USE OF INTERNET RESOURCES IN FOREIGN LANGUAGE LEARNING

N. Sigacheva, G. Eremeeva, M. Sigachev

Kazan (Volga Region) Federal University (RUSSIAN FEDERATION)

Abstract

The relevance of the problem under study is due to the need to improve students` knowledge of a foreign language and the level of professional competencies related to information technology. Currently, the Internet, having enormous educational potential, at the same time causes difficulty for students in choosing the relevant resources, since there are no theoretically justified and practice-tested criteria for their evaluation. This fact also applies to the use of Internet resources for foreign language learning.

The purpose of the work is to identify, evaluate and compare Internet resources for learning English to IT students, to develop criteria and methods for evaluating Internet resources and their effectiveness in the educational process.

Methodology. Research methods of studying, generalizing, analyzing pedagogical scientific literature and teaching experience on the problem of Internet-resources in foreign language learning, as well as empirical methods of data collection such as the method of interview and the expert assessment method were used.

The main result of the study is the developed criteria for the analysis of Internet resources. Among the most important are: the professional orientation of the resource, the opportunity to create a personal account and study for free, accessibility and friendly use of the resource. The 10 most effective Internet resources have been identified that improve the level of proficiency in English in the IT field. A point rating has been established for 38 Internet resources, allowing teachers and IT students to choose the most effective resource.

Conclusion. Currently, the use of Internet resources for foreign language learning is of increasing scientific interest. Identification and evaluation of the most effective of them should be based on scientifically developed methods and evaluation criteria. Further prospects for scientific research involve improving and detailing the criteria, levels and methods for assessing IT resources for various areas of education.

Proposal. Students should be able to process, assimilate and use a large amount of information in the process of foreign language learning. To solve this problem, Internet resources in the educational process are being updated. Using the developed criteria for evaluating Internet resources, teachers and students will be able to identify the most effective of them independently and objectively. The research materials may be useful in the practice of foreign language learning, as well as in organizing extracurricular work in English.

Keywords: Foreign language learning, Internet resources, online resources, educational platforms.

1 INTRODUCTION

The current stage of development of the information society requires high educational level of graduates of higher educational institutions. Students should possess language competences, be able to process, assimilate and use a large amount of information in learning activities. To solve this problem, the use of Internet resources in the educational process is being updated. At the same time, scientists note that due to the wave-like development of the Internet industry and the digital transformation of education, teachers and students come across problems with a large number of newly developed Internet resources that do not always meet educational goals and offer low-quality educational content [1], [2].

The Internet has become an indispensable source of knowledge for students. The researchers found that, despite the availability of printed educational and scientific literature, when preparing for laboratory and practical classes, the Internet is the most important source of information (36.3%) for students. 80% of the students surveyed believe that they would not be able to study successfully without access to the Internet because the Internet provides relevant information for studying (50%) [3]. For IT students, knowledge of English is a necessary competency, since the programming languages are developed in

English. In addition, specialized literature is published in English. Finally, specialized certification in Information Technology and Professional Communication is offered in English.

Federal state educational standard of higher education in areas of training in the field of information technology: "Information security", "Information systems and technologies", "Applied mathematics and computer science", "Fundamental computer science and information technology", "Business Informatics" at the legislative level establishes the requirement for graduates who have mastered the bachelor's program to have the ability to communicate in oral and written forms in a foreign language to solve problems of interpersonal and intercultural interaction [4].

The study and analysis of the practice of teaching a foreign language in universities shows the increasing interest of students in the use of teaching Internet resources. Educational online resources, websites, platforms, databases and applications are used to supplement or expand the content of the discipline, both within traditional classes and for self-study. In foreign language classes the teacher develops students' skills and abilities in reading professionally oriented authentic texts; enriches the vocabulary of future IT specialists and their horizons; forms stable motivation to learn foreign languages using the Internet [5], [6].

The prerequisites for the widespread use of Internet resources for educational purposes raise a number of problems: difficulty in choosing the most effective resources; lack of identified and theoretically based evaluation criteria; lack of published research on the experience of practical use of Internet resources for teaching foreign languages in the IT field. These contradictions form the scientific problem of the study - what criteria and levels contribute to the correct search and use of educational Internet resources for learning a foreign language in the field of IT at the university. The solution to this scientific problem will be facilitated by achieving the set research goal - to identify the most effective Internet resources using the developed criteria [7], [8].

2 METHODOLOGY

In the process of theoretical research of the problem of using Internet resources in foreign language learning, theoretical methods of study, generalization, analysis of pedagogical scientific literature and pedagogical experience were used to obtain objective and complete data, as well as to identify the level of elaboration of the scientific problem. The method of expert assessment, and interviews with students of the Kazan Federal University made it possible to determine the criteria for evaluating Internet resources and identify the most effective ones.

3 RESULTS

The next part of the study includes two stages: study and analysis of pedagogical literature on the problem of using Internet resources for learning a foreign language, as well as development and application of criteria for evaluating resources in practice.

In the study, the authors relied on scientific works related to the development of criteria for selection, evaluation, the potential of web resources and their effectiveness for learning foreign languages.

3.1 How to identify, evaluate and compare Internet resources for learning English

3.1.1 Literature review: studying the level of the problem development

The problem of using Internet resources in the educational process attracts the attention of scientists. Researchers study the advantages and disadvantages of using modern Internet resources in teaching foreign languages [1], [2]. The use of Internet resources in the process of teaching a foreign language in linguistic and non-linguistic universities is analysed [7], [9]. Scientists also pay attention to the study of the readiness of students in non-linguistic areas to use network resources when teaching foreign languages [10].

In the framework of this study, the authors relied on scientific works related to the development of criteria for selection, evaluation, the potential of web resources and their effectiveness in teaching foreign languages [5], [11]. R.J. Blake studies the most effective ways to use computer and Internet technologies in teaching foreign languages, paying special attention to the problems associated with distance learning and organizing the relationship between theory and teaching practice [12]. B. Ghasemi and M. Hashemi in their scientific work highlight the potential of ICT as a powerful tool for teaching a foreign language and the impact of this technology on learning a second language [13].

J.A. Telles in his study examines the process of teaching foreign languages and students' reactions to the television tandem. The scientist defines online teletandem technology, collects empirical quantitative and qualitative data using an online questionnaire, and reveals the relevance and prospects of educational processes, resources, actions and strategies of teachers and students using teletandem as a method of intercultural online contact for learning foreign languages [14].

R. Godwin-Jones believes that the digital transformation of the educational process contributes to the development such qualities such as initiative, perseverance and creativity, the ability to recognize and respect the independent choices of other students and teachers [15].

A. Kaminski, J. Nouri and R. Yangarber in their study analyze Revita, a web-based platform for language learning beyond the beginning level of computer-assisted learning (CALL) and intelligent tutoring systems (ITS). Scientists not only offer a description of the characteristics of CALL and ITS, but also point out their shortcomings and note that Revita, an open platform developed at the intersection of CALL and ITS, introduces intelligent language technologies into free online language teaching and effectively eliminates the shortcomings inherent in existing currently systems for learning foreign languages [16].

Scientists identify a number of reasons for the advisability of using the Internet in learning foreign languages. First, the linguistic nature of online communication is essential for enhancing language learning. Secondly, web resources create favourable conditions for teaching writing, as they provide an audience for written communication. And finally, online communication increases students' motivation to learn a living language several times [10].

Researchers classify the educational potential of Internet resources in accordance with their purpose or educational purpose - universal, solving a complex of problems, and specialized, serving a specific task. At the same time, scientists note such specific advantages of Internet resources as accessibility, authenticity and interactivity. Scientists consider the expansion of the use of the Internet in teaching foreign languages for the collection, storage and processing of professionally significant, relevant and authentic information; to create, publish and present your own materials; for organizing online communication for educational or research purposes, for distance learning and monitoring the assimilation of educational material; organizing independent work [17].

For our research, the scientific works of E.Ya. Sokolova and E.V. Zhdanova are of interest. The authors analyze the effectiveness of using Internet resources in teaching foreign languages using developed criteria and parameters. Scientists consider the communicative potential of resources in teaching professional English; analyze the prerequisites for implementing an individual approach and modeling situations related to professional activities. At the same time, E.Ya. Sokolova pays attention to the reliability of the source, the presence of links to sources of information, correctness of information, objectivity and authenticity of the material, regularity of content updates, professional orientation, that is, functionality, quality of the site [11], [17].

E.V. Zhdanova presents six criteria for evaluating resource sites in her study. The scientist proposes to evaluate the effectiveness of using resource sites for teaching foreign languages, taking into account the authorship of the site, the regularity of content updates, the speed of loading information, the comfort of working on the site, the possibility of interactive communication with the authors and the artistic design of the site. The author presents the criteria for evaluating educational sites, which almost completely coincide with those indicated above, excluding the criterion of originality and ease of access to the site [11].

The study and analysis of scientific, pedagogical, and research literature showed that despite the relevance of the research topic and the publication activity of the authors in the field of solving this scientific problem, the aspect of assessing the effectiveness of using Internet resources for learning a foreign language has not been sufficiently studied and practically not tested. It is necessary to identify and theoretically substantiate evaluation criteria, as well as using these criteria in teaching practice for classroom and self-work of students. Pilot experimental studies allow us to determine the correctness of the established criteria and their user suitability for deep analysis.

3.1.2   Internet resources: Criteria and methods of assessment development

To evaluate the effectiveness of online educational resources, it is necessary to develop criteria and determine a rating scale. During the English class, a motivational interview was held with the students, as a result of which the students expressed a desire to take part in the study. The experts were second-year students of the Institute of Computational Mathematics and Information Technologies of the Kazan

Federal University, studying a professional foreign language and foreign language teachers. A total of 176 students and 7 teachers took part in the study.

In the process of the study, the experts had the opportunity to propose their own versions of criteria for assessing the effectiveness of Internet resources that students use in the process of learning a professional foreign language. As a result of discussions in expert groups, the criteria were identified and included: the professional orientation of the resource, the opportunity to create a personal account and training without any fee, accessibility and friendly use of the resource, the availability of incoming testing that allows you to study in accordance with the level of proficiency in a professional foreign language, as well as final testing, identifying the student's progress in knowledge of a professional foreign language. Experts have found that an important criterion is the opportunity to learn English according to an individual program, in a non-tiring game form using videos, films, music, interact with a teacher and other users, receive online consultations from teachers and use the mobile version.

As an important criterion for the effectiveness of an online educational resource, teachers of professional foreign languages noted the accessibility to site library resources, monitoring of the student's personal progress, the opportunity to leave feedback and receive a certificate. Teachers also considered it important to include in the content of the resource all types of activity in teaching a professional foreign language, namely: grammar, translation, speaking, listening comprehension, and writing. The analysis of each resource ends with an answer to the question: does this resource, in your opinion, contribute to improving the level of proficiency in a professional foreign language?

The experts compiled a passport of each resource with metadata, which included: name of the resource, developers, date of development of the resource, goals and objectives of the resource, target group, link to the resource, and also scored each criterion with one point. The maximum number of points was 25. Quantitative analysis was carried out taking into account the points assigned by each expert to this resource and calculating the arithmetic average. During the research process, 38 Internet resources were considered, including portals, forums, websites, online courses, textbooks and dictionaries. In total, three levels of rating of educational Internet resources were identified: 3rd level - from 1 to 10 points; 2nd level – from 11 to 20 points; 1st level – 21-25 points. Table 1 presents the analysed Internet resources in accordance with the level of the identified rating.

Table 1. Rating of Internet resources for learning a foreign language.

	1st level resources	points	2nd level resources	points	3d level resources	points
1	Skyeng	22.5	edX	20	Herding Code	10
2	Coursera	22.2	Lingoda	20	CyberForum	9
3	Udemy	21.8	BBC Learning English	19.8	-	-
4	Skillbox	21.6	English Dom	19.7	-	-
5	Englex	21.4	Enline	19.5	-	-
6	Puzzle-English	21.3	Step2speak	19.5	-	-
7	Codecademy	21	Vertex Academy	19.4	-	-
8	English for Information Technology Professionals	21	Яндекс Практикум	19.3	-	-
9	Stepik	21	SkyFord	19	-	-
10	LearnEnglish	21	LinguaLeo English for IT	18.8	-	-
11	English live	21	EWA	18	-	-
12	English Show	21	Rosetta Stone	18	-	-
13	-	-	Duolingo	17.5	-	-
14	-	-	English Central	17.5	-	-
15	-	-	English4IT	17.5	-	-
16	-	-	Business English site	16.5	-	-
17	-	-	Busuu	16	-	-
18	-	-	Reddit		-	-

19	-	-	Apoven	16	-	
20	--		TechCrunch	13	-	-
21	-		Prog Lib	13	-	-
22	-	-	Oxford English for Computing	12.5	-	-
23	-		TechTerms	12	-	
24	-		ComputerLanguage	11	-	

Five resources with high rating scores and favourable expert reviews:

1. Skyeng resource. Resource developers: Georgy Solovyov, Khariton Matveev, Danis Smetnev, Andrey Yaunzem. The course was created in 2012. The purpose of the course is to help students in learning English for work in the IT field. Training with the help of this course contributes to the development of professional foreign language skills in the field of information technology. The resource includes a professional dictionary and thematic texts for students to master the terminology of the IT industry and has a mobile version.

2. The Coursera resource was developed by D. Koller and A. Young in 2012. The goal was to provide the opportunity for professional development to every student anywhere in the world using online courses.

3. The Udemy resource was developed by F. Wong, G. Bianni, O. Koeser in 2010. The goal of the developers was to improve the level of skills and abilities in a foreign language using digital devices.

4. The Skillbox resource was created by D. Krutov, S. Popkov, I. Koropov in 2016 with the goal of teaching IT specialists, IT course students, and technical specialists how to increase income by working with foreign projects.

5. The Englex resource, designed in 2011 by A. Sytnik and A. Chemiris, teaches you to understand and write technical specifications in English, study professional literature in English, communicate with foreign partners, clients and colleagues. Table 2 presents Internet resources that received the highest rating scores in accordance with the developed criteria.

The following Table 2 shows all the criteria developed by experts and the results of the expert assessment of Internet resources.

Table 2. Criteria-based assessment of top rating Internet resources for foreign language learning.

№	Criteria	Internet resources Heading 3				
		Skyeng	Coursera	Udemy	Skillbox	Englex
1	Professional orientation	+	+	+	+	+
2	Personal account on the site	+	+	+	+	+
3	Free version	-	+	-	-	-
4	Accessibility	+	+	+	+	+
5	Friendly use	+	+	+	+	+
6	Multiple levelling	+	+	+	+	+
7	Incoming (final) testing	+	+	+	+	+
8	Certificate	+	+	+	+	+
9	Individual training programs	+	-	-	+	+
10	Mobile version	+	+	+	+	+
11	Interaction with the teacher	+	-	-	+	+
12	Interaction with other users	+	-	-	+	-
13	Online consultations	+	+	+	+	-
14	Game-based learning	+	+	-	+	-
15	Training content:	+	+	+	+	+

15.1	grammar skills	+	+	+	+	+
15.2	translation skills	+	+	+	+	+
15.3	speaking skills	+	+	+	+	+
15.4	listening comprehension skills	+	+	+	+	+
15.5	writing skills	+	+	+	+	+
16	Teaching aids:	+	+	+	+	+
16.1	videos, films, music	+	+	+	+	+
16.2	digital teaching aids	+	+	+	-	+
17	Personal progress monitoring	+	+	+	+	+
18	Access to website library resources	+	+	+	-	-
19	Feedback availability	+	+	+	+	+
20	The resource improves the level of proficiency in a professional foreign language	+	+	+	+	+

The expert group also noted resources that were not included in the top five, but are popular among teachers and students and, in their opinion, improve the level of proficiency in a professional foreign language. The following resources were included in the group:

1. The LearnEnglish resource was developed in 2010 on the British Council portal with the aim of training students for IELTS, TOEFL.

2. The Yandex Workshop resource was developed in 2019 by I. Zalessky, M. Yanovich, P. Yanovich. The purpose of the resource is to improve the theoretical basis and remove language barriers in communicating in a foreign language. The resource is intended for software developers and analysts.

3. Business English Site resource was developed in 2007 and provides educational content for learning business English, including grammar, vocabulary, reading, writing, listening and speaking in the professional field.

4. Vertex Academy resource was developed by Vertex Digital Agency. The purpose of the resource is to train IT specialists in English and improve professional communication skills in English.

5. English show resource was developed as English language courses for programmers. The developers of the resource are the online English language school "English Show". The purpose of the resource is to provide access to online courses in professional English. The target group is programmers who develop and improve their level of proficiency in a professional foreign language.

4   CONCLUSIONS

Analysis of the pedagogical research on the problem of the use of Internet resources for foreign language learning is of increasing scientific interest. Identification and evaluation of the most effective of them should be based on scientifically developed methods and evaluation criteria. Further prospects for scientific research involve improving and detailing the criteria, levels and methods for assessing IT resources for various areas of education.

- Thus, ten most effective Internet resources were identified that improve the level of proficiency in professional English in the IT field: Skyeng, Coursera, Udemy, Skillbox, Englex, Puzzle-English, Codecademy, English for Information Technology Professionals, Stepik, LearnEnglish.

- Criteria and levels for assessing the effectiveness of Internet resources were developed, among which the most important are: the professional orientation of the resource, the opportunity to create a personal account and train without fee, accessibility and friendly use of the resource, the opportunity of incoming testing that allows you to study in accordance with the level of proficiency in a professional foreign language, as well as final testing, which reveals the student's progress in knowledge of a professional foreign language, the opportunity to train according to an individual program, interact with the teacher and other users, receive online consultations from teachers and use the mobile version.

- A score rating was identified for 38 Internet resources, allowing students, undergraduates, and teachers in the IT field to choose the most effective resource for improving their level of proficiency in a professional foreign language.

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