

## DIGITAL EDUCATIONAL CONTENT AS AN INNOVATIVE PEDAGOGICAL TECHNOLOGY AND ITS DIDACTIC POTENTIAL IN THE FOREIGN LANGUAGE PROFESSIONALLY ORIENTED TEACHING

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**Abstract:** In recent decades, the world has been rapidly moving towards a new type of economy, where digital technologies have become the main instrument of its formation. Such terms as electronic, informational and computer technologies are synonymous together with the general term "digital technology". The term "digital technologies" is used to describe the process of digitization, i.e. the scanning, conversion, processing and subsequent transmission of various multimedia data. Experts divide most of the digital innovations into evolutionary ones (changes expected by consumers) or revolutionary ones (solving technological problems of previous developments) i.e. sustaining innovation. Some of these technologies are referred to as disruptive technologies, capable of completely changing the formed ideas about the possibilities of technology and provide new opportunities to their manufacturers and users.

**Keywords:** Personal learning network, Virtual learning environment, Digital educational resources, Didactic characteristic, Didactic potential.

### 1 Introduction

Digital literacy of students and the ability to access, manage, analyze, integrate, evaluate and create information in a variety of ways is a priority of education in general.

Thus, in the state program "Digital Kazakhstan" for 2017-2020, one of the priorities is the development of a creative society, that is, a digital society that owns digital skills, which are the basis for the growth of all sectors of the economy and are important for ensuring the possibility of integrating the digital society and gaining access to digital services, as well as for improving competitiveness and productivity. This Program provides the level of education of graduates with the requirements of employers in the ICT industry. (1)

The term "digital content" is used as a term to describe three segments of the multimedia products market:

1. production of content in a digital format;
2. the multimedia products distribution in the digital environment;
3. consumption by users of the content produced and transmitted in digital format. (2)

According to a study by J'son & Partners Consulting, digital content is an informational, entertainment or gaming product distributed over digital networks or in digital format and consumed, recorded and copied without compromising the quality of the content. (3) There is another meaning of digital content in the Internet sources is a set of entertainment and information materials that are distributed electronically through special channels for use on digital devices: computers, tablets, smartphones. (4) Either it is an electronic digital file (or a file package) intended for delivery to the user via information and telecommunication networks with or without application of intermediate transformation for the subsequent reproduction of the corresponding file on the reproducing device of the user.

Multimedia content producers associate this term with any multimedia product created using digital technologies and presented in a digital format. For Telecom operators, digital content is a special type of transmitted data, characterized by specific requirements for the quality of transmission (for example, broadcast or multicast). According to Flerov (5), a candidate of pedagogical sciences, "Multimedia content is a virtual object in fact and can be used as a learning tool. Moreover, the content can be artificially created for this (learning programs), and used as a means of language learning, without being created for this purpose».

Here's the basic model, considering the types of digital content, ways of its implementation, as well as devices for content consumption (See Figure 1).

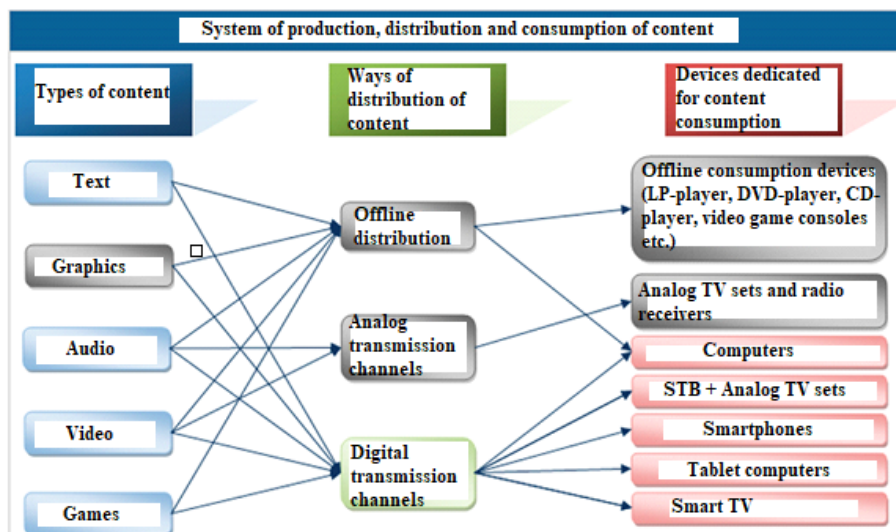


Figure 1. Digital Content

Figure 1 shows digital content that consists of:

1. Types of content: text, graphics, audio, video, and games.
2. Ways of distribution of content: offline distribution, analog data channels, digital data channels.

3. Devices for consuming content: non-network devices of consumption, analog TVs and radios, computers, smartphones, tablets, and smart TV.

J'son & Partners Consulting also includes music, mobile content, and e-books as the main types of digital content.

In the work of Korobkova and Kalinovsky (6) "Possibilities of use of digital educational resources in an educational process" is given the concept of "text", "graphics", used in a digital format in teaching foreign languages.

## 2 Materials and Methods

Illustrated texts in digital form are designed primarily to repeat the material of the textbook. The electronic form greatly facilitates the search for information in the text. Text objects can be incorporated into all forms and methods of teaching and used at different stages of an educational process, both teachers and students. Audio texts can be effective for repeating lesson material. They can be used as components of lectures, presentations during the explanation of the new material.

In digital educational resources, demonstration graphics are presented by diagrams, charts, drawings, photos and portraits of scientists. Graphics are not just analogs for traditional illustrations; they complement, didactically enrich the material and form a correct idea about the learning objects.

Authentic audio texts allow students to hear the speech of native speakers, which reflects the living reality and peculiarities of the national culture. Audio contributes to a significant improvement in the perception of English speech. (7) Unlike audio or printed text, which can certainly have a high informative, educational, and developmental value, video text has the advantage of combining different aspects of the act of speech interaction. In addition to the content of the communication, the video contains visual information about the place and the event, the appearance and non-verbal behavior of the participants in the communication in a particular situation, often due to the specifics of age, sex and psychological characteristics of the speaking individuals. Visual materials allow better understanding and consolidation of both factual information and purely linguistic peculiarities of speech in a particular context. (8) Thus, audiovisual communication technology (including educational) allows talented people around the world to become known due to the availability of their digitized creative product, worthy of imitation and inspiring others to similar acts.

Multimedia games and simulations in an online free encyclopedia may be used in a physical environment with special effects, with multiple users in an online network, or locally with an offline computer, game system, or simulator. (9) Multimedia games are a convenient, fast and effective way to present information, as well as an exciting test of learning with the help of computer programs. Thanks to the combination of computer animation, video, graphics, music and sound series, which are organized in a single environment, multimedia games for the longest time hold a person's attention.

According to the representative of Cambridge University Kirkman (10), digital learning content should include such

digital technologies in the classroom, contributing to the active learning of students both in the classroom and in the remote mode of learning:

1. Bring your own device (BYOD), for example using a mobile phone to find the necessary information as a part of the research work.
2. E-portfolios, students submit their e-portfolio online, which can include scanned sketches, photos, gallery visits, written reports, authoring video and audio using multimedia files.
3. Flipped classroom, learners study the learning material at home through watching online videos and resources and apply this knowledge to build a specific diagram in the process of collective and team discussion.
4. Personal learning network (PLN), an individual selection or collection of links to resources (online face-to-face courses) and network (Twitter), corresponding to certain interests and contributing to the exchange of information.
5. Virtual Learning Environment (VLE), it could be electronic educational system LMS MOODLE, or interactive whiteboard based on the web- technologies, providing access to course content, assessment, homework, external links to additional resources.

As regarding the development of digital educational content (e-content) in the sphere of Kazakhstan education, the President of the Republic of Kazakhstan Nazarbayev (11) states the following task in the "Strategy Kazakhstan-2050": "We expect to implement modernization of teaching methods and actively develop online education system".

E-books in Kazakhstan were designed by the National Centre of Investigation under the direction of G.K. Nurgaliyeva in all school subjects from 1 to 11 grades in the Kazakh and Russian languages but the problem is that the developed electronic textbooks are not widely used in the educational process. Schools that have access to electronic textbooks, recommended by the Ministry of Education and Science, is not more than 36%.

Another type of e-content is digital educational resources (DER), which were developed within the framework of the "E-learning" project. According to the Director of LLP "Bilim Media Group" Kenzhekhanuly R., DERs in English should be developed on the basis of authentic texts, multimedia files, and audio-visual materials should be recorded by native speakers at the studios of foreign partners. (12)

Digital educational resources (DER) represent photos, video fragments, static and dynamic models, objects of virtual reality and interactive modeling, cartographic materials, sound recordings, symbolic objects and business graphics, text documents and other educational materials in digital form that are necessary for the organization of an educational process. (13)

Considering the model of classification of digital educational resources and their application in an educational process, (6) electronic resources differ from other learning tools by interactivity and multimedia and help to avoid rapid fatigue of students in the classroom (See Figure 2).

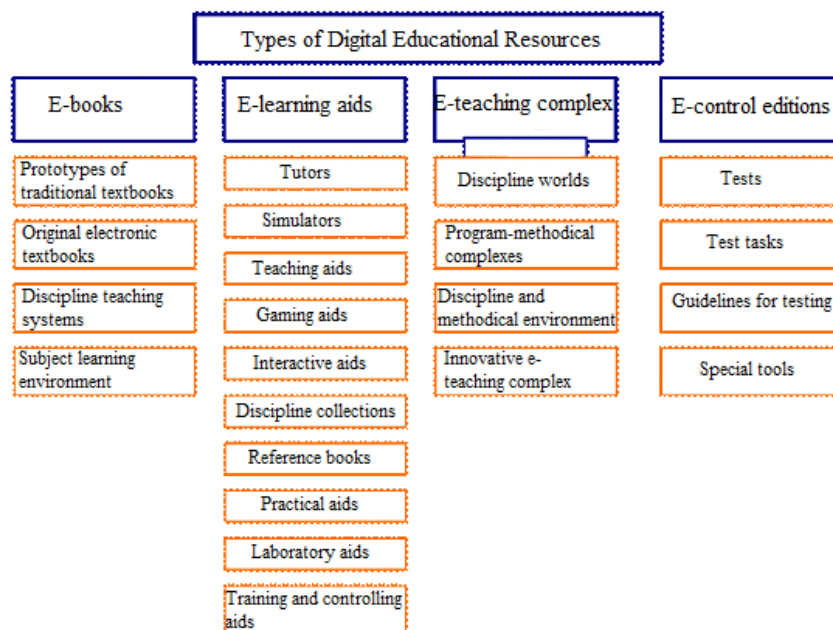


Figure 2. Digital Educational Resources

According to Figure 2, digital educational resources can be divided into e-books, e-learning aids, e-teaching complex, and e-control editions.

E-books include prototypes of traditional textbooks, original electronic textbooks, discipline teaching systems, and subject learning environment.

E-learning aids include tutors, simulators, teaching aids, gaming aids, interactive aids, discipline collections, reference books and dictionaries, practical aids, laboratory aids, and training and controlling aids.

E-teaching complex includes discipline worlds, program-methodical complexes, discipline educational and methodical environment, and innovative e-teaching complex.

E-control editions include tests, test tasks, guidelines for testing and special tools.

Electronic tutorials/learning programs are the most complete types of electronic resources to ensure the highest degree of autonomy of the student. They are very convenient and effective in a way of learning. Due to the wide choice of educational situations, the studied material can be worked out more deeply due to the repeated implementation of the given actions and necessary operations, development of practical skills and bringing them to automatism. These software tools enhance the effectiveness of an educational process in the classroom and are a means for the active cooperation between a teacher and a student. The selection of an electronic textbook depends, first of all, on the current educational material, the level of learning of students and their abilities.

Digital educational resources are divided into simple and complex types:

- Simple structured digital educational resource;
- Complex structured digital educational resource;

This model is a complex structured DER. A complex DER is a resource made up of elements that can be used separately as self-study educational resources.

Here is an example of complex DER:

1. Hypertext document with illustrations, allowing the division into separate sections (parts, chapters);

2. E-learning course on a specific subject (program), performed on a specific technology platform or requiring a specific environment (player) for use;
3. Test system;
4. Simulator;
5. Thematic catalog.

A simple DER is a resource that is capable of being used as a single unit and does not allow division into separate elements that can be used independently.

Here is an example of simple DER:

1. Article;
2. Illustration with accompanying text;
3. Book as a set of scanned pages with a table of contents;
4. Audio recording;
5. Video;
6. Presentation in MS Power Point format;
7. Separate media object of the learning course performed on a specific technology platform.

The DER is a set of interrelated educational facilities:

- symbolic objects (signs, symbols, texts, graphics);
- figurative objects (photos, pictures);
- audio information (oral texts, dialogues, music);
- video objects (animations, models, videos);
- "virtual reality" objects (simulators, interactive models, constructors). (13)

According to the type of digital educational resources can be allocated:

Electronic information products: database, presentation (demonstration), electronic magazine, electronic newspaper, multimedia recording.

Electronic submission of paper publications and information materials: a collection of scientific papers, articles, newspaper/magazine publication, practical guide, teaching guide, curriculum courses/disciplines, bibliographic reference, guidelines, a collection of tests, educational standard, lectures and much more.

Software products: application package, automated information and library system, system/application software, the automated management system of the educational institution.

Tools for creating e-learning tools: tools for creating electronic textbooks and instructional systems, tools for creating electronic exercise books, tools for creating electronic control systems of knowledge and psycho-physiological testing.

Software and information products: electronic dictionary, electronic reference book, electronic encyclopedia, information search system.

E-learning tools: tools of theoretical and technological learning, electronic book, electronic learning system, electronic control system of knowledge, tools of practical learning, electronic exercise books.

Comprehensive tools: e-learning course, e-rehabilitation course, e-laboratory workshop, educational computer game.

Specialized Internet resources: virtual library, search engine, Internet catalogue.

It is necessary to consider the requirements for the creation of a modern DER. They must:

1. Comply with the content of the textbook
2. Focus on modern forms of education
3. Provide the possibility of differentiation
4. Provide both self-study and group work
5. Contain options for academic planning
6. Be based on authentic materials
7. Exceed the volume of the relevant sections of the textbook, without expanding, at the same time, thematic sections.

Thus, in our study, digital educational content on the formation of students' foreign-language professionally - oriented competence is a multimedia content created with the help of digital technologies and includes both a virtual learning environment (VLE) and a personal learning network (PLN), corresponding to the specific requirements for teaching students of non-linguistic specialties of professional orientation and implemented in a digital format on digital devices (computers, tablets, smartphones).

Digital educational content (DEC) of the discipline "Foreign language professionally-oriented teaching" will include the following:

authentic illustrated texts (texts with sound review)

demonstration graphics (charts, graphs, drawings, photos)

authentic audio material (podcasting)

authentic video material (YouTube)

multimedia games (single player games: Sherlock Holmes: Crime & Punishment; Life is strange; Game of Thrones; the Wolf among us).

The use of digital multimedia content in foreign language education has certain specifics: it requires a pedagogical rationale, a clear planning, careful choice of electronic programs, precise selection of tools both promoting the achievement of the didactic purposes, and individual learning capabilities and needs of students.

As for the software product, we will create a complex structured digital educational resources consisting of separate elements:

- Learning-controlling DER
- Game-based DER
- Interactive DER
- DER to create a dictionary on a specific topic
- DER of tests

These digital educational resources can be used when explaining new materials, illustrating the presentation of the drawings, simple and animated diagrams, animated videos etc. Digital materials in the form of tests can be used to verify the assimilation of the individual topics of the course.

The development, improvement, and dissemination of information and communication technologies cause a significant impact on all components of an educational process, its goals, content, objectives, forms, methods, and ways of teaching. A didactic characteristic of a learning tool, including ICT, is a natural, technical, technological quality of the object, those of its aspects that can be used with didactic purposes in an educational process.

Pegov and Pyanykh (2010) distinguish three groups of didactic characteristics:

- 1) Didactic characteristics of the technologies of representation of educational information:
- 2) Didactic characteristics of the technologies of transfer of educational information:
- 3) Didactic characteristics of the technologies of the organization of an educational process:

These didactic characteristics allow ICT to perform didactic functions aimed at implementing certain aspects of the educational process (explanations, discussions, conducting controlling midterms, tests, creative works, etc.).

Didactic functions refer to the external features of learning tools used in an educational process to solve educational and developmental tasks. The didactic functions of ICT are largely determined by their interactivity, due to hypertext and multimedia technologies.

As mentioned above, our digital educational content (DEC) in the formation of a foreign-language professionally-oriented competence of students will include a virtual learning environment (VLE) and a personal learning network (PLN), there is a need to consider the didactic characteristics of certain learning tools that are part of the VLE and PLN [See table 1]

Table 1. Digital Content of Foreign Professionally Oriented Language Teaching

<i>Virtual Learning Environment</i>	Blogs, chat, e-portfolio, educational platform LMS MOODLE
<i>Personal Learning Network (PLN)</i>	Web resources: <ol style="list-style-type: none"> <li>1. website learning resources</li> <li>2. website teaching resources</li> <li>3. web 2.0 tools for language teaching</li> </ol>

### 3 Results and Discussion

#### 3.1 The Didactic Potential of the Virtual Learning Environment (VLE)

At the present stage, it is not possible to fully determine the didactic possibilities of virtual reality technologies, but some of them are already visible.

1. Virtual reality technologies allow to:

- intensify the educational process, significantly enhance the educational and cognitive activity of students and their motivation;
- effectively carry out the communicative interaction of subjects of an educational process, especially in cases when the verbal description of an object is insufficient for adequate transfer of information on it;
- simulate different situations to practice the appropriate skills and abilities;

2. An adequate application of virtual reality technologies in an educational process is able to provide:

- effective independent work of students in the framework of their interactive interaction with distributed electronic educational resources;
- implementation of a practice-oriented approach to learning through the development of learners algorithmic skills of information arrays;
- development of visual-figurative, visual-effective, intuitive, creative, theoretical thinking, as well as the effective formation of skills of analysis, synthesis, abstraction, and generalization;
- development of skills on the design of the objective world, creating abstract images and concepts, giving the learner a tool for modeling the studied objects and phenomena of reality;

Lubkov (14) states, that the use of virtual reality technologies in an educational process opens up broad opportunities for solving such didactic tasks as differentiation of learning, an organization of independent activities, and organization of joint activities of students in small groups of cooperation.

What do we consider under virtual learning tools?

Flerov (5) describes the didactic potential of virtual learning tools for teaching the English language, such as blogs and chat, which are types of software and network content. He characterizes these tools from a linguistic and methodological point of view and reveals the most effective methods and forms of work with them.

Blogs and chat as a means of teaching the language open up opportunities for teacher more unusual tasks that have methodological potential but so far infrequently used in English teaching. A blog is a web diary or an event log. Its main content is records added regularly. They can contain not only text but also images as well as multimedia. They are characterized by short entries, which are arranged in reverse chronological order (the last entry is on top). The difference between blogs and regular diaries is due to their environment: blogs are mostly public and assume other readers who may enter into a public discussion with the author of the records. Chat is an online resource that allows you to conduct written communication in real time. If the texts of the blogs represent the discourse, chat is actually a discourse in a written form. In addition, today there are also microblogging services, such as Twitter. Records in them are short; they are something between a blog and a chat.

Flerov (5) also considers the methodological value of blogs and chat for educational purposes:

1. To write comments on a blog.
2. To place the diary entries in a time sequence.

3. To write replicas of the chat on separate pieces of paper, then mix them and place in the correct order.
4. Blog yourself.
5. Blog yourself on behalf of a blogger friend and describe the same events from the outside.
6. Chat on the blackboard.

Sysoev (15), as well as Flerov (5), offers to use blog technology in teaching a foreign language. According to Sysoev (15) blog-technology has the following didactic properties:

- publicity (blogs are accessible to all project participants at a distance from each other);
- linearity (changes and additions are placed in chronological order);
- authorship and moderation (blogs have a unique authorship, moderation of the blog is carried out by its author);
- multimedia (the ability to use materials of different formats when creating blog content: text, graphics, photo, video, audio).

These didactic properties of blog-technology allow developing such types of speech activities like writing and reading. One of the first methodical works devoted to the use of blog technology in teaching a foreign language was an article by Kennedy (16), where the original blog was seen as a weblog to express students' thoughts.

Bloch (17) proposed a methodology for the development of skills in essay writing through blog technology. Students were required to publish their essays on blogs and then they need to discuss them online. The study showed that by the end of the course students developed the ability to write an essay, and also formed the skills of critical thinking.

In other work, Bloch and Crosby (18) offered a technique of the organization of network discussion and development of abilities to take part in a discussion in a foreign language on a blog of an educational group. The blog seemed to be the best way to organize a discussion of what was seen or read in a foreign language. The ability of students to express their own thoughts on various issues, as well as the opportunity to discuss their personal information for many researchers were the reason for the use of blog technology in the development of speech activities of students.

Sysoev and Evstigneev (19) carried out a range of writing and reading skills, developed through blog technology at the senior level of secondary education, and proposed a common algorithm for the development of writing skills of students through blog technology.

Pavelyeva (2010) offered the technology of skills development through participation in Internet discussions and skills of writing creative works of students of language high school on the basis of blog technology. In a number of studies, authors develop their own classifications of blogs depending on the purpose of the study. Downes (21) proposes to use three types of blogs: a) classroom web space (announcements, homework, etc.); b) a public communication area, where students publish the results of their work; c) a private space, reserved for the student's reflections, as well as for the teacher's instructions. According to Downes (21), these three blogs can be used in teaching a foreign language in the following way:

- 1) teachers use blogs instead of the standard classroom web page where they post the course schedule, homework, texts/articles for study and exercise;
- 2) teachers post Internet site addresses on a class blog that can be used by students to prepare for the study topic;
- 3) blogs are used to organize in-class discussions, allowing students and teachers to get to know each other better, to learn the opinions of others, to identify similarities and differences;
- 4) teachers use blogs to organize classroom seminars and to present their reports;

- 5) students are suggested to create their own blogs in which they report on the work done, i.e. perform exercises, write essays, articles on the proposed issues.

Sysoyev and Evstigneev (22) divide blogs into three types: a teacher's blog, personal blogs of students and a blog of study groups.

The next tool of VLE is an "electronic portfolio/web portfolio". Methodologists (23-25), involved in the implementation of this technology into educational process, most often define it as "a product created by a student, a collection of digital materials that reflect the experience, achievements, goals of a student and a learning process itself."

Electronic portfolios are an effective tool for developing a written form of communication (writing and reading skills), which provides the ability to repeatedly editing created text. The web portfolio provides an opportunity to significantly increase the motivation of students to learn a foreign language and culture in the process of creating educational products. It is a tool for permanent fixation of student's growth and development, their skills and knowledge. The electronic portfolio allows the teacher to clearly see how effectively the learning process of each student is. The creation and presentation of any educational product have a whole complex of processes, such as planning, synthesis, exchange, discussion, reflection, and feedback. All these processes form the basis of e-learning portfolio, which assumes that the learning process itself is no less important than the result. The student, while working on his portfolio, collects digital materials, guided by certain goals, so from the same set of materials, can be created different portfolios, depending on the target audience. A web portfolio is not only a system of organizing and storing files of various multimedia formats but also an administrative tool designed to organize and manage applications and control who can view the portfolio and provide feedback to students.

There are various platforms, systems to host web portfolios. Basically, they have the same characteristics, as they allow you to collect together different works and user files.

The most common examples of free web-based applications are Mahara and OSP (26), but Mahara site provides users with tools to create electronic portfolios, as well as social networks, to organize effective interaction between users. Mahara is a personalized learning environment as it has the following characteristics:

- teachers' tools to create electronic teaching materials of various formats (text, audio, video);
- ability to integrate social services Web 2.0 (blogs, wikis, podcasts);
- students' tools to perform tasks set by the teacher (files of various formats, the presence of a social network with the ability to create student mini-groups and forums);
- ability to structure stored files, which allows students to develop skills in organizing content web portfolio;
- demo function, with the ability to control the access of different users to the files. This feature allows you to work on all three types of the portfolio (working, presentation, and evaluation) at the same time;
- ability to organize internal and external feedback;
- ability to implement the principle of cooperation (organization and work groups on the project online);
- ability to export your portfolio and transfer it to other electronic portfolio systems. (27)

This app includes a social blogging service, CV constructor, file manager, and constructor of user's personal projects – a tool to create and structure user-created content. In addition, the system allows you to include links to other resources, which thus allows you to combine the use of different technologies Web 2.0 in one place, which simplifies the work of students. Mahara is also a social network with typical functions: 1) creation of a group of students, united by a single topic/issue or task, which allows you to create a community of students, 2) availability of

communication service "forum", which gives the opportunity to organize the work of students in mini-groups on a certain project, as well as to develop skills of written communication in a foreign language.

Thus, the use of electronic portfolios in teaching a foreign language to students can effectively solve the following didactic problems:

- creation of a natural language environment, which allows increasing students' motivation and cognitive activity;
- comprehensive systematic development of a linguistic and socio-cultural component of communicative competence through the use of structured thematically diverse resources of the Internet;
- development of the interactive component of communicative competence through the use of the electronic portfolio as a social network;
- development of students' information competence through direct active use of information and communication technologies, work on the collection, analysis, and structuring of portfolio content;
- development of skills of continuous self-education (internal and external reflection, the ability to negotiate, to prove their own point of view), contributing to the autonomy of students.

### 3.2 Didactic Potential of Personal Learning Network (PLN)

Personal Learning Network (PLN) is a system that helps learners take control and manage their own learning.

Didactic properties of PLN are as follows:

- display and transfer of information in text, graphics, audio, video and animation format via web resources;
- ability to search for information of interest;
- ability to consolidate knowledge and process skills;
- ability to evaluate knowledge, skills, and abilities;
- organization of communication with the teacher.
- storage and systematization of information;
- dissemination of information in various forms;
- ability to organize the discussion of the proposed topic, consultations and other forms of activities;
- ability to demonstrate educational information in a multimedia, graphic form;
- ability to organize group participation in discussion and interpretation of information;

Didactic functions of PLN:

1. Multilevel presentation of the material; convenient in the organization of independent work; allows to study and review the material from the highest level and to fall to the lower levels for detailed study of the material again.
2. The visibility of the studied material by presenting information in multimedia technologies in the form of three-dimensional graphics, diagrams, photographs, video clips, sound, animation and allows you to organize any type of the lesson, independent work, to revive the lecture; to demonstrate the virtual processes and phenomena.
3. The diversity of work - from the study of theoretical material to its consolidation and verification.
4. Modeling of processes, phenomena, objects with the help of computer constructors and simulators in practical and laboratory work that allows you to gain knowledge, skills and practice the knowledge in real situations.
5. Providing possibility of searching necessary educational information with use of the Internet and telecommunication technologies that allows:

- to organize joint research work (project method);
- to organize distance learning for different categories of students;
- to exchange information, ideas, plans with participants of joint projects;

- to develop communication skills and a culture of communication.

6. The possibility of individualization of the learning process.

In our work, the PLN of modern digital educational content includes such web resources that have proven their effectiveness in the practice of teaching a foreign professionally oriented language: website learning resources, website teaching resources, web 2.0 tools for language teaching (See table 2).

Website learning resources include links for self-study in the remote distance on a specific topic that is planned and given by a teacher. It also considers reading, language, developmental, and ability levels; include qualitative and quantitative assessment, and contain comprehensive teacher guides.

Website teaching resources help a teacher with regularly updated lesson plans and classroom materials; get tips, articles, and information about professional development, conferences, and qualifications.

Web 2.0 tools that can be used by teachers who are interested in using technology in language teaching.

Web 2.0 enables:

- Socialization - our students can use the language and skills they are learning to build networks and develop relationships with real people
- Collaboration - They can work together with others to construct and share real knowledge.
- Creativity - They can create genuine products, in a wide range and combination of media to high standards that will have a real audience.
- Authenticity - The tasks and activities they do and the people they communicate with to do them are real and motivating.
- Sharing- They can share what they create and learn from each other.

Table 2. Collection of Links to Resources, Aimed at Foreign Professionally-oriented Language Teaching for Students of Non-linguistic Directions

<b>Collection of links to resources, aimed at foreign professionally-oriented language teaching for students of non-linguistic directions</b>	
<b>Virtual Learning Environment (VLE)</b>	<p><b>Twitter</b>-microblogging network</p> <p><b>Pinterest</b>-social networking</p> <p><b>Edmodo</b>– Safe microblogging and virtual learning platform that resembles Facebook and Twitter. Create assignments, grade or give a digital badge.</p> <p><b>Kidblog</b>– Free blogging for students. Set up login names and passwords, no registration needed.</p> <p><b>Edublogs</b>– Free blogging and virtual classroom platform especially made for teachers. Free app.</p> <p><b>Wix</b>– One of the best free tools for creating a high-quality website. Choose from templates and include many apps to make it interactive.</p> <p><b>Mahara</b>- free web-based electronic portfolios</p>
<b>Personal Learning Network (PLN)/ Website learning resources</b>	<p>www.voscreen.com, learningenglish.voanews.com, BBC Learning English, TED talks,</p> <p>www.kazakhstan.com, www.khanacademy.org,</p> <p>www.purposegames.com, www.usingenglish.com, Youtube.</p>
<b>Personal Learning Network (PLN)/ Website teaching resources</b>	<p>www.onestopenglish.com, www.linquahouse.com, www.breakingnewsenglish.com, www.eslflow.com,</p> <p>www.allthingstopics.com, www.michellehenry.fr, learnenglish.britishcouncil.org</p>
<b>Personal Learning Network (PLN)/ Web 2.0 tools for language teaching</b>	<p><b>Web 2.0 Tools for Language Teaching:</b></p> <p><b>Game-based learning and quiz:</b></p> <p>Sherlock Holmes: Crime &amp; Punishment</p> <p>Life is strange</p> <p>Game of Thrones</p> <p>The wolf among us</p> <p><b>Quizlet</b>– make flash cards with vocabulary lists or choose from many flash cards users have already created. Play various games with these vocabulary lists and access on any mobile device with the free app.</p>

	<p><b>Infused Learning</b>– create multiple choice, true/false, polls, quizzes, or games that students access on any device.</p> <p><b>Kahoot</b>– create trivia quizzes accessible on any device. Students are then prompted to make their own.</p> <p><b>VoiceThread</b>– interactive way to present stories, images, or host discussions. Parents and students can leave comments by text, video, or audio. They can draw on the images and choose avatars.</p> <p><b>Podcast and audio recordings:</b></p> <p><b>Vocalremover.ru</b>-record audio, add music and sound effects</p> <p><b>Vocaroo</b>– easily record audio then email to students who can record audio back. No registration is required. You can also send a link or download the clip.</p> <p><b>Spreaker</b>– record 10 hours of audio total and add music and sound effects. www.podomatic.com www.bbc.co.uk</p> <p><b>Video-based learning:</b></p> <p><b>Vialogues.com</b> is a tool for creating a video-based discussion. Language teachers can use this tool to create lessons around video. Teachers can also add polls and quizzes and comment on the video lesson. Students can post comments related with the video.</p> <p><b>Magisto</b>– create a video with up to 25 clips or 30 photos, choose a theme and soundtrack, and add text, images, and video clips.</p> <p><b>ZimmerTwins</b>– choose from various characters, type in the dialogue, choose your background scene, and create a fun movie.</p> <p><b>Multimedia posters, presentations, e-magazines, e-books:</b></p> <p><b>Bunce</b>– create multimedia posters, scrapbooks, or slides with audio, video, stickers, templates, text and more.</p> <p><b>Canva</b>- create e-magazine, business card, uploading images, pictures and text, record own voice.</p> <p><b>Flipboard</b>– create a personalized digital magazine with your bookmarks and feeds from social media (Twitter, RSS, blogs, Flickr, Facebook, and Instagram)</p> <p><b>Popplet</b>– students can collaborate on a mindmap that includes Flickr images, Youtube videos, links, text, and their own images and drawings.</p>
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Strokan (28) justifies the relevance of the use of these Internet resources/web resources in teaching foreign languages, examines their types and characteristics, as well as proves the productivity of their use for better assimilation of basic knowledge.

#### 4 Conclusion

The latest multimedia technologies help to quickly and effectively master oral forms of communication, correct pronunciation, learn the grammatical rules, master fluent reading and deep understanding of authentic texts, create real situations of communication, remove psychological barriers and increase interest in the language. In the context of foreign language education, Internet technologies allow creating a technological learning language environment for the formation of foreign language competence of students. (29)

Web resources provide teachers and students a special program of teaching foreign languages, cross-cultural material, news

about economy and politics, culture, authentic literature, the selection of which teacher can conduct independently and adapt to specific learning goals. Students, in turn, with the right choice of material, programs, resources have the opportunity to participate in Internet conferences, webinars, competitions, create multimedia presentations in the process of working on projects.

Famous American scientist Krystal (30) in his publication "Language and the Internet" defines several reasons why it is necessary to use the Internet in the teaching of foreign languages. He argues that one reason is that the linguistic nature of online communication is necessary to improve language learning. Another reason for the effectiveness of the use of the Internet in teaching foreign languages, according to the scientist, is that web resources create favorable conditions for learning writing, as online resources provide the audience for written communication. The next reason is that communication online several times increases the motivation of students to learn a



living language, and also gives a positive effect on a large amount of time spent by students on the Internet.

Strokan (28) believes that the use of Internet resources in a foreign language lesson allow:

- to provide a stable motivation for foreign language learning;
- to create a comfortable atmosphere for a lesson;
- to ensure a high degree of personalized learning;
- to increase the amount of work and increase the amount of knowledge, skills acquired in the classroom;
- to improve the quality of control of students' knowledge;
- to efficiently plan and organize the learning process, thereby increasing the effectiveness of the lesson;
- to form communicative competence of students through authentic materials;

Sysoev et al. (31) found that educational Internet resources are created exclusively for educational purposes and can be aimed at the development of foreign language communicative competences (by types of speech activity: productive (speaking and writing) and receptive (listening and reading)).

Internet applications, computer-based teaching programs and resources of educational platforms play a huge role in foreign-language professionally-oriented teaching. Burenkova (32) in scientific publication considers the didactic potential of such multimedia programs and platforms as Quizlet, Moodle, Wiki, VoiceThread, XMind, which form linguistic competence of students.

In the modern methodology of teaching foreign languages, there are the most common Internet technologies, such as holist (thematic list of links), multimedia scrapbook (multimedia album), treasure/scavenger hunt (treasure hunt), subject sampler (collection of examples), web quest. (33) A more detailed description of the online technologies is given by Chistobaeva and Shadje (34) in their publication "Innovative pedagogical technologies of teaching foreign language in non-linguistic universities". Poklad (35) describes the didactic function of teaching web quest in the classroom.

The next innovative digital Web 2.0 tool for language learning is the podcast. The podcast is an audio or video recording made by any person and available for listening or viewing on the World Wide Web. The podcast is a type of Web 2.0 social service that lets you listen to, view, create, and distribute audio and video recordings. On the Internet, you can find both authentic podcasts

created for native speakers (for example, BBC news) and educational (for educational purposes). For English language learners, the podcast directory is available at [www.podomatic.com](http://www.podomatic.com) [www.bbc.co.uk](http://www.bbc.co.uk). This service of podcasts allows students to listen to and view online podcasts, record and place on one of the podcast servers own podcasts on any topic. Most prominent podcast server is YouTube. On YouTube, every registered user can post his/her video podcast, view others, as well as participate in discussion/commenting podcasts in microblogs (15).

Sysoev (15) identifies the following didactic properties of a podcast:

1. the ability to place personal podcasts of users on the Internet;
2. the ability to create a personal area of the user on the service of podcasts (personal user area necessary for organizing a network discussion of a podcast);
3. the ability to organize online discussion of the podcast in the personal area of the user in the microblog;
4. the creation of the user's personal zone and its moderation are carried out by the podcast author;
5. posting comments in network discussion of a podcast is made chronologically;
6. accessibility of podcast to view all registered users of the service.

Since podcasts develop listening skills, it should be based on the type of texts, which students will meet in real life. A number of studies show that the use of podcasts in the development of speaking skills significantly increases the motivation of students and brings diversity in the process of language learning at school and university. (36) In addition, Solomatina (2011) in her research work defines the range of linguistic skills developed through podcasts (listening and speaking skills). The highlighted language skills (speaking and listening) match the skills identified in the requirements to the level of teaching students at all three stages of education (primary, secondary and senior) in secondary school and university. This means that the use of podcasts in teaching a foreign language can occur on a daily basis.

In our research work, we define the following skills of students of non-linguistic specialties in foreign language professionally oriented teaching with the use of digital technologies (See Figure 3 and 4).

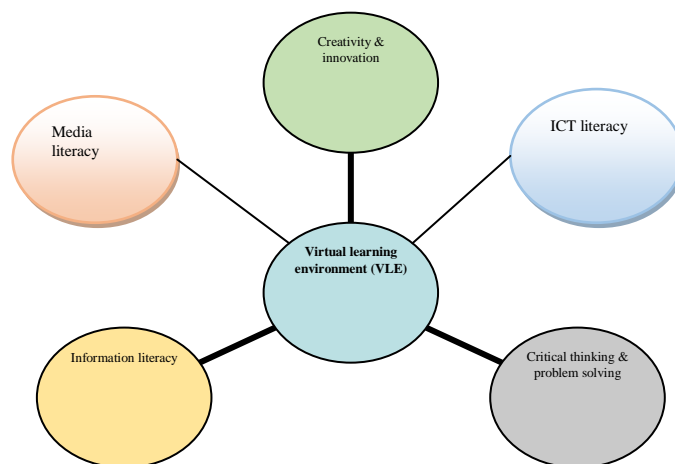


Figure 3. Descriptors of students' skills with the use of virtual learning environment (VLE).

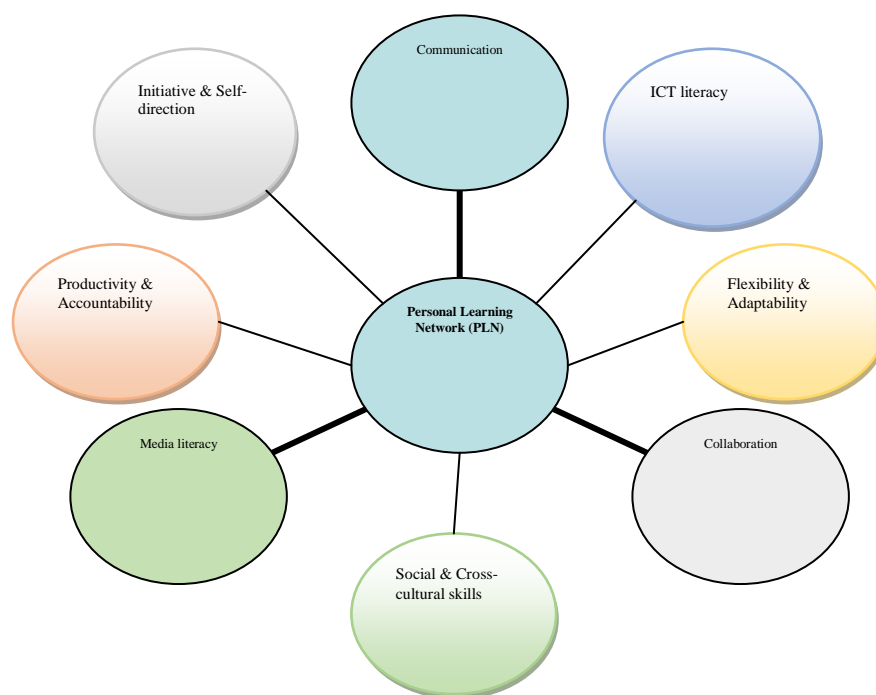


Figure 1. Descriptors of students' skills with the use of personal learning network (PLN)

#### Literature:

1. Nazarbayev N. On the strategic development plan of the Republic of Kazakhstan until 2020. The state program "Digital Kazakhstan" for 2017-2020. (Publication No. 922 of February 1, 2010). Astana: President of the Republic of Kazakhstan; 2010.
2. Kashtanov P. [Internet]; 2012. Available from: [http://www.tadviser.ru/index.php/Статья:Цифровой\\_контент](http://www.tadviser.ru/index.php/Статья:Цифровой_контент)
3. J'son & Partners Consulting. The market of digital content in Russia and the world, 2009-2013 [Internet]; 2012. Available from: [http://www.json.ru/poleznye\\_materialy/free\\_market\\_watches/analitics/rynok\\_cifrovogo\\_kontenta\\_v\\_rossii\\_i\\_mire\\_2009-2013/](http://www.json.ru/poleznye_materialy/free_market_watches/analitics/rynok_cifrovogo_kontenta_v_rossii_i_mire_2009-2013/)
4. Semantica [Internet]; 2017. Available from: <https://semantica.in/blog/czifrovoy-kontent.html>
5. Flerov O. Virtual techniques of teaching English language. Journal of Educational Resources and Technologies. 2015; 1(9):28-33.
6. Korobkova K, Kalinovsky Y. Possibilities of using digital educational resources in an educational process. IV International student electronic scientific conference. Student Science Forum; 2012.
7. Kareva, N. Use of authentic audio and video materials to increase the motivation for learning a foreign language. Naukovedenie. 2014; 3(1-8).
8. Barmenkova O. Video lessons in the system of teaching foreign speech. Foreign languages at school. 2010; 3:20.
9. Sullivan I. Multimedia [Internet]; 1979. Available from: <https://en.wikipedia.org/wiki/Multimedia>
10. Kirkman, Ph. Digital technologies in the classroom. Cambridge International Examinations, November; 2015.
11. Nazarbayev N. Strategy "Kazakhstan-2050." [Internet]; 2012. Available from: [http://www.akorda.kz/ru/addresses/addresses\\_of\\_president/poslanie-prezidenta-respubliki-kazakhstan-nazarbaeva-narodu-kazahstana-14-dekabrya-2012-g](http://www.akorda.kz/ru/addresses/addresses_of_president/poslanie-prezidenta-respubliki-kazakhstan-nazarbaeva-narodu-kazahstana-14-dekabrya-2012-g)
12. Bapakova S, Baitlesov Zh. Development of digital educational content (e-content) in the sphere of Kazakhstan education [Internet]; 2018. Available from: <http://nomad.su/?a=3-201311200034>
13. Gorokhova L. The application of digital educational resources in the lessons of mathematics [Internet]. In Festival of pedagogical ideas "Demolesson"; 2017. Available from: <http://otkrytyyurok.rf/statyi/411543/>

14. Lubkov R. Didactic potential of the virtual educational environment [dissertation]. [Samara]; 2007. p. 102-142.
15. Sysoev P. Blog-technology in learning a foreign language. Journal of Language and Culture. Russia; 2012.
16. Kennedy K. Intellectual property in the digital age. Technology & Learning. 2001; 2.
17. Bloch J. Abdullah's Blogging: A Generation 1.5 student enters the blogosphere. Language Learning and Technology. 2007; 2: 25-37.
18. Bloch J, Crosby C. Blogging in academic writing development. Handbook of Research on Computer-Enhanced Language Acquisition and Learning. N.Y.: Information Science Reference; 2007.
19. Sysoev P, Evstigneev M. Methodology of teaching a foreign language using new information and communication Internet technologies. Rostov-on-Don: Phoenix; 2010.
20. Pavelyeva T. Technique of development of skills of written speech of students by means of educational Internet-blog (English language, language high school) [dissertation]. [Tambov]; 2010.
21. Downes S. E-Learning 2.0. In eLearn Magazine [Internet]; 2007. Available from: <http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1>
22. Sysoev P, Evstigneev M. Technologies Web 2.0: Social blogging service in learning a foreign language. Foreign languages at school. 2009; 4:12-18.
23. Barrett H. Researching Electronic Portfolios and Learner Engagement: The REFLECT Initiative. Electronic Portfolio issue of the Journal of Adolescent and Adult Literacy (JAAL-International Reading Association). 2007 Mar 8; 436-449.
24. Campbell J. Electronic Portfolios: A Five-Year History. Computers and Composition. 2007; 2003:94-185.
25. Stefani L, Mason R, Pegler C. The educational potential of e-portfolios. London: Routledge; 2007.
26. Safonova O. Integration of e-portfolios into the process of developing professional competence of Applied Linguistics students. Technologies and techniques in education. 2010; 6.
27. Gerbic, Ph. Collaborative self-study supporting new technology: The Mahara e-portfolio project. The ASCILITE Conference; 2008; Melbourne.
28. Stokan V. The actuality of using Internet resources in teaching a foreign language. Scientific and methodical electronic

journal "Concept" [Internet]. 2017; 8:61-66. Available from: <https://e-koncept.ru/2017/470109.htm>

29. Bogomolov A. Virtual language environment for teaching Russian as a foreign language (linguocultural aspect). Bulletin of the Russian University of Peoples' Friendship. Series: Education Issues: Languages and Specialty [Internet]. 2008; 4:14–17. Available from: <https://cyberleninka.ru/article/n/virtualnaya-yazykovaya-sreda-obucheniya-russkiy-yazyk-distantsionno-pomaterialam-smi-struktura-i-soderzhanie-uchebnogo-kontenta>

30. Krystal D. Language and Internet. Cambridge; 2006.

31. Sysoev P, Evstigneev M. Use of modern educational Internet resources in teaching foreign language and culture. Journal of Language and Culture. 2008; 100-110.

32. Burenkova S. Multimedia bases of formation of the linguistic competence. Bulletin of the Siberian Institute of Business and Information Technology. 2014; 3(11):93-101.

33. Walkers Yu. History and advantage of a method of projects in the educational process of a modern higher education institution. In: Method of projects: the scientific methodical collection; 2003.

34. Chistobayeva L, Shadje Z. Innovative pedagogical technologies for teaching a foreign language in a non-linguistic institution. Journal of the Maykop State Technological University. 2015.

35. Poklad N. Using the web-quest for the development of information and communication competence in English classes [Internet]. Employee social network of education nsportal.ru; 2013. Available from: <https://nsportal.ru/shkola/inostrannye-yazyki/library/2013/01/28/ispolzovanie-veb-kvesta-dlya-razvitiya-informatsionno>

36. Solomatina A. Development of speaking and listening skills through podcasts. Language and Culture. 2011; 2(14):130–134.

**Primary Paper Section:** A

**Secondary Paper Section:** AM, AI, AJ