



DOI: 10.54919/physics/56.2024.94ved7

Internet platforms in the open educational environment in a foreign language for organising independent student work

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Abstract

Relevance. The relevance of investigating web resources for learning in a globalised world in an open educational environment is due to the need to understand modern technical mechanisms involved in the educational process, their achievements and impact on learning.

Purpose. The purpose of this study was to form an idea about the educational platforms of Kazakhstan and the world in general, examine the impact of the platforms under consideration on the educational process during the student's independent work.

Methodology. The following methods were used in a complex to solve the tasks and to implement the purpose of the study: analytical-synthetic, comparative, graphical, and statistical.

Results. In this study, the following educational resources were compared: Duolingo, Samsung Global Goals, Google Classroom, AnkiDroid Flashcards, Coursera, TED-Ed, EdApp. They were considered in terms of the following parameters: interface and technical capabilities, availability of scientific materials, functionality and scope of application, achievements when used in the course of independent work. The rating of open educational resources is presented in tabular form according to the Google Play Store for the following countries: Kazakhstan, Great Britain, France, USA, Germany, Italy, Spain, Canada, Mexico, Japan, Egypt, and Malaysia. The platforms for teaching students that are actively gaining popularity were also considered: Coursera, TED-Ed, EdApp, Udemy, WiziQ, Blackboard Learn.

Suggested Citation:

Tolegenova Zh, Davletova A, Kassymova A, Nurlybay A-B, Baizhanova M. Internet platforms in the open educational environment in a foreign language for organising independent student work. *Sci Herald Uzhhorod Univ Ser Phys.* 2024;(56):947-958. DOI: 10.54919/physics/56.2024.94ved7

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Conclusions. This study allows for an examination of the modern educational paradigm by comparing different countries worldwide. It highlights the development of Internet technologies in the face of globalisation challenges and provides insights into the main strategies for enhancing the effectiveness of the educational process through the implementation of Internet technologies and new methodological innovations.

Keywords: web resource; online training; conventional methods; courses; professional and communicative competence.

Introduction

When analysing the Internet resources created for the implementation of the educational process online, it is possible to identify the most popular and interesting platforms with a user-friendly interface, wide technical capabilities, and the necessary scientific and technical base. It is important to compile a rating showing the pros and cons of each web resource, since such information is useful for building further communication between students and teachers. Based on this, a thorough examination of each platform is relevant today, because in this way it is possible to understand which resources should be introduced into the educational process and which should not. Independent work of students is implemented based on already existing basic skills acquired during conventional teaching methods. Using the example of modern educational platforms, it is possible to track how courses are built, what value they carry and how they can be integrated into educational processes. The examination of online resources allows forming an idea of the process of self-organisation of students within the course, stimulating them to regularly perform tasks. Thus, conducting a study on the process of independent work in online learning is a priority task in the educational field.

The formation of an idea about the development of educational platforms in Kazakhstan and the world contributes to the understanding of modern integration processes, including at the level of education. After the pandemic, the world faced new challenges, and examining the technical capabilities of educational resources became a priority task. Each country was looking for educational resources that would be most suitable according to different criteria: social, economic, political. Thus, the examination of popular platforms is relevant today due to the rapid development of the information and technological environment. When organising independent work, Internet technologies play an important role in terms of improving communication and professional skills, since the use of widely available and open web resources allows achieving results faster. The more resources and technologies are involved in training, the greater the likelihood of positive results. Thus, the analysis of the organisation of the educational process through Internet technologies is important, based on the concept of globalisation and technologisation. There is a constant updating of web resources in the world, so the examination of educational platforms is necessary.

O. Ivanchenko et al. [1] discusses the pros and cons of distance learning in an open educational environment, and also highlights the key conditions for the formation of optimal conditions for independent work of students. The Microsoft Teams online platform is analysed, through which the reproductive recreation of knowledge, the development of the ability to think and analyse is possible. Researcher A.V. Kutsak [2] notes that independent work

provides students with additional knowledge in their professional activities, checking them during practical tasks, developing professional skills. Through self-study, a student learns to think and work systematically, obtains the necessary knowledge, gets used to constant self-education. Educational platforms contribute to the development of critical thinking, the formation of discipline in learning.

A study by F.M. Sadikova [3] provides information on independent work in theory and in practice, also analyses scientific, critical, and methodological literature on the organisation of independent work of students. By activating this process, educational goals are achieved and professional competencies are acquired. Considering educational platforms, A. Amirova et al. [4] focus on investigating the problems associated with the digital divide and synchronous online learning during the COVID-19 period. The paper highlights the main factors affecting the educational process in urban and rural schools of Kazakhstan: experience, workload, professional qualifications of teachers. After the pandemic, the digital gap between educational platforms has substantially narrowed.

The results of the study by N. Seisekeyeva et al. [5] showed that the introduction of educational platforms for teaching students of higher educational institutions in Kazakhstan has increased by almost 100%. The paper emphasises that the development of communication skills should be conducted not only through classroom classes but also through pedagogical platforms. Thus, the combination of conventional methods and interactive technologies allows implementing a high-quality educational process. A study by K. Zharkynbekova and A.E. Abaidilda [6] focuses on the problems associated with the adaptation of students to the distance learning format. The results of the study demonstrated the attitude of students to online learning, helped to establish the key advantages and disadvantages of the educational process, students' preferences regarding the learning format, and in relation to the development of new approaches. Thus, the achievements of online learning are only expanding due to the creation of new technical solutions and opportunities for the implementation of a continuous educational process in modern conditions.

The purpose of this study was to examine open educational platforms in the Internet environment used for students' independent work, form an idea of the use of educational platforms in Kazakhstan and abroad, and conduct a comparative analysis of advanced learning resources based on their characteristics. Based on the purpose of this study, the following tasks were defined: review the most popular platforms in Kazakhstan and other countries of the world, compare them according to several criteria: technical capabilities, interface convenience, functionality, and learning results. The subject of the study was the most popular modern educational platforms of

various categories, in particular, used for the implementation of independent learning of students.

Literary Review

Modern research is aimed at investigating the effectiveness of educational platforms in online education at universities, identifying key applications, analysing their functionality, accessibility, and practicality, forming basic strategies for learning using a combination of Internet platforms and conventional methods in modern higher education, analysing the practical use of platforms through surveys of students and teachers, global challenges in education for the whole world.

P. Engzell et al. [7] investigate the problems that arose after the suspension of full-time education in the Netherlands, showing how this affected the level of knowledge in general. The results of the study showed that students made little progress in home schooling. It is also noted that in countries with less developed infrastructure or longer school closures, the loss of knowledge may be even greater. L.L. Nicklin et al. [8] investigate the UK's transition to online higher education in the COVID-19 pandemic. The study analysed the difficulties associated with the introduction of digital innovations and practical recommendations for students. J. Suh et al. [9] focus on digital interaction, which is necessary to meet the demand for resources in different areas: medical, economic, educational. H. Kentnor [10] emphasises that online learning has become mainstream today, since about 69% of academic staff believe that such an educational process is aimed at a long-term perspective. The author also highlights that out of 20.6 million students of higher education institutions, about 6.7 million have completed online courses.

Z. Mohammadi and B. Fadaiyan [11] note that online learning is actively practiced in developed countries, while there is a high degree of distrust of this form of educational process on the part of politicians in developing countries. E-learning is being implemented all over the world, but faces problems such as lack of electricity, Internet, devices, or the necessary skills. D.E. Aduba and O. Mayowa-Adebara [12] examine online platforms from the standpoint of the expediency of their use in the educational process. The author notes that WhatsApp and Telegram platforms were most often used for online learning. Their advantages were the following: the availability of educational materials, co-education, the ability to communicate with lecturers and study at a convenient time. E-learning is directly related to teaching in an online environment. In the study by G. Zacharis and K. Nikolopoulou [13] an empirical study based on the analysis of questionnaires of Greek students regarding their assessment of e-learning in the post-COVID age was conducted. G.A.A.J. Alkubaisi et al. [14] indicate that the COVID-19 pandemic has affected education worldwide (about 1.6 billion students). The author attempts to determine the quality of online learning platforms using a number of criteria. In the course of the study, conclusions were drawn about the high quality of e-learning programmes, but the statistical data differed depending on the type of programme.

Thus, the bulk of the research is aimed at overcoming the pedagogical crisis that arose immediately after the

announcement of the coronavirus pandemic and solving global problems related to education in this period. Researchers are also puzzled by the issues of developing modern strategies for effective learning, considering existing results and achievements in the field of educational and information technologies.

Materials and Methods

The theoretical basis of this study was the papers related to the representation of different countries of the world about online learning during the pandemic and after it, the understanding of the integration of educational platforms into the educational process, the development of new mechanisms that contribute to the effectiveness of online learning in the world in the face of global challenges. For the analysis of educational platforms, the Google Play Store rating of the popularity of applications in the field of education was used, based on which priority areas in modern education were determined, in particular, for students [15].

Comparative analysis was applied when considering the main achievements of different educational platforms for independent learning of students. The evaluation of Duolingo, Samsung Global Goals, Google Classroom, AnkiDroid Flashcards, Coursera, TED-Ed, EdApp applications took into account the following parameters: functionality and scope of use, interface and technical capabilities, availability of scientific materials and courses, and based on the results demonstrated by students after studying using a specific platform. Key applications in Kazakhstan and the following countries were also analysed: Great Britain, the United States of America (USA), France, Germany, Spain, Italy, Canada, Japan, Mexico, Egypt, Malaysia. Common applications for most countries and new applications that are only gaining popularity were highlighted.

The analytical-synthetic method was used to form an idea of the development of modern computer technologies in the educational field, in particular, after the coronavirus pandemic. The problems, challenges, and technical solutions that were necessary for continuing education, which was important to maintain to train new personnel in the international labour market, were considered. through analytical and synthetic analysis, the main achievements of various educational platforms were identified.

Graphical analysis was used to represent the rating (top five) of the most popular educational platforms in an open environment, and compare them by several criteria: interface and technical capabilities, functionality and scope of application, availability of materials, and achievements in independent work. For clarity of statistical data, a diagram was used with the percentage of educational platforms of different thematic orientation: for teaching foreign languages, educational and entertainment format, for exam preparation, and improving professional skills through courses. The statistical method was used to represent the thematic diversity of popular educational platforms in the world as a percentage. The results of the statistical analysis were based on the Google Play Store rating list, based on the top applications. Separately, information was presented on Kazakhstan and the world in general, concerning the main thematic areas relevant to the modern educational environment. Data from countries

such as the USA, Great Britain, Germany, Italy, Spain, Canada, France, Mexico, Japan, and Malaysia were used to obtain information about the world.

Thus, in this study, the main methods of comparative and statistical analysis and auxiliary methods were used: analytical-synthetic and graphical, necessary for presenting the results in an accessible and understandable form. By using all of the above methods to examine educational platforms in an open environment, it became possible to conduct a comprehensive study.

Results and Discussion

An educational platform is a web resource (website, application) that hosts various scientific materials, courses that allow students to study independently at any time convenient for them. Such platforms provide communication between the teacher and students online, are both a tool for learning and a communication channel. They also provide a function of checking the knowledge gained through tests and exams. In the modern world, there is an active globalisation and technologisation, including in the labour market, so the introduction of educational platforms is inevitable. After the coronavirus pandemic, every country faced the problem of continuing high-quality education through online platforms. Modern educational resources are aimed at acquiring professional knowledge and communication skills independently and with the help of moderation by teachers. Thus, everyone has the opportunity to receive education outside the classroom, focusing on their own choices and preferences [16-18].

Analysis of the most common educational platforms for online learning in Kazakhstan and the world

The most popular educational platforms for learning languages in a game-like and entertaining form for children and adults in Kazakhstan are the following:

- BabyBus TV: Kids Videos & Games;
- Buddy.ai: English for kids;
- Miga Town: My World, Minecraft Education;
- EWA: Learn English & Spanish, Duolingo.

A popular platform is GetCourse, which provides for the implementation of distance learning by creating a personal account and filling it with the necessary courses. The main goal is to host lessons and trainings. This application is convenient to use both from a laptop and mobile. The WordBit application is suitable for teaching students at different language levels, which allows learning new vocabulary, idiomatic expressions, phraseological units, and proverbs for free. The function of learning business English is also available. Notably, this platform is suitable for passing an international exam, it will help improving the spoken English by watching movies without subtitles. The principle of operation of the platform is based on the constant repetition of the learned material.

The “Joo – ҰБТ online дайындық” app analytics platform is used for independent preparation for admission to higher educational institutions in Kazakhstan. Through this resource, the students can prepare for the Unified National Testing. An individual programme is planned for each student, considering the applicant’s level, speed and goals in learning. Trial tests and a repetition system are used to memorise the material. The platform also provides an opportunity to receive grants for admission to universities. The functions of informing on specialities, tuition fees, employment prospects are provided [15; 19]. Different platforms for online learning are used in different countries of the world, but the following applications have become absolute leaders in the educational field: Duolingo, Samsung Global Goals, Google Classroom, AnkiDroid Flashcards (Table 1).

Table 1. Rating of open educational resources in different countries of the world by Google Play Store

Kazakhstan	UK	USA	France	Germany	Spain
Duolingo	Duolingo	Duolingo	PRONOTE	Untis Mobile	Duolingo
BabyBus TV: Kids Videos & Games	Samsung Global Goals	Samsung Global Goals	Duolingo:	Duolingo	Google Classroom
Yandex Translate	ClassDojo	Canvas Student	Mon EcoleDirecte	Samsung Global Goals	Samsung Global Goals
Buddy.ai: English for kids	Google Classroom	Remind: School Communication	Samsung Global Goals	AnkiDroid Flashcards	iPasen app analytics
WordBit English	Satchel One	Google Classroom	PlantNet Plant Identification	Analysts’ Journal/Virtual training	AnkiDroid Flashcards
Italy	Canada	Japan	Mexico	Egypt	Malaysia
Duolingo	Duolingo	Duolingo	Duolingo	Duolingo	Duolingo
Google Classroom	PictureThis – Plant Identifier	Educational App Gokko Land Children’s Games/Toddler Games	Brainly – Homework Math Solver	BabyBus TV: Kids Videos & Games	BabyBus TV: Kids Videos & Games
didUP	Plantum – Plant Identifier	PictureThis – Plant Identifier	Buddy.ai: English for kids	علم اللغة الانجليزية من الصفر	CheckMath

ClasseViva Studenti	Headway: 15-Min Book Summaries	ELSA: AI Learn & Speak English	Headway: 15-Min Book Summaries	Nagwa Exams app analytics	KPP Test 2023 – KPP 01 JPJ
ClasseViva Famiglia	PlantNet Plant Identification	Speak – Learn English	Origami Sekai – Paper Folding	Quran-Mushaf Makkah	Minecraft Education

Source: compiled according to the statistical data of Top Apps Ranking [15].

Duolingo is the most popular educational platform in the world, developed by experts in the field of language teaching. It is distinguished by its wide functionality and ability to work with various languages of the world, allowing preparing for oral communication in Spanish, Italian, French, Chinese, English, German. In total, training is possible in 40 languages. Through this platform, millions of users have expanded their vocabulary, practiced reading, listening and writing, and improved their grammatical skills.

Google Classroom is a web resource created to simplify, classify, and distribute tasks in a paperless way, and to speed up the communication process between teachers and students. Google Classroom includes Google Drive, used for sharing tasks, Google Docs, Sheets, and Slides for writing tasks, Google Calendar for scheduling and Gmail for communication, and other web services. Users can share files, send emails with attached photos, publish materials for the whole class [20; 21]. The function of tracking the student's progress and accompanying the educational process with the teacher's comments in offline access to information resources is provided.

The Samsung Global Goals web-based learning platform allows setting and solving global tasks. It is aimed at solving social, economic, and political issues, such as low living standards, inequality, climate change, and the preservation of ecological balance. This application belongs to popular educational resources in highly developed countries of the world. The AnkiDroid Flashcards platform is focused on memorising foreign language tokens in a short period of time, actively increasing the amount of knowledge. Through the web resource, the functions of preparing for medical and legal exams, expanding geographical knowledge, helping to memorise long poems, practicing guitar playing are available. Among the advantages of the programme are flexibility and a high level of optimization [22].

The main applications in the US educational environment, in addition to the absolute leaders: Duolingo, Samsung Global Goals, Google Classroom, are also Canvas Student and Remind: School Communication platforms. The Canvas educational programme, together with the Canvas Student mobile application, allows performing the following actions from any device: view the content of courses and grades received, send tasks for verification, and also track the progress on the course. High rates of use of the programme are observed in English-speaking countries: Great Britain, Canada. The Remind: School Communication programme is a communication platform that provides communication between students and teachers.

The UK demonstrates a high proportion of the use of Duolingo, Samsung Global Goals, and Google Classroom in the educational process. The ClassDojo platform is also used, which not only allows for independent learning, but also unites students and teachers, providing feedback and

informing parents about grades, and rewarding students for perseverance and self-control. The Satchel One platform combines several applications: Show My Homework, Content, Timetables, Behavior, Seating, Attendance, and Detentions. Among the advantages of using it for students can be noted the use of a to-do list and the ability to monitor homework, easy access to the schedule and receiving feedback from teachers.

In France, the PRONOTE resource is considered popular, combining the management of the educational process with a high level of functionality. On this platform, it is convenient to control the learning process both independently and by teachers. There are notes, reports, schedules, notes on delays, a lot of textbooks and exercises. The Mon EcoleDirecte application is actively used, which is suitable for teaching students and teachers, and PlantNet Plant Identification, which identifies images of plants from pictures. In German society, the most frequently used resource is Untis Mobile with a simple and intuitive interface and the ability to manage various kinds of schedules. With this resource, creating a calendar of tasks and tracking attendance can be performed. This platform is suitable for use in both small academies and large centres. In Spain, the iPasen app analytics platform is actively used, which provides access to educational monitoring of students, allows tracking grades and student attendance, communicating with a tutor. Popular applications in Italy are didUP with the available functions of filling out a journal, entering tasks, assessing skills, reminders, annotations, and ClasseViva Studenti and ClasseViva Famiglia with the creation and maintenance of a digital school accompanying students.

The educational platform Headway: 15-Min Book Summaries, actively used in Canada, allows preparing an individual reading list based on the stated goals, getting access to short 15-minute summaries of bestsellers of popular science literature, to collections of books on certain subjects. In addition, dictionaries are available for searching and mastering new vocabulary, audio versions of summaries, practical tips, and collections of quotations. The training is based on the function of interval repetition of the material. In Canada and Japan, one of the most frequently used online learning resources is PictureThis – Plant Identifier, which identifies more than 1 million plants with 98% accuracy. Among the Japanese population, the ELSA: AI Learn programme is actively used to learn foreign languages & Speak English is widely used, which has a number of advantages over other resources: it is tuned to the auditory perception of foreign languages, allows training phonetic pronunciation in parallel with the learning of new lexemes and the formation of grammatical skills. In Mexico, educational platforms for checking homework and monitoring their implementation (Brainly – Homework Math Solver Buddy) are also in the foreground in popularity, for training language skills (Buddy.ai:

English for kids), and making origami – Origami Sekai – Paper Folding.

Applications for teaching children (BabyBus TV: Kids Videos & Games), exam preparation (Nagwa Exams app analytics), and reading the Quran (Quran-Mushaf Makkah) are actively used in Egypt. The Nagwa Exams app analytics educational resource provides access to practical materials, analytical reports, and exam recommendations. Quran-Mushaf Makkah is an application that allows getting acquainted with Islam through reading the Quran, which is presented in more than 35 different interpretations and translated into 11 languages. In addition to applications for learning foreign languages, the following resources are also popular in Malaysia: CheckMath – an application based on piece intelligence that allows

checking every step when solving mathematical problems, KPP Test 2023 – KPP 01 JPJ – a computerised theoretical test for obtaining a driver's license, Minecraft Education – a gaming platform aimed at inclusive learning in a playful way [15].

Analysing the orientation of popular educational platforms in the world, it can be noted that most of them are aimed at learning foreign languages for adults and children, the second place is occupied by cognitive and interactive resources for children, followed by educational platforms for students (exam preparation, professional skills improvement, courses of various kinds), after which narrowly focused resources (manuals on growing plants, hand-made, materials on culture and traditions of the people) (Figure 1).

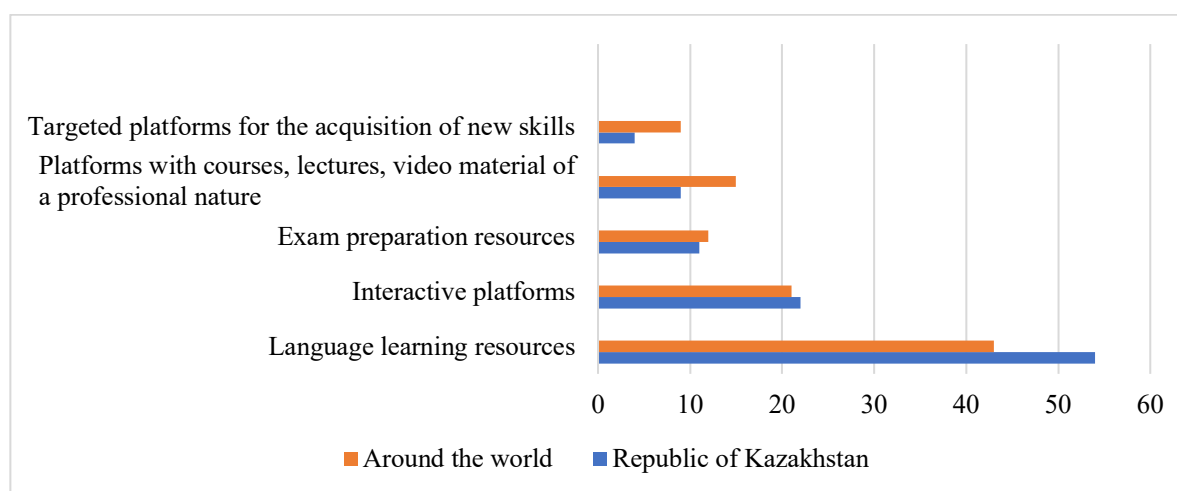


Figure 1. Comparison of the percentage ratio between different areas of educational platforms in Kazakhstan and the world

Source: compiled according to the statistical data of Top Apps Ranking [15].

Educational platforms in a foreign language for self-study and professional training of students

Coursera and TED-Ed are popular platforms for self-study of students and improvement of professional skills in Kazakhstan. The Coursera educational platform is aimed at mass online education of students, so publications of scientific materials can be found in a set of different courses. It ensures the active involvement of universities publishing online courses in various fields of knowledge: physics, engineering, humanities, art, medicine, mathematics, computer science, economics, biology, and business. More than 87 million users and 149 educational institutions are interested in this platform [23; 24]. The advantage of Coursera is the availability of complete courses on subjects with video lectures containing subtitles, notes, homework, and final exams. The courses are available in different languages of the world: English, Chinese, French, Spanish, Portuguese, Russian. The audience of students consists of citizens of the USA, Brazil, China, India, and the resource is also popular in Germany, Spain, Canada, and Australia.

The TED-Ed platform is an educational resource that presents a variety of courses in various fields of knowledge. It also operates in the format of an international conference, which is attended by speakers who are specialists in different fields, serving different age

levels: from elementary, middle, and high school to colleges and universities. On this platform, students can independently improve their knowledge on the following subjects: art, economics and business, design, engineering, health, literature and language, philosophy and religion, social studies, mathematics. EdApp educational platform is available for private and corporate users, offers a variety of design templates for creating and sharing courses. EdApp also has courses already developed by world experts with the option of adding them to the curriculum. One of the advantages of this platform is the focus on micro-learning using a smartphone, which makes the educational process as effective as possible for the student's independent work. EdApp allows using the author's tool to create well-organised and visually attractive courses. The platform is integrated with Canva.

The Udemmy online platform offers various reviewed courses gathered from around the world. A lot of tools are used to create them: uploading documents, generating payslips and presentations. The disadvantages of this educational platform are the following: difficulties in contact between the teacher and students, lack of control over the published courses, so it is necessary to pay attention to the rating of reviewers. Udemmy is well suited for self-study since the feedback between the teacher and the students is complicated. WiziQ educational platform is

designed for conventional online classroom learning, allows creating unique online courses and helps to get an interactive experience when using a web resource. Courses created by teachers can be put up for sale and become mass-available and open. The software is also focused on the implementation of digital tutoring and the independent learning strategy. However, the disadvantage of this platform is an insufficiently transparent pricing policy.

The edX platform was developed in the LMS environment by Harvard and Massachusetts University graduates and is focused on university education. It provides access to online courses from various universities and business programmes. The advantage of this educational platform is the globalisation of access to high-quality sources of information. The disadvantage is the lack of extensive functionality since the interface for teaching is focused on the exact and natural sciences, while scientific materials on the humanities and art sciences remain in short supply. The possibility of micro-training is not provided, conventional methods are mainly used (for example, listening to lectures, writing essays). The Blackboard Learn web platform is used for university students to store scientific materials in the cloud. It is also used for the implementation of corporate and government training programmes. The advantage is convenience in terms of use, including ease of use on mobile devices, so

students can attend classes while staying anywhere [25; 26].

The Skillshare educational platform stores video content where teachers give their explanations in videos regarding various subjects. Thus, this programme is focused on providing practical knowledge to students. The advantage is that the platform provides close contact between the teacher and the student, focusing on the development of pragmatic skills. The Thinkific web resource helps to ensure the accessibility and simplicity of training courses through the use of various templates and graphical components to create the simplest and most efficient course interface for students [27]. This platform is aimed at teaching aspiring entrepreneurs, trainers, and instructors. The LinkedIn Learning educational platform is aimed directly at business and technology areas. The courses presented are offered in translation into seven different languages, which expands the geographical use of the programme. It provides new qualifications needed in the labour market, being a good platform for learning new skills.

During the analysis of educational platforms for students' independent work, they were compared with each other according to the following parameters: user-friendliness of the interface, technical capabilities, functionality and scope of application, availability of materials, and results of use (Table 2).

Table 2. Comparative analysis of the application and achievements of educational platforms in the independent work of students

Parameter	Educational platforms						
	Duolingo	Samsun g Global Goals	Google Classroom	AnkiDroid Flashcards	Coursera	TED-Ed	EdApp
Interface and technical capabilities	User-friendly interface, easy operation, a variety of learning modes	Easy to use and intuitive interface	High level of integration with management systems, intelligent correction function, automatic document assembly	High level of optimisation, flexibility of use	Convenient use, provision of online courses, video lectures, subtitles, notes	Active use of video resources, ensuring the quality of video and sound	Focus on micro-learning from a smartphone
Functionality and scope of application	Learning foreign languages, including the less popular ones	Setting and solving global tasks	Learning in an online classroom, completing and checking assignments	Learning foreign languages using flash cards	Training on scientific materials and online courses	Video conferencing training	Online training on courses of world experts
Availability of materials	Presented in 40 languages of the world	Everyone can contribute to solving problems	Courses and training materials for online learning are available	Scientific materials on medicine, geography, music, and law are available	Access to materials on physics, engineering, humanities, medicine, art, mathematics	Provision of materials on various subjects: art, business, engineering, literature and language, social studies, mathematics	Courses of different subjects are available

Achievements when used in independent work	Vocabulary expansion, reading practice, grammar skills improvement	Setting and solving global problems of society	Speeding up the communication process between students and teachers, tracking the learning process	Increasing vocabulary, preparing for medical and legal exams	Advanced training in various fields, active use by educational institutions in the world	Professional development in professional-communicative field	Expanding knowledge in the professional area while taking courses created by world experts
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Thus, the examination of educational platforms implemented in the learning process in Kazakhstan and the world has shown that today there are many web resources, each of which has its own advantages and achievements. Therefore, when choosing a platform for independent learning, each student and teachers should focus primarily on functionality, accessibility, and technical capabilities.

Analysis of modern research related to online education of students using Internet platforms

Social networks are becoming one of the tools for an open educational environment today, which has a positive effect on students and their academic performance. A study by M.A. Ashraf et al. [28] showed that social networks allow improving the process of cooperation and exchange of ideas between students. In the distance learning format, it is important to maintain a communicative connection between students and teachers, therefore, on the educational platforms considered in this study, tools are used to control knowledge, consolidate material, remind about unfulfilled tasks, and monitor grades. In addition, when working in online classes, it is possible to ensure interaction and communication between students who exchange experience and knowledge gained during independent learning.

A. Haleem et al. [29] note that Internet technologies allow increasing the productivity of learning, developing online libraries, promoting distance learning, creating virtual classrooms, forming knowledge and understanding skills, promoting the education of students with special needs, creating an inclusive environment for them, expanding access to educational resources and provide flexible education. When analysing educational platforms for online learning in Kazakhstan and the world, it was determined that their use leads to the improvement of language skills through the replenishment of vocabulary, promotes the assimilation of grammatical patterns, affects the formation of professional competence in different fields of knowledge, helps prepare for different types of exams, contributes to the expansion of ideas about the world and national cultures.

In developed countries, online learning has long been introduced into the educational process, but in developing countries such training is still not officially recognised. The study on this problem by M. Sofi-Karim et al. [30] indicate that to overcome some problems with online learning, it is necessary to open intensive courses for teachers and accompany the introduction of new media platforms. The analysis of educational platforms in Kazakhstan has shown that the society is ready for the active introduction of web resources for online learning

and applications that improve language skills, provide cognitive activity and professional growth. In particular, students are interested in implementing a systematic policy regarding the adaptation of new international platforms to the educational environment of Kazakhstan, which increases the chances in the labour market.

In the study by I. Hussain et al. [31], the role of the Internet in terms of improving the academic performance of undergraduate students was examined. The survey results (300 students, 40 teachers) showed that learning on online platforms increases social interaction, providing round-the-clock communication and availability of educational materials, which positively affects academic performance. However, the authors also highlight the drawbacks of such resources: issues during power outages and the possibility of encountering spyware programmes. Notably, the availability of materials and the breadth of the scientific and technical base help students to study independently at any convenient time. The introduction of educational platforms is necessary because they can provide great progress in professional and linguistic fields in a short time.

A study by B. Adeyeye et al. [32] is based on the examination of the effectiveness of Zoom and Moodle platforms for online learning using the example of the analysis of the academic performance of Nigerian students. It is aimed at determining the level of effectiveness, the impact of platforms on the learning process, and the formation of practical skills of students. The study established that the majority of students and teachers have a positive attitude to online learning resources after the COVID-19 pandemic. In Kazakhstani society, positive developments in this direction can be observed: new national web platforms are emerging, global web resources are being implemented for conducting classes, technical issues are being overcome, and the need for self-improvement and skill enhancement, including through applications, is being recognised.

The results of the study by A.Z. Al Rawashdeh et al. [33] in the United Arab Emirates showed the following statistics: 81% of students indicated that e-learning arouses interest in scientific materials, 80% of students noted a reduction in the distance between teachers and students, 73% of students indicated that with social isolation, such training increases the level of interaction between people, and 70% of students noted the presence of digital illiteracy on the part of parents, which reduces the effectiveness of online learning. Thus, despite the rapid development of information technology, there are still some problems that do not allow moving even further in the educational process. Based on this, it is important to understand that

online learning is necessary for the student's independent work but must be combined with conventional methods.

An analysis by Z. Almahasees et al. [34] showed that the key online platforms in Jordan were Zoom and Microsoft Teams, interactive online classes were also used, and WhatsApp was used as a tool for communicating with students outside of classes. Among the disadvantages of online learning were technical problems, data insecurity, and lack of adaptation of education for people with special needs. The advantages of such training were called low costs, convenience, and flexibility of the educational process. In Kazakhstan, the most popular learning resources are entertainment and educational platforms for children (BabyBus TV: Kids Videos & Games, Buddy.ai: English for kids, Miga Town: My World, Minecraft Education), web resources for online learning of foreign languages (Duolingo, EWA: Learn English & Spanish), and educational platforms for applicants and students (GetCourse, Joo – ҰБТ online дайындық app analytics).

A study by Z.M. Basar et al. [35] showed the following results regarding online learning: more than 93% of students indicated the convenience of online learning, 41.5% had low motivation to study, and 66.7% of students noted the ability to work in a group. Therewith, 98% of students confirmed the importance of conventional teaching methods. The implementation of the educational process through Internet platforms is distinguished, first of all, by the ease of use and availability of scientific materials, which allows for studying a variety of professions and acquiring a wide set of skills without leaving home. Conventional methods are also necessary to develop basic skills based on which students can continue learning in an online environment.

In the study by R.S. Al-Marouf et al. [36] it is indicated that students prefer online resources with a high level of content saturation, and educational platforms should have a high level of information quality. The main purpose of the study was to examine the factors that could motivate students to continue using online learning in parallel with conventional methods. Based on the results of this paper, the platforms with wide technical and educational opportunities, which contain courses, books, and online modules in various disciplines, are of most interest.

The learning process using digital platforms is often investigated in the context of their practical application in various fields, for example, economics, accounting, managerial, and entrepreneurial. In the study by B. Nicholson et al. [37] examines the process of stimulating programmes, offers different opinions on the further development of digital platforms, considering social, organisational, and economic factors. When analysing the educational Internet environment, it is necessary to consider various factors: social, political, religious, and economic. Only platforms that are maximally immersed in the global context will be able to gain priority in the market.

Distance learning gained new momentum after the coronavirus and became the only way to overcome the educational crisis around the world. S. Tadesse and W. Muluye [38] indicate that the following tasks were set before the world community: the formation of strategies for learning, the creation of free web resources, the introduction of new educational technologies, the

adaptation of curricula, improving the structure and expanding the functionality of virtual classrooms. Due to the integration of the world and the creation of national platforms for learning, the educational process has not stopped but has received new and broader opportunities.

During the COVID-19 pandemic, an unplanned transition to an emergency mode of distance learning took place. S. Iglesias-Pradas et al. [39] conducted an empirical study, interviewing undergraduate students studying in the speciality of telecommunications engineering. Students noted that after distance learning, academic performance improved. The process of integrating independent online learning and traditional working methods is effective, as it provides individuals with increasing opportunities to fulfil their professional potential in the context of globalisation and technological advancements in the world.

Thus, when comparing the results of the study with those of this one, it was determined that new digital technologies and educational platforms have a more positive effect on students' independent learning, expanding their prospects and opportunities in the global labour market, and contributing to the development of communication skills. The modern educational process should be aimed at the parallel introduction of conventional methods and Internet technologies, the effectiveness of such a strategy is confirmed by surveys of students.

Conclusions

The analysis of Internet platforms in an open educational environment allows optimising and accelerating the learning process through the introduction of modern technologies, and the use of technical capabilities of artificial intelligence. Therefore, the examination of educational platforms is necessary based on modern global challenges. During the coronavirus pandemic, the issue of continuing to provide education and finding ways to improve it in online learning has become acute. Comparative characteristics of the achievements of advanced educational platforms have shown that each of them has its own thematic focus, functionality, and technical capabilities. For example, the AnkiDroid Flashcards app has materials on medicine, geography, music, and law, while Coursera provides access to materials on physics, engineering, art, mathematics, and medicine, Duolingo is used for teaching foreign languages, including the less popular ones.

The achievements of educational platforms for teaching students to work independently are the following: vocabulary expansion, improvement of communication skills (Duolingo, AnkiDroid Flashcards), professional development, and improvement of professional skills in their field of knowledge (Coursera, TED-Ed, EdApp). Thus, each platform examined contributes to the improvement of certain skills and the development of new skills, therefore, when selecting it is necessary to consider all the parameters considered. During the study of the educational Internet environment, the rating of the most popular platforms for Kazakhstan and the following countries of the world was considered: Great Britain, France, the United States of America, Spain, Germany, Italy, Canada, Mexico, Japan, Egypt, and Malaysia. Based on the analysis of these countries for the use of educational

technologies in them, a diagram was compiled showing the percentage ratio between different areas of Internet education. Among them are the following: teaching foreign languages, cognitive and interactive learning, exam preparation, improving professional skills in passing courses and programmes, narrowly focused training in specific skills.

The results of the study showed that language learning resources are more popular in Kazakhstan than in the world (Kazakhstan – 54%, the world – 43%), which is most likely due to the active integration of Kazakhstanis into the world community. This is necessary to improve professional and communication skills and further represent personnel in the international labour market. A smaller gap in the percentage range is demonstrated by interactive format platforms (Kazakhstan – 22%, the world – 21%), and platforms for exam preparation (Kazakhstan – 11%, the world – 12%). Platforms for improving professional knowledge in the world occupy 15%, in Kazakhstan – 9%, a similar situation with narrowly focused platforms: Kazakhstan – 4%, the world – 9%. The purpose of this study was fulfilled, because the main applications and their

achievements were considered in detail, and an idea of the educational discourse of Kazakhstan and other countries of the world was formed. The priority tasks in the future scientific perspective are the following: research on new technical solutions and opportunities for improving the interface and introducing new functions into popular applications, forming an idea about the prospects of online learning in different countries of the world, determining the impact of online learning on the communicative and professional competence of students, considering pedagogical approaches to self-study using educational platforms, the investigation of historical retrospect and the process of transition from conventional teaching methods to online methods.

Acknowledgements

None.

Conflict of Interest

None.

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Інтернет-платформи у відкритому освітньому середовищі іноземною мовою для організації самостійної роботи студентів

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Анотація

Актуальність. Актуальність дослідження веб-ресурсів для навчання в глобалізованому світі у відкритому освітньому середовищі зумовлена необхідністю розуміння сучасних технічних механізмів, задіяних у навчальному процесі, їх досягнень та впливу на навчання.

Мета. Метою даного дослідження було сформувані уявлення про освітні платформи Казахстану та світу в цілому, вивчити вплив розглянутих платформ на навчальний процес під час самостійної роботи студента.

Методологія. Для вирішення поставлених завдань і реалізації мети дослідження в комплексі використовувалися такі методи: аналітико-синтетичний, порівняльний, графічний та статистичний.

Результати. У цьому дослідженні порівнювали такі освітні ресурси: Duolingo, Samsung Global Goals, Google Classroom, AnkiDroid Flashcards, Coursera, TED-Ed, EdApp. Вони розглядалися за такими параметрами: інтерфейс і технічні можливості, наявність наукових матеріалів, функціональність і сфера застосування, досягнення при використанні під час самостійної роботи. Рейтинг відкритих освітніх ресурсів представлений у вигляді таблиці за даними Google Play Store для таких країн: Казахстан, Великобританія, Франція, США, Німеччина, Італія, Іспанія, Канада, Мексика, Японія, Єгипет, Малайзія. Також були розглянуті платформи для навчання студентів, які активно набирають популярність: Coursera, TED-Ed, EdApp, Udemy, WizIQ, Blackboard Learn.

Висновки. Це дослідження дозволяє дослідити сучасну освітню парадигму шляхом порівняння навчальних ресурсів у різних країнах світу. Дослідження висвітлює розвиток Інтернет-технологій в умовах викликів глобалізації та дає уявлення про основні стратегії підвищення ефективності навчального процесу шляхом впровадження Інтернет-технологій і нових методичних інновацій.

Ключові слова: веб-ресурс; онлайн навчання; конвенційні методи; курси; професійно-комунікативна компетентність.