educational innovations),
- the popularization / presentation of work experience (information placement on web-pages of educational sites, creation of separate web-sites),
- the study of theoretical material and practical experience on the problems of research and experimental work posted on the Internet,
- the training, retraining of teachers on a distance basis, taking into account the above areas of Internet use,
- the multimedia learning support.

Recognizing the scientific validity of the above classifications for educational web resources, we believe that they should be distinguished as resources for independent work of children and for teachers. Describing the program for the required discipline: "Computer technology in working with children", which is provided by the educational program for students majoring in 012 Preschool education of the first (bachelor's) level of higher education, consider the distinctive features of the author's classification for preschool educational web resources.

According to the syllabus of this discipline⁴, the first module: "Computer technology in working with preschool children" includes the topic: "Internet resources for working with preschool children." The proposed topic involves acquainting students with web resources that allow you to directly involve preschool children in their work. In particular, within the topic students are introduced to web resources, such as:

1. Children's search engine:

- Kiddle (<https://www.kiddle.co>) is children's search system from Google;
- KidzSearch (<https://www.kidzsearch.com>) is a visually safe child search system and web portal based on Google Programmable Search Engine;
- Allsafesites (<http://www.allsafesites.com>) – safe search for children.

⁴ The syllabus of the discipline *Computer Technology in working with children*, https://docs.google.com/document/d/14OkhirNCAlm71ds-D2IJeSjM8W_Ye77a/edit?rtpof=true&sd=true.

2. Systems with practical tasks:

- MegaZnayka (<http://www.megaznaika.com.ua>) is a web resource for children and parents, which contains a huge amount of interesting and useful information: fairy tales, poems, games, songs, interesting facts about various objects and phenomena, about flora and fauna, about human and his/her activities;
- Pustunchik (<https://pustunchik.ua/ua>) is information and entertainment portal dedicated to the development, learning and recreation of the child, which offers a variety of content i.e. games, audio library, creativity, needlework, leisure, virtual school and much more interesting to organize recreation and development for preschoolers.

3. Wiki-encyclopedia systems

- Web-project "Reading Book" (<http://chytanka.com.ua/>) – children's public online library.

4. Systems for storing multimedia web resources

- YoutubeKids (<https://www.youtube.com/kids/>) is YouTube Kids application for safer knowledge of the video world on the Internet.

The second module: "The use of computer technology in the work of the preschool education teacher" is aimed at familiarizing students with web resources that can be used by teachers in their own professional activities. The module is structured in such a way as to acquaint students with the following web resources for preschool teacher:

1. Social search systems (resources for individual or collective search in the network):

- *Google's personal or group search engine "Google"* (<https://www.google.com/>) is the largest search system owned by Google Inc. Supports search in documents of PDF, RTF, PostScript, Microsoft Word, Microsoft Excel, Microsoft PowerPoint and others. Allows you to look for by search, wiki search, voice search, image search and universal search;
- *Ukrainian search engine* (<https://search.com.ua/>) is a scalable system for collecting information from the pages of Ukrainian sites, subdomains of the.UA and.UKR zones and display its results on hundreds or dozens of pages by criteria such as: relevance (the most accurate match of the page to the search query; site evaluation and each page assessment;

date of adding the page to the system; number of external links to this page. Last ranking condition is the number of transitions);

- *Google Scholar or Google Scholar* (<https://scholar.google.com>) is a free search engine that indexes the full text of scientific publications in all formats and disciplines.

2. Systems for creating digital practical tasks

- *Google Classroom* (<https://classroom.google.com/h>) is a free web service created by Google for educational institutions to make it easier to create, distribute, and classify tasks paperless to speed up the file distribution process between educators and learners.
- *LearningApps* (<https://learningapps.org/>) is a tool that allows you to create interactive exercises;
- *StoryJumper* (<https://www.storyjumper.com>) is a tool for creating online books.

3. Web logging systems (sites, the main content of which is constantly updated with new records, which may contain information resources of various formats (text, graphics, audio and video resources), and displayed in chronological order):

- *LiveJournal* (<http://livejournal.com>) is a blog platform for posting online diaries or other blogs (“diaries”, “magazines”). Offers the usual set of features for blogs i.e. the ability to write your own posts, comment on them by readers, and more. There are additional features, most of which are available for free. You will be given a free account like `your_name.livejournal.com`. Collective blogging is supported. Learn also allows you to participate, create and write to the community. Each community’s address looks like this: `community.livejournal.com/community_name`. It is possible to add other users to your reading list.
- *WordPress* (<https://wordpress.com/>) is a service that allows you to blog using the popular wordpress content management system. The user easily gets a full-fledged blog with the ability to customize its appearance and view statistics. The negative side is the presence of third-party advertising when using a free account.
- *Blogger* (<https://www.blogger.com/>) is a blogging service currently owned by Google. With this service, any user can easily start their own

blog. The user receives a blog with an address ending in blogspot.com. It is possible to choose a different look of the blog by selecting the appropriate template and the ability to modify the look of the blog with special visual gadgets. It also provides the ability to directly interfere with HTML code, thus providing the ability to embed your own html styles, scripts, etc. It is possible to earn on advertising by becoming a Google AdSense partner. Allows you to run a collective blog.

4. **Wiki-encyclopedia** (reference sites, which are filled by the joint efforts of a large number of participants):
 - *Wikipedia* (<http://uk.wikipedia.org>) is a publicly available free multilingual online encyclopedia run by the non-profit organization Wikimedia Foundation.
 - *Portal of educators of Ukraine "Pedrada"* (<https://www.pedrada.com.ua>) is a site that describes the content of the preschool and secondary schools activities.
 - *Ukrainian educational online portal for teachers "Na Urok"* (<https://naurok.com.ua>) is a resource where you can access to write informative articles related to educational life, holding thematic webinars, introducing various educational competitions, attracting the best developments in school subjects from teachers from all over Ukraine.
 - *electronic magazine "Educator-methodologist of preschool institution"* (<https://emetodyst.mcfr.ua/>) is a professional publication with powerful functionality, designed to make work easier.
5. **Systems for storing multimedia web resources** (resources for storing, classifying, sharing digital photos, audio and video resources, text documents, presentations, as well as organize discussions of downloaded materials):
 - *Pinterest* (<https://www.pinterest.com/>) is a social photo service that allows you to attach almost any image that you find interesting and important for placement, many educators use it as a repository of detailed lesson plans, projects and various inspiring materials.
 - *Flickr* (<https://Flickr.com>) is a service for storing and using digital photos.

- *Youtube* (<https://youtube.com>) is a social service designed to store, view and discuss digital videos.
 - *SlideShare* (<http://www.slideshare.net>) is a social service that allows you to convert PowerPoint presentations to Flash. Designed for storage and personal or shared use.
- 6. Platforms for online interaction:**
- *Google Meet* (<https://meet.google.com/>) is a video call service developed by Google. It is one of the two apps that replaced Google Hangouts.
 - *Skype* is a program for video and audio calls with the function of conversations, chats and the ability to interact.
 - *Zoom* is a service for video conferencing and online meetings.
 - *Moodle* (<https://moodle.org/>) is a service that allows you to submit educational material in various formats (text, presentation, video, web page; classes as a set of web pages with possible intermediate test tasks), to conduct testing and surveys, tools monitoring learning outcomes.
- 7. Systems of joint creation of various types of documents:**
- *Google Docs and Spreadsheets* (https://www.google.com/intl/en_en/docs/about/) is a tool for collaborative editing of any student project activity documents.
 - *Google Calendar* (<https://calendar.google.com/>) is a tool for planning various events, including projects.
 - *Google Groups* (<https://groups.google.com/>) is a tool for organizing discussions on any issues, saving the necessary files, organizing online communities, including those related to one project. In each of these groups of educational web resources, we listed only the most popular and accurate for the educational process in preschool education, in general, their number is much greater, and in the classroom focused only on some methodological aspects of their application.

Thus, the informatization problems in the educational environment of modern educational institutions raise the issue of the use of educational web resources in the professional activities of preschool educators and the classification of these electronic learning tools. In our opinion, the most appropriate for use is the classification of educational web resources by target audience. On this basis, we distinguish the following groups of educational web resources:

es i.e. for teachers and preschool children, within the target audience we allocate social search engines, systems for creating digital practical tasks, weblog creation systems, wiki-encyclopedia, multimedia web resources storage systems, platforms for online interaction, systems for joint creation of various types of documents.

We believe that this classification significantly optimizes the implementation of information and communication, including network, technologies in educational practice. Prospects for further research are seen in a detailed study of the methods for using educational web resources of each group, as well as in the study of other types of educational resources, theoretical and methodological basis and practice of their implementation in the educational process of preschool education and etc.

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