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M. MOLDAGALI [1], E. KAZARTSEV [2], S. ABISHEVA [11],

R. SABIROVA [3], R. MOLDAGALIYEVA [4]

[1] Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)
[2] Higher School of Economics (Moscow, Russia)
[3] Taraz Regional University named after M. Kh. Dulaty (Taraz, Kazakhstan)
[4] Astana Medical University (Astana, Kazakhstan)
email: m.moldagali@abaiuniversity.edu.kz

THE USAGE OF EDUCATIONAL WEBSITES AS A DIDACTIC TOOL IN THE EDUCATIONAL PROCESS

Abstract

An educational website is a didactic tool that can be used by a teacher during the educational process. An attempt has also been made to present the most popular and sought-after educational websites. This article aims to focus on educational websites, determine their quality as a didactic tool for the educational process, present the digital educational websites of Kazakhstan, analyze the three most popular ones, and point out their features and shortcomings. An analysis of the three most popular websites was conducted: Bilimland, TopIQ, and Daryn online, whose positive aspects and disadvantages were identified. The observation method, literature review, and a review of existing educational websites in Kazakhstan were used to collect data. Virtual education platforms, websites, and digital games provide an unlimited number of additional tools that can be used anywhere, anytime, where there is an electronic device and an Internet connection. This allows for both synchronous and asynchronous interactions and constant communication between student-teacher and student-student. The result is effective classroom collaboration. Therefore, we define educational websites as an indispensable didactic tool for teaching.

Keywords: digitalization of education, educational websites, technologies, online learning

Introduction. In today's world, technology is part of many people's daily activities, especially the learning process, where teachers and students are in constant contact (Bianco et al., 2021). It is well known that the introduction of various types of technological tools into the educational process allows for improvement and simplification of the educational process (Keser & Semerci, 2019; Zhang & Hennebry-Leung 2023).

Virtual learning platforms, websites, and digital games provide unlimited additional tools that can be used anywhere, anytime with an electronic device and an Internet connection (Gubbels et al., 2022). This enables synchronous and asynchronous interaction, and constant communication between student-teacher and student-student (De Carvalho & Bauters 2021; Yoshioka & Gallavan 2021; Becirovic, 2021; Camas Garrido et al., 2021). The result is an effective collaborative activity in the classroom.

Digital platforms not only create the conditions for organizing the educational process, but are also a means of self-realization that allows teachers to share experiences, create an educational product as part of their professional activity, present their developments and achievements to colleagues, and participate in professional and creative competitions (Laufer et al., 2021; Egarter et al., 2021; Menshih, 2019; Dobrynin, 2008; Kovtonjuk et al., 2022). In addition, Internet resources serve students as an educational platform, a source of data, and an interesting tool for easy information retrieval . It should be noted that educational websites play a special role in the pedagogical process, self-development process, and the concept of lifelong learning as components of the Internet space. By an educational website, we mean a platform that contains a system of electronic information documents with which a targeted learning process is implemented.

One can distinguish between distributed and restricted educational websites (Panjukova, 2010). The former includes resources that are distributed across a local or global network and

are available to many users simultaneously. Electronic publications for educational purposes are limited, they are issued on physical media, their disadvantage is the complexity of additions and changes. Focusing on this definition, educational websites belong to the group of distributed resources.

Main part. The number of educational websites is constantly increasing, and the need to further disaggregate and typify them enables teachers and learners to search and use Internet resources more effectively. Researchers Griban & Griban's (2015) classification of Web sites is presented in Table 1.

Table 1. *Griban and Griban's classification*

Name	Distinctive signs, examples
Websites of educational institutions	Information about the activities of the educational institution; A platform for teachers (presentation of achievements)
Distance Education Websites	Organization of educational process through telecommunication networks
Websites that distribute educational information	Electronic access to modern scientific and methodological literature, for example, virtual libraries; magazines and newspapers on the topic of education; virtual museums, etc.
Websites for conducting scientific research	Sites of research works of students, students, teachers, lecturers, and scientific workers, virtual scientific laboratories, creative workshops, and research and training centers are placed.
Websites of an informational and reference nature	This category includes electronic encyclopedias; dictionary sites; catalog sites; databases; and information sites about scientific and educational conferences, competitions, seminars, and grants.
Websites of competing internet projects	Sites of Olympiads and quizzes; sites of information and entertainment projects on the topic of education; resources for educational contests, etc. Usually, such sites offer the possibility of obtaining certificates and diplomas.
Websites of educational and methodical associations	Websites of the methodological association of teachers on school subjects; sites for thematic teleconferences and webinars on educational issues; online sites of creative interaction of teachers, and lecturers; sites for professional development of pedagogical personnel.
Educational communities in social networks	Thematic associations of teachers based on professional interests (for example, associations for teachers), provide an opportunity to communicate with colleagues, exchange experience and information, and introduce oneself.
Educational web services	Sites that allow you to create and save educational products (for example, presentations) in real-time, such as prezi.com

This classification is detailed and too fragmented because over time the functionality of websites has expanded, for example, there is no need for educational communities in social networks because each website implies grouping by interests, and presentations and video materials are the most important information on all websites (Alfayez 2021; Karic et al., 2020).

We can also consider the classification of Mansuri (2023), which divides educational websites into the following groups:

1. E-learning web portals;
2. Digital Content Serving Sites;
3. School Educational Video Websites;
4. Language-Learning Website;
5. Online Courseware;
6. Tertiary Educational Websites;
7. Learning Management System.

However, we believe that the name should be changed because these tools are used not only in school education but also in higher educational institutions.

In this classification, we would like to highlight "Educational Video Sites in Schools", which include educational websites with games, videos, or subject-related resources that serve as tools to enhance learning and teaching in the classroom (Valencia et al., 2017; Salakhova et al., 2021). These websites help today's students make lessons more interesting and engaging.

It should be recognized that these digital educational platforms have become a qualitative addition to the learning process, increasing significant student achievement and motivation, as well as facilitating the acquisition of the material (Vázquez et al., 2017; Schwan & Cress 2017). In addition, it should be noted that it will be difficult to conduct a lesson without a curriculum, methodology, coordination with an educational institution, and technical equipment for all participants of the process, as well as without basic knowledge of the use of virtual tools (May et al., 2023).

Purpose of study. In this article, we would like to focus on educational websites, determine their quality as a didactic tool for the educational process, present the digital educational websites of Kazakhstan, analyze the three most popular ones, and point out their features and shortcomings.

Materials and methods. Mixed research methods were used in the study.

Participants. Participants included students and teachers in Kazakhstan.

Data collection tools: The observation method, literature review, and a review of existing educational websites in Kazakhstan were used to collect data.

Data Collection Process. As part of the analysis, participants, i.e., students and teachers, rated the above educational websites' value according to Toufaily, Zalan, and Lee on a 10-point scale. From this, an average indicator was formed. The results are shown in Figure 1. And the methodologists found that the material conformed to Bloom's Taxonomy.

The process of analyzing websites for students and teachers was conducted in three separate phases:

1) Getting to know the evaluation categories of each website, i.e., determining its functionality; forming its status; grouping by status, school, or interests; self-development; feelings when using the website; aesthetics of the website; novelty and informativeness of the presented material.

2) Show the selected pages, obtain permission, and register the respondents for each survey. Self-introduction, use of the website.

3) Go through a survey in which each item defined above is rated on a 10-point scale. At the end of the "Conditional Component" question, there are given brief comments about difficulties in use.

The process of analysis for the methodologists was slightly different, i.e., in the beginning, it was a review of the structure of Bloom's Taxonomy, then familiarization with the selected websites, and finally a group discussion.

Data analysis. The content analysis method is used to discuss and categorize the internal content of the website; the thematic analysis is used to categorize and examine the data to identify common themes and patterns of the website. The three most popular educational websites among students, teachers, and educators were also analyzed.

Results. In their study, Toufaily, Zalan, and Lee (2018) experimented to determine the value dimensions of educational websites and their conceptualization. They identified the following characteristics:

1. Functional: benefits derived from functional, utilitarian, or physical activities (e.g., price-quality trade-off, convenience, flexibility, career prospects).

2. Social: formation of their status/image, distribution of their products, and formation of interest groups.

3. Belonging: results from students' identification and sense of belonging with their classmates, teachers, and the university; having friends in their classes; and group and social activities that add value to their learning.

4. Personal: Benefits derived from an increase in personal values, self-actualization, and a sense of accomplishment.

5. Emotional: benefits that result from learning-related feelings or affective states (e.g., positive feelings about learning).

6. Epistemic: Benefits that result from the ability of a product/service to generate interest, offer something new, and/or satisfy a desire for knowledge.

7. Conditional: benefit that results from a particular situation or set of situations faced by a person who has made a decision.

That is, according to the proposed value measures, we can evaluate any educational websites to determine their importance to the educational process and product evaluation.

Due to the great importance of Bloom's taxonomy in the updated curriculum in Kazakhstan, we decided to evaluate the material of the websites according to their elements, i.e., remembering, understanding, applying, analyzing, evaluating, and designing principles. As we know, Bloom's taxonomy is a version of the classification of pedagogical goals, which includes three areas of educational goals: cognitive, affective, and psychomotor / "know", "feel", and "do". The purpose of Bloom's Taxonomy is to encourage educators to focus on all three domains (Baktybaev, 2017).

Currently, teachers in Kazakhstan actively use educational sites in the educational process. During the survey, we identified the most popular websites: Bilimland, TopIQ, iMektep, Twig-Bilim, OpenU, Tilalemi, Damoo, and others. In this article, we tried to analyze the 3 most popular websites through a survey of 5 students, 5 lecturers/teachers, and 5 methodologists. All survey participants are active users of various educational platforms.

The most popular educational sites were identified for analysis:

1) Bilimland is an innovative company creating a new electronic learning market (e-learning) that develops, isolates, and distributes educational content and related technologies and services for Kazakhstan (https://bilimland.kz)

2) TopIQ is a platform for digital textbooks (https://topiq.kz)

3) Daryn. Online is an exam preparation website (https://daryn.online/).

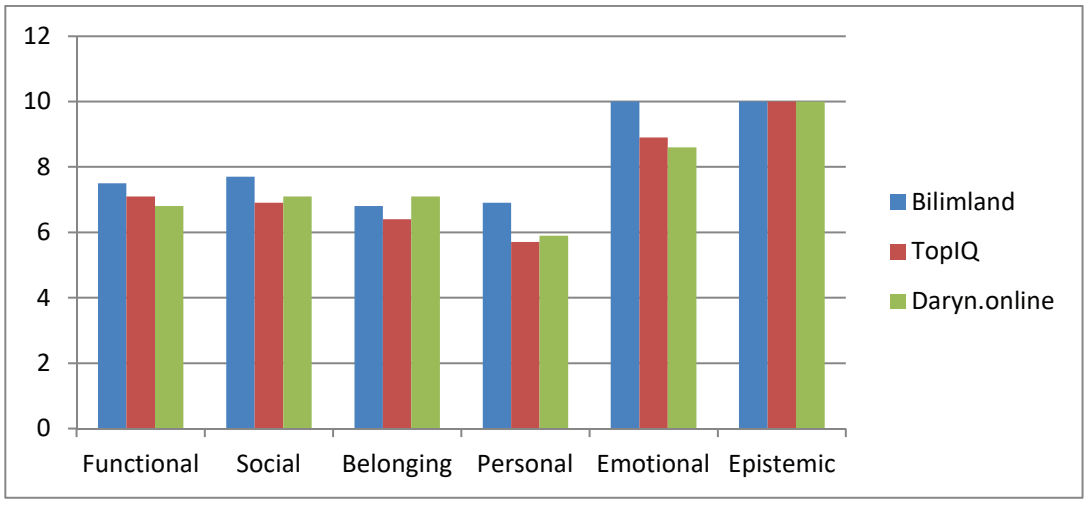

Figure 1- Evaluating educational websites on their value dimensions.

Several comments were made about specific sites. For example, during a review of the Bilimland: *"There is no way to view the lesson for free the first time. Unexpectedly, this option doesn't fit us and we don't have the option to do demo versions of lessons. You pay for a lesson without realizing its value", "There are so many, I'm lost and don't know where to start", and "I don't understand how they select the material and how to submit/announce a lesson or article"*. But most participants liked the website for its functionality: the price is affordable, the website is in two soothing colours (white and green), technical support is easy to reach; an ideal platform for communication, performance assessment, and/or analysis; pleasant to use; lots of audio and video material; assignments are illustrated.

"TopIQ offers electronic versions of textbooks from publishers such as "Almatykitap", "Arman-PV", and "Express Publishing", but it would be even better if these publishers provided access to other books, such as the works of modern writers and poets of Kazakhstan", "The number of books is small", "Interestingly, the school administration can buy access to facilitate the work of teachers", but overall, the platform has potential if filled with popular books, textbooks. Interestingly, the backlight of the screen can be changed from black to white at the reader's

request. Looking at the diagram, we can also see that the site itself is not designed for social communication between teachers; there is no dialogue with authors. The material on the website is from a pre-made textbook, which can of course be used via an interactive whiteboard, but it is not fully functional. Some tasks are not loaded, or the set of exercises is not meant for individual work because it does not summarize.

On the website Daryn. online reviewers said: *"Registration is difficult and takes a lot of time", "each course is separate, cumbersome and expensive", "some cells cannot be opened, for example, the tutor column", "you can get a certificate to improve your skills", "you can add your articles without any problems, but on the other hand, how good are they all", "expensive for a student/learner"*, but at the same time it is stated that the material on this website is close to real tests. Unfortunately, only the free courses were evaluated, as each participant had to purchase individual access to certain materials.

Methodologists evaluated the material on the educational sites according to Bloom's taxonomy. However, because the sites contain only instructional elements or rather tasks of various forms, the methodologists determined that these tasks encourage the student to "know", "feel", and "do".

In general, it was concluded that all materials correspond to the initial phase of teaching, while the completion of the lesson/module is done through familiarization with the new topic and testing. Particularly highlighted was the Bilimland website, which contains a wealth of different materials for different levels with interesting interactive tasks, to which the teacher can subscribe himself and which is optional for the students in the classroom. Also, TopIQ, where the whole school can work for free. And Daryn. Online requires a separate subscription for everyone. TopIQ's assignments and text work cannot be assessed in detail because it is digitized material from textbooks. In this case, the methodologists point out that it is necessary to evaluate the textbooks recognized and recommended by the Ministry of Education of the Republic of Kazakhstan. Daryn. online is a collection of exam preparation materials for different types of exams. Various options suitable for the assessment of teaching, monitoring, and student evaluation online are a breakthrough in education.

Discussion. Thus, modern educational websites offer many opportunities for both teachers and students. Despite the abundance of educational resources, it should also be noted that there are often inconsistencies between the possibilities of information technologies in the educational system and their actual use in professional activities. The problem is that a part of school teachers, university lecturers, and students do not have the necessary information competencies for effective use of computer technologies, including educational resources. The situation is also complicated by the rapid innovation of information technologies – artificial intelligence, virtual reality, geographic information systems, etc.–, which are producing new, more efficient, and more complex technologies. The difficulties in mastering computer technologies in education arise not only from the lack of a methodological basis for their use in this field but also from the lack of a clear understanding of how to train the teacher's information literacy, which in practice forces the teacher to focus only on his or her personal experience and ability to empirically search for ways to effectively use information technologies. For this reason, various seminars and master classes are currently being organized to develop these websites.

From the above analysis of educational websites, the following positive aspects of their use in teaching can be highlighted:

1) Interactivity of teaching;

2) Use of multimedia resources;

3) Use of gamification technologies in teaching;

4) Easy to create group and individual tasks;

5) Facilitates knowledge and homework review;

6) Can focus students' attention on instruction;

7) Allows students to learn independently and at their own pace;

8) Useful for self-development of the teacher's professional potential.

Conclusion. Today's students want relevant, mobile, and personalized content that they can access at their own pace. This need is being met

through educational sites and platforms where students can learn based on their needs and convenience.

In addition, these sites allow teachers to improve their skills and familiarize students with school material. In this way, the teacher can use electronic textbooks, assignments, and tests as an interactive, instructional tool that attracts students' attention.

The results of this research will be further used in the creation of the LiteRon educational website.

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