FORMATION OF RESEARCH SKILLS IN UNIVERSITY NON-LINGUISTIC TRAINING PROFILE STUDENTS DURING THE IMPLEMENTATION OF A PROFESSIONALLY ORIENTED DISTANCE COURSE IN A FOREIGN LANGUAGE

INTRODUCTION

The socio-economic changes in the world during the Covid-19 pose new challenges for educational institutions, including vocational training. The use of digital technologies in distance education has become an important condition for the knowledge acquisition, the formation of skills and competencies needed in the future professional activities.

Having research skills is a significant competitive advantage in the employee’s work, therefore, it is urgent to use the potential, including university foreign language education, in the formation and development of these skills in future specialists. In addition, research skills are essential for students, since studying at a university requires daily search for information, the ability to analyze it, present it in public, write reports and scientific articles, be engaged in substantive discussions, and ask questions and answer them during student conferences. However, in current pedagogical activity, there is a contradiction between the objectively existing need of society for specialists having research skills and the unpreparedness of universities to fully implement the process of formation and development of these skills using modern digital technologies in distance education.

According to the global trend - a greater orientation of higher education towards the formation of the necessary skills, abilities, and competencies in university students by means of distance learning forms - the organization of foreign language education based on effective modern methods and digital technologies justifies its expediency. In the current conditions of the Covid-19 pandemic, there is a need to revise foreign language curricula for non-language training profiles for deeper inclusion of distance learning in the educational process. In connection with the above, the article examines the problem of the formation of research skills in university non-linguistic training profile students based on professionally oriented distance learning course in a foreign language.

LITERATURE REVIEW

As the analysis of scientific literature demonstrates, the problem of the formation of research skills was considered both in the systems of secondary (FINE, 2018), and higher education (BODYAN et al., 2014; GUSEVA & KONDAUROV, 2014; KALUGINA et al., 2015; and others).

The issues of teaching methods and techniques to form students’ cognitive independence and research skills in learning foreign languages are dealt with in the works by O.O. Korzun and E.A. Savkina (2018) etc. The problems of digitalization of foreign language education and methods of applying digital technologies in educational institutions are described by M.V. Zakharova (2020), E.A. Ilina et al. (2019), S.S. Jabeen and A.J. Thomas (2015) and others. They emphasize the significance of digitalization as one of the priority areas of modern theory and methodology of teaching foreign languages in universities and schools. Digital technologies...
crucially enrich language practice and, in general, intensify the process of foreign language learning. The need for a future specialist to have research skills is highlighted in the works by M.G. Fedotova and Z.V. Vozgovaya (2019), I.I. Sokolova and I.V. Gilmutdinova (2019) and others.

In modern foreign studies, the importance of specialist’s research skills is noted related to achieving competitiveness in the labor market in various professional fields (DOOLY et al., 2021). Particular attention is paid to the use of digital technologies for the formation of professional competence (AHERN & LÓPEZ-MEDINA, 2021; FANG et al., 2020; MULTRUS, 2009) and the possibilities of their implementation in the learning process (EGER et al., 2020). M. Kuzmanović et al. (2019) considered the problem of organizing the educational environment with the use of electronic technologies and noted the preferences of students and their professionalization as the key factors. It is proposed to use a complex of methods and forms in students’ research activities. In particular, practical solutions are put forward for the creation of training courses using distance learning tools (CANCINO, 2020; RADIF & MOHAMMED 2019). A.Q. Sun and X. Chen (2016) provide guidelines for developing online courses. Based on the results obtained, the authors argue that effective online learning depends on well-thought-out course content and a variety of technologies. The traditional teaching methods aimed to increase research literacy associated with foreign language courses are being revised (HŘEBAČKOVÁ, 2019). A number of works (KNORR, 2019; LYSAK & MARTYNYUK, 2017; WALKINGTON, 2015) are devoted to the problems of teaching academic writing in the target language.

The analysis of modern publications shows that the use of digital technologies in vocational education is assessed positively by most researchers, taking into account certain possibilities of their application (ANISIMOVA et al, 2020; FROLOVA et al, 2021). At the same time, in the studies reviewed, attention is not sufficiently focused on the formation of research skills in university students, based on digital technologies in distance learning. A review of the literature made it possible to state that the process of forming research skills in non-linguistic training profile students using digital technologies in distance learning has been poorly studied and described. Thus, the research purpose is to identify the level of development of research skills in non-linguistic training profile students in the process of professionally oriented teaching of a foreign language and to generalize the data obtained in the experimental work.

**RESEARCH METHODOLOGY**

In our study, we consider educational and cognitive competence, which is an integral part of communicative competence, as one of the most important in the formation of research skills of non-linguistic training profile students, and research work as a compulsory part of their professional training. In this regard, the works of scientists involved in creating the necessary conditions for students to gain experience in research activities (GALIULLINA, 2011; MANOV & MILENKOVA, 2018; SOKOLOVA & GILMUTDINOVA, 2019), as well as studies in the field of digitalization of foreign language education (SUN & CHEN, 2016) are of particular significance for studying the problem of the formation of research skills in non-linguistic training profile students when learning a foreign language for specific purposes.

During the research, the following methods were used: analysis of regulatory documents related to the organization of undergraduate students’ research work – Federal State Educational Standard of Higher Education, Regulations on Research Work of Students; analysis and general conclusion about pedagogical and methodological literature on this issue, as well as the teachers’ experience; experimental work, including electronic testing, carried out using the computer-based knowledge testing program MyTestXPro11.0. The experimental work comprised three stages: ascertaining, formative, and control experiments. In the course of the ascertaining and control experiments, students were tested in two groups – experimental and control - in order to identify the initial and, accordingly, the developed level of research skills using foreign language sources. During the formative experiment, the work was carried out with the students of the experimental group on the formation of research skills, including the choice of research topics related to the future profession, recommendations for search for relevant literature in a foreign language, its analysis and presenting the results of scientific
RESEARCH RESULTS

At the Department of Foreign Languages and Language Teaching Methods, the distance course “Foreign language for specific purposes in scientific research” has been developed and introduced since 2020. The main goal of the course is to develop students’ research skills in distance learning foreign languages, needed for presenting their own research in oral, written, and virtual forms. Course content. The distance course “Foreign language for specific purposes in scientific research” includes 3 modules.

Module I. Scientific research features in a foreign language:
- classification of speech genres implemented in a scientific style;
- scientific style features in a foreign language.

Module II. Working with foreign language sources and databases when preparing scientific research:
- information retrieval methods: work with library catalogs, reference materials, books, periodicals, and on the Internet;
- techniques for information processing (plan, synopsis, abstract, structural abstract, and scientific article).

Module III. Layout and presentation of scientific research results:
- article abstract;
- presentation of a scientific report or its synopsis.

The organizational and methodological structure of Module I is represented by presentations, video collections, and relevant thematic publications. A clear structure of any form of research (for example, an article) is offered by the authors of the course as a table. It reveals the main terms in a foreign language (title, authors, keywords, methods, etc.), which are mandatory in the structure of articles in world famous journals. Students become familiar with the existing forms of research activities using examples, text, and graphics.

Module II forms the ability to work with scientific foreign language sources and involves the introduction of innovative methods of distance work. They include an electronic simulator (a kind of training tool for the development of writing skills in a foreign language), containing keywords, models, questions, associations necessary for the preparation of abstracts in a foreign language; meta-commentary and keeping an electronic diary is a necessary tool for recording information including relevant scientific information. Especially significant in this module is work with Internet services (sites of scientific journals, forums, Wiki, catalogs, special linguistic sites, etc.).

Module III forms the ability to present research results in oral, written, and virtual form. At this stage, it is proposed to check the text again for spelling, grammar and punctuation errors and to make sure that the cited sources are correct. Students should not only declare the finished product, but also “promote” it by taking part at forums for discussion, giving comments, participating in two-way videoconferences, in social groups, and in joint project activities.

The presented distance course was tested in the experimental work in English and German with the 2nd year non-linguistic profile undergraduates at Yelets State Ivan Bunin University. The training took place within one semester in the amount of 72 hours. The experiment involved 250 people, by 125 people in the experimental and control groups. The students of the experimental group studied according to the above course program, and the students of the control group did not study according to this program, attending only classes in the compulsory Foreign Language Course.
During the educational experiment, the students of the experimental group selected the topics of scientific research related to their future profession, and they got recommendations on the search for relevant literature in a foreign language, its analysis and presentation of the results of scientific research within the framework of the presented content of the modules. In learning, mainly individual forms of work were used, only in some cases - group and frontal work. The ultimate goal of work on the chosen topic of scientific research was to prepare a report for a presentation at a scientific-practical conference or the text of a scientific article for publication.

As part of the work, students were offered tasks aimed to find information by keywords, to read to understand the main content, or to fully understand the content, to prepare abstracts, annotations, assignments for working with digital technologies, for instance, designing a presentation of a scientific report or educational (scientific) research project, an analytical review including their own translations of foreign language scientific literature, assignments for drawing up a research plan, structuring an article and a report highlighting the main headings, preparing the introduction and conclusion of a scientific work, choosing / formulating a research problem, selection of research methods, work with terminological dictionaries, figures, tables, charts, questionnaires, diagrams, different types of abstracts and reviews, making references and the author's personal data.

In order to identify the existing and later developed level of research skills, students of two groups (experimental and control) were tested before the work on the formation of these skills and after its completion. During the ascertaining experiment, testing was carried out to identify the initial level of the formation of research skills using foreign language sources. The test comprised 18 tasks, divided into blocks according to the course modules, respectively, each block included 6 tasks.

Testing has shown that at the stage of the ascertaining experiment, the level of knowledge, skills and abilities of students in the control and experimental groups is approximately the same. So, the average score of correctly completed tasks in the control group was 8.6 (43%), in the experimental group - 8.9 (44.7%). The results of the analysis of correct answers by blocks also do not show much difference and range from 1.9 (37.3%) to 2.9 (40%) in the control group and from 1.8 (36%) to 2.6 (52%) in the experimental group. During the control experiment, the re-testing of students in both groups was carried out at the end of the training course in the experimental group to identify the level of formed research skills using foreign language sources.

The results of the control experiment in the control group are slightly higher than in the ascertaining experiment: the average score of correctly completed tasks is 13.9 (69.3%), in blocks - from 3.1 (61.3%) to 3.8 (76%). This is due to the fact that some students of this group individually prepared reports and articles supervised by a scientific advisor - a foreign language teacher. Accordingly, they developed a certain level of research skills using foreign language sources.

The results of the control experiment in the experimental group are significantly higher compared to the ascertaining experiment: the average score of correctly completed tasks is 16.7 (83.3%), by blocks - from 4.1 (80%) to 4.3 (86.7%), which shows significant dynamics. Consequently, the proposed learning content can be considered effective. The diagram below shows the results obtained in the experimental group.
Thus, the introduction of the above distance course into the educational process contributes to the preparation of students for participation in scientific and practical conferences and the publication of scientific articles based on foreign language sources. However, these results also allow us to state that for a higher level of formation of these skills, students lack proper knowledge of a foreign language, allotted by the curriculum for the discipline “Foreign language”. All the tasks of the test were not completed in full.

CONCLUSION
The purpose of the study was to identify the level of development of research skills in non-linguistic training profile students during professionally oriented teaching of a foreign language. To achieve this goal, domestic and foreign experience on the problem of organizing research activities in higher education was generalized. Based on the results of the theoretical analysis, the authors came to the conclusion that the level of competence in research work, formed, among other things, by means of a foreign language, is an important criterion for the progress of future professional activities. As a result, the author’s online course “Foreign language for specific purposes in scientific research”, based on digital technologies, was developed, described, and experimentally tested. The study shows that the developed content of teaching a foreign language, including the author’s professionally-oriented online course, contributes to the formation of research skills in non-linguistic training profile students. Based on the analysis of the obtained empirical data, the following conclusions were made.

When testing students’ research skills, significant differences in the level of their formation were noted. The level of research skills in students not specifically enrolled in the course program was insufficient to independently prepare scientific articles and reports. Comparing the testing results of the ascertaining and control stages in the experimental group, a difference is noticeable at the control stage, when the results of the level of development of research skills increased. Students learned to work with foreign language sources of scientific information, mastered the skills of abstracting and reviewing in a foreign language, as well as the ability to present the results of their scientific activities. The significant dynamics of the development of research skills at the control stage allows us to speak about the advisability of using an online course in teaching foreign languages.

The results of empirical research can be useful for scientific and pedagogical staff and university non-linguistic training profile students and used to improve the organization of research work at a university.
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Formation of research skills in university non-linguistic training profile students during the implementation of a professionally oriented distance course in a foreign language

Formação de habilidades de pesquisa em estudantes de perfil de formação não linguística universitária durante a implementação de um curso à distância orientado profissionalmente em língua estrangeira

Abstract
The research purpose is to identify the level of development of research skills in non-linguistic training profile students in the process of professionally oriented teaching of a foreign language and to summarize the data obtained in the experimental work. The research was carried out based on the author’s distance course “Foreign language for specific purposes in scientific research”, comprising three modules, using electronic testing with the application of the computer knowledge testing program MyTestXPro11.0. The sample comprised 250 students studying English and German. In order to verify the data obtained and the conclusions drawn, a comparative analysis of the test results of the control and experimental groups was carried out. The authors revealed the level of development of research skills in non-linguistic training profile students. So, at the stage of the ascertaining experiment, the average score of successfully completed tasks was 8.9 (44.7%), and at the stage of the control experiment, respectively, 16.7 (83.3%).

Keywords: Formation of research skills. Non-linguistic training profile students. Distance learning. Professionally oriented distance course. Foreign language for specific purposes.

Resumen
El propósito de la investigación es identificar el nivel de desarrollo de las habilidades investigadoras en el perfil formativo no lingüístico de los estudiantes en el proceso de enseñanza de una lengua extranjera con orientación profesional y resumir los datos obtenidos en el trabajo experimental. La investigación se llevó a cabo a partir del curso a distancia del autor “Lengua extranjera para fines específicos en la investigación científica”, que consta de tres módulos, utilizando pruebas electrónicas con la aplicación del programa de pruebas de conocimientos informáticos MyTestXPro11.0. La muestra estuvo compuesta por 250 estudiantes que estudiaban inglés y alemán. Con el fin de verificar los datos obtenidos y las conclusiones extraídas, se realizó un análisis comparativo de los resultados de las pruebas de los grupos control y experimental. Los autores revelaron el nivel de desarrollo de las habilidades investigadoras en estudiantes de perfil formativo no lingüístico. Entonces, en la etapa del experimento de verificación, la puntuación promedio de las tareas completadas con éxito fue de 8,9 (44,7%), y en la etapa del experimento de control, respectivamente, de 16,7 (83,3%).

Palabras-clave: Formación de habilidades de investigación. Estudiantes de perfil de formación no lingüística. Enseñanza a distancia. Curso a distancia orientado profesionalmente. Lengua extranjera para fines específicos.

Resumo
O objetivo da pesquisa é identificar o nível de desenvolvimento de competências de pesquisa em alunos com perfil de formação não linguística no processo de ensino profissionalizante de uma língua estrangeira e sintetizar os dados obtidos no trabalho experimental. A pesquisa foi realizada com base no curso a distância do autor “Língua estrangeira para fins específicos em pesquisa científica”, composto por três módulos, utilizando-se de testes eletrônicos com a aplicação do programa de teste de conhecimento computacional MyTestXPro11.0. A amostra foi composta por 250 alunos que estudam inglês e alemão. Para verificar os dados obtidos e as conclusões tiradas, foi realizada uma análise comparativa dos resultados dos testes dos grupos controle e experimental. Os autores revelaram o nível de desenvolvimento de competências de investigação em alunos com perfil de formação não linguístico. Assim, na fase do experimento de apuração, a pontuação média das tarefas concluídas com sucesso foi de 8,9 (44,7%), e na fase do experimento controle, respectivamente, 16,7 (83,3%).

Palavras-chave: Formação de habilidades de pesquisa. Estudantes de perfil de treinamento não linguístico. Educação à distância. Curso a distância orientado profissionalmente. Língua estrangeira para fins específicos.