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The role of Library and Information Environment in the Formation of Foreign Language Communicative Competence of Future Specialists in Armaments and Equipment of Engineering Troops

Objective. This paper explores the significance of the library and information environment of a scientific library in developing the foreign language communicative competence of future specialists in armaments and equipment for engineering troops. The aim of the article is to justify the role of the library and information environment in fostering foreign language communicative competence among these future professionals. **Methods.** The analysis and synthesis of scientific, pedagogical and methodological literature, descriptive method, etc. were used in the study. **Results.** The results of the study, as well as the conclusions drawn on their basis, are of practical value for teachers of higher military educational institutions, methodologists, librarians and developers of educational programmes aimed at improving the level of foreign language training of future specialists in weapons and engineering of engineering troops. **Conclusions.** The study reveals that the library and information environment serves as a powerful resource for shaping such competence, as the integration of traditional and modern information technologies, the emphasis on cadets' needs, and the openness to innovative approaches collectively contribute to the preparation of highly qualified specialists capable of effective communication and professional engagement in an international context.

Keywords: library; information environment; communicative competence; military specialists; weapons and equipment; engineering troops

Introduction

In the context of long-term confrontation with Russia's armed aggression, in particular after the beginning of a full-scale invasion of Ukraine, Ukraine's military cooperation with other countries, especially with NATO and EU member states, has expanded significantly. In such circumstances, the personnel of the Armed Forces of Ukraine (AFU), including specialists in weapons and engineering of the engineering troops, are required to have an adequate level of foreign language skills to perform their duties. For future officers specializing in armaments and equipment of engineering troops, foreign language communicative competence is emerging as a key professional skill. It enables them to exchange information swiftly, access foreign technical resources, and effectively participate in international exercises and peacekeeping operations. An essential tool for fostering this competence is the library and information environment, which today is viewed not merely as a repository of knowledge, but as an interactive educational space that integrates print, electronic, and multimedia resources.

The relevance of the study is stipulated by the need to find effective means of integrating library and information resources into the process of foreign language training of military specialists in weapons and engineering of engineering troops. In modern conditions, library and information systems provide ample opportunities for access to authentic foreign language materials, self-education, distance learning and development of professional communication skills in a foreign language. At the same time, scholarly works pay insufficient attention to the targeted use of these opportunities in the training of future officers in armaments and engineering of

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engineering troops, where foreign language competence is closely related to the ability to work with foreign technical documentation and innovative military technologies.

An analysis of recent research and publications has shown that the problem of forming foreign language communicative competence of future military specialists is actively considered in the works of domestic and foreign scholars. O. Yefimova explores the specifics of developing cadets' foreign language communicative competence in the course of their professional training at higher military educational institutions. She emphasises that, at the current stage, foreign language instruction can significantly contribute to achieving a high level of communicative competence among future officers of the Armed Forces of Ukraine, provided that its organisational, pedagogical, and methodological support is enhanced (Yefimova, 2013). N. Bhinder examines the principles underlying the formation of this competence in future officers of missile and artillery units. According to the researcher, the process must be guided by fundamental principles that shape the content, methods, and organisational forms of instruction, which he classifies into three groups: general didactic, linguistic, and professional-methodological principles (Bhinder, 2022). Researchers are also working on issues related to the role of higher education libraries in developing communicative competence. O. Karakoz (2024) explores the communication features of library project activities and emphasizes that an important task today is to transform libraries into modern centers that provide informational, educational, cultural, and entertainment support to users, meeting the demands of modern consumers and the innovative development of society. V. Vlasenko and K. Movchan (2024) examine the question of the role of libraries in shaping a competitive specialist amid modern challenges and argue that libraries play a key role in training competitive professionals by providing access to a wide range of information resources. They also emphasize that libraries support educators in their professional activities, including foreign language teachers, by contributing to the development of their communicative competence. Foreign researchers have been studying the role of university libraries in supporting foreign language learning and the development of communicative competence for several decades, from classical studies on how students use library resources to contemporary works on digital tools, language-learning applications, and service support for international students. For example, K. Ibacache (2019) explores how academic libraries implement language apps, platforms, and digital textbooks that support self-directed learning, formation of communicative competence and language practice.

Thus, the scientific literature largely addresses the principles and methods of developing foreign language communicative competence in future military specialists, as well as the role of electronic resources and media libraries in enhancing cadets' language skills. Nevertheless, the specific features of forming this competence among future specialists in weapons and equipment of engineering troops remain insufficiently explored. A particularly underexamined aspect is the absence of a comprehensive understanding of how the library and information environment can be utilised as an integral component of foreign language training, especially in ways that integrate linguistic, technical, and professional communication tasks.

The purpose of this article is to substantiate the role of the library and information environment in shaping foreign language communicative competence of future specialists in armaments and equipment of engineering troops and to outline strategies for optimising its application in contemporary military higher education institutions.

Methods

The research employs a combination of theoretical methods that ensured a comprehensive examination of the role of the library and information environment in developing foreign language

communicative competence among future specialists in armaments and equipment of engineering troops. Specifically, analysis and synthesis of scientific, pedagogical, and methodological literature were applied to identify contemporary approaches to integrating library and information resources into the process of foreign language training for military specialists. The descriptive method was used to characterise the activities of the scientific library of the National Army Academy. In addition, abstraction and generalisation methods enabled an in-depth investigation of the Academy's library role in fostering foreign language communicative competence among future specialists in weapons and engineering. The theoretical foundation of this study rests on the findings of modern Ukrainian scholars who have addressed a range of issues concerning the formation of foreign language communicative competence in future military professionals.

Results and Discussion

The role of foreign languages in the professional development of future specialists in armaments and equipment of engineering troops is constantly growing, because in modern conditions, only with well-developed foreign language communicative competence, such specialists are able to effectively perform their highly professional tasks related to the operation of equipment and weapons. Proficiency in a foreign language gives specialists in armaments and equipment of the engineering troops access to the latest scientific and technical developments, international standards, instructions and technical documentation, which are often published exclusively in foreign languages. In addition, by speaking a foreign language, future military personnel have the opportunity to quickly develop and implement advanced technologies, participate in joint exercises, peacekeeping missions and international projects, establish business contacts with foreign partners, share experiences, etc. The ability to communicate effectively in a foreign language is also a significant factor in developing leadership skills, confidence in professional actions, and quick decision-making in a changing environment. Therefore, the development of foreign language communicative competence is becoming an integral part of professional training, without which it is impossible to fully perform official duties in the modern globalised military environment. In such circumstances, great attention should be paid to the development of foreign language communicative competence of future military professionals. Today, there are many methods, means, forms and tools for developing this competence. One of these tools is the library and information environment.

In today's era of commercialisation across nearly all spheres of life, libraries remain one of the few institutions that provide almost free access to information and knowledge. They respond proactively to the expansion of global communications by adopting advanced automated technologies to enhance the quality of the educational process (Makukha & Andriiash, 2022). Library activity is grounded in longstanding traditions of information services while simultaneously incorporating innovations in information support for science and education. Through the formation, systematisation, preservation, and dissemination of collections, libraries ensure access for students, teachers, researchers, and other users, striving to integrate modern information technologies in the process (Rzheuskyi, 2022).

At present, particular relevance is attached to the development of library information networks. A central issue involves organising a unified networked space that connects automated systems and platforms, thereby coordinating efforts and ensuring free access to electronic services and resources. These transformations have accelerated the digitisation of libraries and stimulated their transition to electronic publications. As a result, digital libraries are rapidly developing and gaining wide distribution, with electronic textbooks and manuals increasingly constituting the core of their information content (Zhalko & Lyashuk, 2023).

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The library and information environment is, in our opinion, a set of resources, services, technologies, and conditions created by the library to provide users with access to knowledge, data, and information in various forms (printed, electronic, audiovisual, etc.). The library and information environment plays a leading role in the formation of foreign language communicative competence of future specialists in armaments and equipment of engineering troops, providing access to modern sources of information, educational and scientific materials in foreign languages. This environment creates the necessary conditions for the targeted development of language skills, mastering professional terminology and forming the ability to communicate effectively across cultures. Thanks to electronic catalogues, multimedia resources, databases, and virtual libraries, cadets have the opportunity to work with authentic materials that reflect the current state of science, technology, and military affairs in the global context.

In addition, the integration of such resources into the educational process fosters the development of skills in information search, analysis, and critical evaluation, as well as enhances academic writing and professional communication in a foreign language. The library and information environment also promotes independent cognitive activity among future military specialists, providing opportunities for personalised learning and the effective combination of traditional and digital technologies. Consequently, the library and information environment functions not only as a source of knowledge but also as a powerful instrument of professional training, uniting language proficiency with a profound understanding of contemporary global trends in the military-technical field.

Let's examine the role of the library and information environment of the Scientific Library of the National Army Academy (Hetman Petro Sahaidachnyi National Army Academy, n.d.a) in shaping the foreign language communicative competence of future specialists in armaments and equipment of the engineering troops. Serving as an essential component and information hub of the Academy, the library represents a key element of the institution's educational infrastructure. The main task of the library is to facilitate the educational process and scientific research, to ensure the preservation and replenishment of library collections, their comprehensive disclosure and accessibility (Hetman Petro Sahaidachnyi National Army Academy, n.d.b). The library provides information, library and bibliographic services to the Academy's cadets, faculty, officers, servicemen and employees of structural units. The level of library services was improved by the automation of librarians' workplaces and the introduction of the automated information and library system "FDL/Library". Every year, more than 3,000 visitors use the services of this library, which issues more than 190,000 copies of documents.

The library has a database "Electronic Catalogue of Books" with more than 163 thousand records of documents and "Electronic Card Index of Articles" containing more than 7 thousand full-text articles of periodicals. The total collection of the library includes 205,143 copies of documents, and by field of knowledge, the book collection includes military and military-technical literature; socio-political; technical; humanitarian cycle; natural cycle; art and sports; fiction. The library collection of the National Army Academy is unique in having a strong military segment.

The Academy's library aims to achieve a high level of library services, search for new forms of interaction with users and expand the user audience. The library information services include the following: providing literature for long-term use on a subscription basis, providing information on the composition of the library's collections through the traditional library reference and search apparatus and the electronic catalogue, providing access to full-text library resources (textbooks, books, teaching aids, etc.), providing publications for temporary use in the library reading room, teaching the basics of library and bibliographic literacy, providing consulting assistance in finding and choosing books and other materials.

The library and information environment of the scientific library at the National Army Academy plays a crucial role in developing the foreign language communicative competence of future specialists in armaments and engineering equipment. It serves as a key educational, cultural, and informational hub, offering access to contemporary knowledge and resources. The library is not only a repository of military, technical, humanitarian and scientific literature, but also a kind of interactive platform for mastering foreign languages in a professional context. Thanks to an extensive collection of literature in English, German and other foreign languages, as well as electronic resources, databases and full-text articles, cadets have the opportunity to develop their skills in reading, translating, analysing and applying foreign language terminology. Automation of workflows and the implementation of the UDF/Library system greatly simplify the search for and access to the necessary materials, which increases the efficiency of future military specialists' independent work. The electronic catalogue and the electronic card index of articles create opportunities for continuous linguistic and professional self-improvement. The thematic composition of the collections, the unique military segment, and the availability of publications on international experience in defence and engineering support make it possible to integrate foreign language knowledge directly into future professional activities. In view of this, we can state that the library and information environment of the National Army Academy Library supports the educational process, promotes the targeted development of foreign language communication competence of military specialists, combining access to authentic sources, modern information technologies and specialised military and technical content. All of this ensures that future officers are able to effectively interact in the international military and technical environment, using foreign languages as a tool for professional activity.

Conclusions

Thus, the study thus confirms that the library and information environment plays a vital role in developing the foreign language communicative competence of future specialists in armaments and engineering equipment. An examination of the scientific library at the National Army Academy revealed that it is a central component of the institution's educational space. Beyond storing and providing access to literature, the library actively contributes to the training of military specialists by creating favourable conditions for integrating foreign language skills into their professional activities. Thanks to the library's extensive collection of foreign literature, including military and technical literature, cadets are able to work with authentic texts, expand their vocabulary, improve their translation skills and develop the ability to perceive professional information in a foreign language. The introduction of the automated information and library system "FDL/Library" and the creation of an electronic catalogue and card index of articles significantly improves the efficiency of information search and provides access to relevant scientific and technical materials. In addition, the specialised military segment of the collection, which covers weapons, engineering and international experience, helps cadets to develop the ability to work with foreign sources in highly professional fields. Thus, the library and information environment is an important factor in the training of highly qualified military specialists who are able to communicate effectively in foreign languages in their professional sphere. The combination of traditional and modern information resources, as well as the focus on the needs of future officers, creates an effective tool for the development of their foreign language communication competence in the context of clear requirements for military education.

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Роль бібліотечно-інформаційного середовища у формуванні іншомовної комунікативної компетентності майбутніх фахівців з озброєння та техніки інженерних військ

Мета. У статті досліджується значення бібліотечно-інформаційного середовища наукової бібліотеки у формуванні компетентності з комунікації іноземною мовою майбутніх фахівців з озброєння та техніки інженерних військ. Мета статті – обґрунтувати роль бібліотечно-інформаційного середовища у формуванні компетентності з комунікації іноземною мовою у майбутніх фахівців. **Методика.** У дослідженні використовувалися аналіз і синтез науково-педагогічної та методичної літератури, описовий метод тощо. **Результати.** Результати дослідження, а також висновки, зроблені на їхній основі, мають практичну цінність для викладачів вищих військових навчальних закладів, методистів, бібліотекарів та розробників навчальних програм, спрямованих на підвищення рівня підготовки з іноземної мови майбутніх фахівців з озброєння та інженерії інженерних військ. **Висновки.** Дослідження показує, що бібліотечно-інформаційне середовище є потужним ресурсом для формування таких компетенцій, оскільки інтеграція традиційних і сучасних інформаційних технологій, орієнтація на потреби курсантів та відкритість до інноваційних підходів сукупно сприяють підготовці висококваліфікованих фахівців, здатних до ефективної комунікації та професійної діяльності в міжнародному контексті.

Ключові слова: бібліотека; інформаційне середовище; комунікативна компетентність; військові фахівці; озброєння та техніка; інженерні війська