

# **Increasing the Effectiveness of Russian Language Teaching for Special Purposes (to the Problem of Integration of Language Training with Information Technology Courses)**

*Tatiana P. Skorikova<sup>1</sup>, Evgeny A. Orlov<sup>2</sup>, Nina N. Romanova<sup>2</sup>, & Elena V. Pinevich<sup>2</sup>*

## **Abstract**

The article is devoted to the problem of increasing the efficiency of language teaching for the special purposes of foreign students in studying Russian at a technical university. Particular attention is paid to the training of foreign students in the skills of working with information using the latest computer technology. The conclusions of the work are based on the analysis of the results of teaching Russian language at the Bauman Moscow State Technical University, including various methodological materials, programs and manuals on the scientific style of speech. Due to the fact that information technologies are part of general professional training for all specialties of a technical university, and also provide a wide range of opportunities for language learning and real professional communication, the authors believe that a modern program of the professionally oriented language training should reflect not only traditional integration with special disciplines of students, but also, of course, integration with the disciplines of the Information Technology block. The authors propose an innovative didactic approach based on the integration of language training with information technology courses in the aspect of the formation of communicative-linguistic competence of students in Russian. The structure and tasks of creating a handbook for teaching professional communication in the field of informatics relevant for students of various majors are considered.

**Keywords:** Language Teaching for Special Purposes; Information and Computer Technology; Professional Internet Communication; Virtual E-Learning Environment

## **1. Introduction**

Mastering the discipline "Russian as a foreign language" is aimed at the acquisition by foreign students of the skills and abilities necessary for listening to lectures in Russian, reading scientific literature on general educational and educational majors; obtaining the skills and abilities required for participation in

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<sup>1</sup> Corrsponding author, Bauman Moscow State Technical University, Moscow, Russia.

<sup>2</sup> Bauman Moscow State Technical University, Moscow, Russia.

seminars, laboratory work, writing essays, course and diploma projects; for passing tests and exams, communicating in extracurricular situations, solving everyday issues, processing personal documents.

The solution of these tasks requires the organization of a new type of learning material, a new structure of educational activities aimed at improving its efficiency, creating a didactic system that would provide high-quality mastery of modern technologies, enhancing students' cognitive activity through the acquisition of skills in the use of modern scientific and technological potential (Karpov, 2015). Therefore, in the framework of professional training of foreign bachelors and undergraduates, along with the development of traditional, well-established practical approaches to professionally oriented language training at the Bauman Moscow State

Technical University, special attention should be paid to teaching students the necessary knowledge and skills to work with information using the latest computer technologies (Dunaeva, 2006; Begalieva, 2007; Kulikova, 2011; Obrazovanie, 2010), which will help young professionals update their knowledge, using additionally the resources of professional Internet communication.

## **2. Purpose of the Study**

According to previous research, the use of virtual environment can develop students' creativity and self-education, which cannot be achieved with traditional learning methods. Thus, the main goal of this study is to present one of the possible approaches to the problem of increasing the effectiveness of teaching foreign students to Russian for special purposes (RSP). The authors see their task in developing and deepening the concept of the professional Internet communication and proposing the idea of developing a program for teaching RSP based on the method of integration of language training with information technology courses.

However, this study is also aimed at attracting the attention of teachers to this innovative method, as a way to enhance students' motivation to learn the language with the support of the latest computer technologies.

## **3. Literature Review**

In the university practice there is a lot of experience in using innovative teaching methods in organizing students' independent educational activities, which can be implemented by means of computer technology. The main problem of using such promising information and educational environments is associated both with the need to create modern computer distance learning tools and their implementation in practice, and with the tasks of information technology training of teachers in their professional activities. For this reason, teaching methods in a high-tech information

environment are gradually becoming the subject of comprehensive study and professional reflection by teachers in higher education (Azimov, 2012; Noskova, 2007; Zhanf, 2008; Skorikova et al., 2016).

### ***3.1. Educational Communication Environment***

The main advantage of information technologies, in our opinion, is in the formation of a specialized educational communication environment - a virtual learning environment (Bogomolov, 2008). Such environments are being developed today at all levels of education for a wide range of disciplines, including Russian as a foreign language, and represent a "structured network environment of participants in the educational process, including a complex of printed and electronic teaching tools, reference, information and educational resources, instrumental and communication tools" (Bogomolov, 2008, p, 325).

The structure of specialized virtual environments is determined by the specifics of this subject area - a practical orientation and a communicative activity basis of learning. Such virtual language environments allow students to effectively use various information and educational and training electronic resources, as well as interactive search services of Internet technologies for organizing remote interaction between all participants in the educational process.

The virtual language environment is structured depending on the goals and content of the training (the teacher selects and combines elements of the environment, actively interacts with it, updating its content depending on the dynamics of learning, is in mediated contact with students through the environment.

Modeling the virtual language environment of distance learning in Russian as a foreign language taking into account the professional needs of students can be viewed as an attempt to implement a new educational model emerging under the active influence of information technology.

The development of these technologies, the formation of a single information space has led to a change in the process of professional communication, making it accessible and operational. Today, professional communication in the global network is a combination of person-oriented communication and fragments of various types of institutional discourse (business, scientific, etc.). The use of information technology removes temporal and spatial limitations of the interaction of specialists with each other, facilitating their professional development (Kulikova, 2011).

### ***3.2. Enhancing the Cognitive Activity of Students in Terms of Informatization***

In modern university education, great attention is paid to the development of research competences and skills of students (Ivlev et al, 2017; Inozemtsev et al, 2016), which corresponds to the global trends in the development of education and academic research (Karpov, 2015, 2017a, 2017b). In the practice of language training of non-philological students, the leading place is taken by the problems of an integrated approach to modeling the content of education, the main part of which is the formation of a culture of oral and written academic scientific speech (Kirsanova, Lazarev, 2018; Romanova, Skorikova, 2018).

Recently, a special interest has arisen to the problem of enhancing the cognitive activity of students. This is due to the fact that in the conditions of informatization there are qualitative changes in the organization of educational activities of students. The design and development of new expanded, variable information educational environment becomes a priority in learning. A significant part of this environment is a virtual educational environment that functions on the basis of computer technologies. The technical basis of this environment is computer networks with a developed infrastructure and social services, within the framework of which subjects of educational activities are given the opportunity to “be always in the classroom”, regardless of the current time and location.

When a student has the opportunity to purposefully plan his own actions, transform and construct the objective content with which he works, then he will be able to actively build and change his activities. Such work expands and deepens the knowledge gained, forms independence, creativity, conviction, contributes to the education of socially significant personal qualities necessary for a modern specialist. The latter include acquired ability for self-improvement by well-defined selection, processing and assimilation of information.

The problems of using computer technologies in the higher education system were studied in order to increase students' cognitive activity in the process of mastering their professional knowledge in accordance with modern requirements. In connection with the widespread use of information educational technologies, ways to improve the creative abilities of future specialists need further research.

It is known that educational and cognitive activity is organized as a search. Here are observed didactic techniques based on the use of problem-based learning, business games, etc. In general, when teaching scientific personnel, the most effective methods for constructing a didactic process are the analysis of the results of research, the formulation of problem tasks, and the research activity of the students themselves. Only the correct choice of the method of organizing learning management ensures the completeness of the didactic process.

#### 4. Method

The conclusions of the work are based on the analysis of scientific linguistic literature on teaching the language of the specialty, as well as the analysis of various educational and methodological materials on the culture of professional communication. The authors use the data of communicative-pragmatic research of scientific discourse and features of professional communication on the Internet. In order to identify the genre forms of professional online communication and the patterns of its linguistic organization, the information content of a number of web sites of the network addressed to one or another professional community was analyzed.

#### 5. Results

##### *5.1. The Formation of the Communicative-Language Competence of Foreign Students in Russian University*

The most important aspect of studying Russian language by foreign bachelors, undergraduates and graduate students at a higher education institution is the formation of their communicative and language competence in the chosen subject area and preparation for the writing of independent scientific work (diploma, master's and PhD thesis) in Russian. After studying discipline “Russian as a foreign language”, the student should acquire the following knowledge and skills in the field of research and development activities corresponding to the competencies determined by the basic educational program:

- the ability to process and execute the results of research work,
- the ability, based on analysis, to see and correctly formulate the result, to prepare scientific articles and reports for publication,
- the ability to competently use the language of the subject area,
- the ability to analyze the task on the basis of the selection and study of literary, patent and other sources of information,
- the ability to make a description of the research and development projects, to prepare data for the preparation of reports, reviews and other technical documentation,
- the ability to participate in the development of technical specifications and programs of experimental work,
- the ability to participate in the development of technical documentation, and
- the ability to draw up the results of their research activities in Russian in the genre of theses, report, article, master's and PhD work in accordance

with the norms of the scientific style of speech and the compositional and language requirements of a particular genre of scientific communication.

In order to develop the above-mentioned skills and knowledge, students must master sufficiently the techniques of searching and processing scientific information from primary sources, including using Internet technologies and the teaching potential of the electronic educational environment.

The main problem faced by teachers and methodologists is how to improve the efficiency of language learning for specific purposes due to the growth of global informatization in the field of scientific communication and research activities, including university education.

### ***5.2. Ways to Improve the Effectiveness of Language Learning for Specific Purposes***

One of the most important conditions for the effectiveness of learning a foreign language (including Russian as a foreign language) at a university is the orientation of the study program to the educational needs of specific groups of students. These needs are primarily related to the use of language as a means of professional communication, therefore the focus of attention of methodologists and teachers is professionally oriented language training. This kind of training motivates students, but at the same time it requires teachers of the Russian language to have a definite orientation in the disciplines studied by students, from which they, because of their humanitarian education, are often very far.

Another important aspect of modern approach to the study of the language of students' specialization is its integration with information technology courses. This is necessary because, on the one hand, information technologies are part of general professional training for all specialties, and, on the other hand, they provide a wide range of opportunities for language learning and real professional and scientific communication.

Thus, modern professionally oriented language learning program should reflect not only the traditional integration with the special disciplines, but also with the disciplines of the information technology block. The peculiarity of information technology courses for those areas of training where computer science is not a specialty is that their content, as well as the content of Russian language courses, must meet the requirements of students' professional training.

From our point of view, the content of the information technologies block in the professionally oriented language training should consist of a basic course and courses in students' specialties. The basic course includes the following modules: "Basic concepts and tasks of informatics", "PC user", "Internet information

resources”, “Basics of the Internet”, “Computer technologies in preparing presentations”, corresponding to the supporting topics of the course on fundamentals of informatics (Osnovy informatiki: ucheb. posobiye, 2009).

The practice of using such integrated professionally oriented language program requires the teachers of Russian as a foreign language to work extensively in structuring the content of each unit, engaging specialists in both the training profile of students and the field of information technology. Only such integration provides maximum opportunities for the development of students' professional communication skills.

### ***5.3. Relevance and Objectives of Creating a Course "Introduction to the Specialty: Information Technology (Language of Professional Communication)"***

To most effectively develop communication and professional skills of foreign students, organize independent research work and increase their cognitive activity, we draw attention to the need of creating a language course "Introduction to the specialty: information technologies (language of professional communication)", in which the content of training is relevant for students of different majors. This course is designed to help the student become familiar with the basic concepts of computer science; technical means of information, computer networks, basic work on the Internet, the main and promising areas of development in the field of information systems and technologies.

As a result of training, students must acquire skills in working with computers and computer technology; use of information and other resources provided by the university; work with the Internet, e-mail, editors and word processors; writing essays, term papers, etc. In addition, students learn information retrieval technologies; methods of orientation and interaction with the global Internet resources, learn to evaluate the course of the educational process in a virtual information environment and carry out professional communication in this environment in Russian, participate in online discussions within their subject area.

As part of the study, in preparing the course “Introduction to the specialty: information technologies (language of professional communication)”, it is planned to test and introduce into the educational process special motivational training in order to prepare students for participation in the annual open scientific (real and virtual) conference.

Thus, a special section of the course will be devoted to the development of students' communicative skills when working with information to prepare an article or report using the Internet technologies of professional communication. We believe that such training based on the requirements of academic writing and rhetoric rules

undoubtedly contributes to the growth of the professional qualification of the future specialist in the chosen subject area of knowledge while studying at university.

## **6. Discussion**

Considering the problem of increasing the effectiveness of language teaching for specific purposes, we emphasize the importance of discussing such issues as: 1) the Internet space as a special area of communication, 2) active development of Russian-language communication in the electronic environment, 3) the concept of professional Internet communication, 4) professional Internet communication as a new type of electronic discourse, 5) hypertext and new technologies of understanding the text. We believe that the solution of these questions will contribute to finding the best methods for increasing the effectiveness of professionally oriented language teaching.

### ***6.1. The Internet Space as a Special Area of Communication***

One of the most important specific characteristics of computer communication is the virtual communicative space in which only communication of this type is possible. This interpretation requires the development of two areas of research: first, the applicability of the term “space” to communication through a computer and, secondly, the identification of parametric characteristics of computer space. Both directions of research are possible with the understanding of space as a lingo-semantic and, more precisely, communicative (discursive) category.

Internet discourse is a complex text system determined by extralinguistic sociocultural factors and the specific situation of entering into language contact through a computer and other electronic devices, both users with each other on the Internet and users with discursive Internet space (Crystal, 2006; The Multilingual Internet..., 2007). The language used in computer discourse has a number of features of functioning: natural Russian speech in electronic communication is characterized by the adaptation of the means of speaking (its intonation and phrase-accentuation characteristics) to the written form (which uses underlining, text highlighting in color, different fonts and capital letters). Another important feature of the presentation of text in electronic form is the use of various visual tools (drawing, photography, font, color, graphic symbols, etc.).

In the linguistic aspect, a special scientific interest in this area is the study of the cognitive mechanism of ways to search and process information by the network user, which is not only an important problem of modern theoretical and applied linguistics, but methods of teaching Russian as a foreign language in general, and for special purposes in particular.



An attempt to describe the cognitive and speech strategies of a user formulating a query in natural language addressed to a search system (as one of the main services of the information genre) is presented in Raspopina's article differential and genre features of computer Internet-discourse (Raspopina, 2010).

For the method of teaching Russian as a foreign language fundamental is the conclusion that the search query has the three-layer conceptual structure, each layer of which successively conceptualizes the name of the search subject, its specifying characteristics, and the relation of the search subject to other objects and phenomena that the query generator (user) knows about. The nature of the knowledge of generator query about the subject of the search (reliable, probabilistic) is updated by means of semantic, syntactic and pragmatic markers of search information, each of which has a certain set of language forms and meanings.

### ***6.2. Active Development of Russian-Language Communication in the Electronic Environment***

In connection with the active development of the Russian-language electronic communication environment in recent years, “it is possible to say with confidence that the Internet is a special environment for the functioning of the Russian language, in which there are no geographical restrictions” (Azimov, 2006, p. 10). More and more publications began to appear on the problems of language functioning on the Internet, on the use of Internet resources in teaching Russian as a foreign language and Russian as a native language. In this work, the authors take into account the results of studies of such famous scientists as Azimov (2006, 2012), Atabekova (2001), Bogomolov (2008), Dunaeva (2006), & Rozina (2004).

With the increased interest of researchers to the dynamically developing Internet environment and Internet communication, some aspects of this area are still not well examined. In particular, insufficient attention was paid to the role of the Internet in modifying the regulated forms of communication related to institutional discourse.

The study of the characteristics of the tactical and strategic behavior of communicators - participants of various types of institutional Internet communication is seen as particularly relevant due to the expansion of virtual communication into professional activities. The Internet is playing an increasingly important role in the structure of educational and scientific and professional communication, since scientists, teachers and students of Russian universities are regular Internet users.

### ***6.3. The Concept of Professional Internet Communication***

In electronic communication systems, two types of communication are most often used.

- professional and business-related and so-called phatic, implemented primarily in chat rooms and forums and characterized by mixing different types of elements - written literary language and oral-spoken, since chatting is a written fixation of oral speech.

The genres of professional-business communication on the Internet, included in the system of any other activity, are: professional publications, materials of scientific conferences, electronic journals, electronic stores, etc. Of particular scientific interest is the study of genre features of communication when using computer networks by specialists (this is the so-called computer-mediated professional communication).

Based on the definition of professional communication, we formulated the concept of "Internet professional communications", which means computer interaction in the virtual space of equal representatives of a certain profession. The content of this communication is professionally determined exchange of information for the establishment of relationships between colleagues, contributing to the professional development of its participants and focused on creating a joint scientific and methodological (educational) product.

The linguistic description and, therefore, recommendations on the compilation of electronic texts and the training of professional communication in the Internet environment can be made based on the following characteristics (Asimov, 2006, p. 43):

- interaction goal,
- correlation in the text of such components as communication, impact and self-expression,
- type of interaction (business / phatic) within each of the components, correlation with a specific genre (business letter, congratulations, scientific discussion),
- text size and specification of the text structure (stereotype composition),
- communication conditions (delayed or real-time communication), and
- stylistics (linguistic design) of a web page.

Compared to chat rooms and other forms of online communication, which are spontaneous conversational speech, the texts of the web page refer to prepared, preserving norms of the literary language in its functional varieties such as official business, scientific and mass media speech.

Communication here is presented as distant, designed for interaction within the frameworks proposed on this web site (participation in forums, surveys, choosing a given answer option, studying the information resources of the site by following the specified hyperlinks, etc.).

Professionals and students of various specialties most often turn to informational and educational sites containing comprehensive data on some subject area. Sites of this type contain many articles by various authors, as well as services such as polls, voting, mailing (for example, websites of news agencies). The purpose of such sites is informational and communicative.

#### ***6.4. Professional Internet Communication as a New Type of "Electronic Discourse"***

In modern linguistic studies, there is a tendency to consider communication and features of professional interaction from the point of view of discourse, which is understood as communication through the text, taking into account the communicative and significant circumstances of its implementation.

Understanding of discourse is closely connected with the concept of a communicative situation, "speech immersed in life" (N.D. Arutyunova), with an understanding of communication defined by the formula: speech + action. In addition, a distinction is made between traditional, professional, pedagogical discourse (status-oriented or institutional discourse) and its modification in the electronic environment - "electronic discourse" (or "network discourse").

Professional Internet communication refers to this - a new type of electronic discourse, with such a striking feature as the group form of information interaction in the electronic environment. One type of group communication is the community of specialists that form relatively closed subspaces according to a certain professional specialization or interests. The result of their activity in electronic networks is the formation of new forms of communication between people, functioning as network, virtual or Internet communities (Internet-community).

This new type of social groups is a self-organizing community of people who communicate with each other on certain topics and use Internet technologies as the main means of communication for organizing group interaction among community members. The most common Internet technologies, on which academic network communities are mainly built, include the following:

- electronic discussions or forums that allow you to discuss a particular topic, get a delayed in time answer for your question

- Internet conferences with the possibility of discussing the articles and reports placed in them;
- teleconference in real time;
- electronic journals that provide expert information on the state of the subject area (feedback from the author is most often organized through e-mail);
- electronic libraries, as a combination of communication specialists, organizations and technologies containing bibliographies, electronic versions of books, articles, documents (Rosina, 2004).

In order to optimize the study of the Russian language for specific purposes, we consider it necessary to train foreign students and graduate students who are potentially active members of academic Internet communities to various Internet technologies for professional communication in the electronic environment.

### ***6.5. Hypertext and New Text Comprehension Technology***

As is well known, information on web pages is presented as hypertext, which also consists of pages. First, the user gets to the main page, from which he learns about the structure and content of the site. A web page is formed by hyperlinks represented by special language tools that perform certain functions: focused impact, interactivity, audience control, and obtaining information about consumer interests (Atabekova, 2001, p. 14).

The functional load of hyperlinks that regulate the direction of information retrieval and set the meaningful “coordinates” of this search seems to be particularly significant. In this regard, hypertext as a new text understanding technology, as a way of organizing text, in which it is linked by reference to other texts, is a new kind of text, opposed to the usual for a number of parameters (openness, nonlinearity, dispersion of structure, lack of authorship, removal of the opposition between author and reader, heterogeneity and multimedia, in which all means are used from font to sound and animation).

Hypertext is based on computer technologies that support the following basic functions (Baranov, 2003, p. 36): quick viewing of an information array, processing via reference relationships (calling a piece of text or other information to which a link is made); hypertext navigation, the possibility of forming a normal linear text as a result of hypertext movement, the addition of hypertext with new information, etc. Hypertext technologies continue to develop, ensuring the formation of computer-mediated discourse in electronic communication of specialists.

The linguistic design of the web page, which includes the design of the page using the hyperlink system, organizes the medium for presenting information on the site, reflecting the stereotypical knowledge and scenarios of activities (mainly professional) of a native speaker in a particular subject area. Thus, the web page design explicates a fragment of the cognitive base of a specialist in thematic and situational-pragmatic professional contexts. Students, reading in Russian pages linked by the hypertext principle, determine the relationship between the blocks of information and identify their hierarchy. Work on the language of a web page involves learning the choice and organization of language units designed to express certain meanings and communicative intentions of knowledge representation. In this regard, the awareness of the educational potential of the linguistic design of a web page is seen as a special methodological problem in the field of Russian as a foreign language.

## 7. Conclusion

The leading goal of the course in teaching Russian for specific purposes in the field of information technology is to promote the development of the professional competence of foreign students of a technical university by mastering the main technological approaches to designing their own virtual educational environment. The expected result is the formation of students' readiness to use the knowledge of modern problems of science and education in solving educational and professional problems; readiness to develop individual educational routes using modern computer technologies in Russian.

The use of electronic communications based on web services (forum, chat, conference, e-mail) in Russian between teacher and student, between students in an academic group, allows to develop the interactive competence of foreign students, which is a necessary factor for successful preparation of a future specialist to complete Internet communications in the professional sphere.

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