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Serhii PANOV,
Raisa KUZMENKO

Training of scientific and technical translation specialists in Higher education institutions during the war in Ukraine

SERHII PANOV, RAISA KUZMENKO. **Training of scientific and technical translation specialists in Higher education institutions during the war in Ukraine.** *The Purpose of the Study.* The purpose of the article is to analyze the peculiarities of training specialists in scientific and technical translation in higher education institutions of Ukraine under martial law. The study aims to identify challenges, adapt educational programs to modern realities, using digital technologies and innovative teaching methods, and assessing the impact of war on the professional training of future translators. *The Research Methodology.* The research methodology of the study uses a mixed methodological approach, based on hermeneutic and comparative methods, which characterize a comprehensive study of the importance of the role of the translator in scientific and technical translation in Ukrainian higher education institutions in the context of war. A thorough study of existing scientific works on the training of translators, language education in times of crisis and the

impact of war on higher education. Scientific Novelty. The scientific novelty of the study is that this research is one of the first studies to comprehensively analyze the adaptation of training of scientific and technical translators in Ukrainian higher education institutions in the context of war. Conclusion. The findings of the study extend the academic discourse on interpreter education by offering new insights into learning strategies adapted to conflict conditions. They show that the war has a major impact on the educational process in Ukraine, which requires adaption of programs, syllabi, teaching methods to the war conditions. The results can be applied not only in Ukraine but also in other regions experiencing conflict or crisis.

Keywords: technical translation, translator, language, war, higher education institutions, Ukraine.

1. The Problem Statement

The full-scale war in Ukraine affected all aspects of life of the Ukrainian people, including education, which plays crucial role in preparing specialists who are so needed to rebuilt and advance various sectors of society. Education is the key to the well-being of society and consistency also increases the efficiency of the economy (Alali, 2011). The training of scientific and technical translation specialists in the conditions of war plays an important role in supporting the development of the country, in the effectiveness of international communication in the scientific, technical, military spheres, information exchange and integration of Ukrainian scientific achievements in the world space. At a time when technology and science are very important for the defense of the country, the role of scientific and technical translation cannot be underestimated. Higher education institutions faced new challenges - to adapt to training in extreme conditions, in conditions of constant sirens and explosions. The issue of professional training of translators for the military-technical, engineering and medical fields, which require accuracy, speed and mastery of specialized terminology, has become especially relevant.

2. The Analysis of Sources and Recent Researches

The war in Ukraine has significantly affected all spheres of life, including science and higher education, as well as the training of specialists for such specific branch as translation/ interpretation. The translation of scientific and technical texts has been the subject of research by many domestic and foreign scholars. Y. Shevelov, I. Kovalyiv, O. Romanyuk,

V. Dobrzhansky, T. Shevchuk, N. Saienko, V. Strilets, D. Karnedi, A. Rothwell, T. Svobodahave, K. Šyjanok made a significant contribution to the development of the translation problem in general and, in particular, the translation of scientific and technical literature.

Among ukrainian scientists, N. Saienko and N. Simkova, should be highlighted. Scientists N. Simkova (2019) in her paper "The Impact of Transdisciplinarity on Sight Translation Training in Scientific and Technical Domains" explained influences of a transdisciplinary approach on sight translation training for future translators and interpreters in scientific and technical fields highlighting integrating knowledge across disciplines enhances students' professional identities and competencies. At the same time V. Strilets (2022) studies the integration of Information and Communication Technologies (ICT) in training future scientific and technical translators showing necessity of educational practices meet market demands. We can not but mention M. Pylypchuk (2020), who examined the problem of matching the professional training of future translators in higher education institutions to the requirements and challenges of the translation services market of Ukraine in today's conditions.

As for foreign investigators we must mention the study of Italian scientists Int, A., & Martín, R. M. (2009) "Translator training and modern market demands" that explains the issue of training specialists whose skills align with demands of contemporary times. The paper of M. Popel et al (2024) present a machine translation system between Ukrainian and Czech, developed as part of a society-wide effort to mitigate the impact of the russian-Ukrainian war on individuals and society. Incorporating such technological solutions into the training programs of Ukrainian higher education institutions could enhance the efficiency and effectiveness of translation specialists during the war. Scientist Mohammed Obeidat proposed a comprehensive training model tailored for interpreters in conflict zones. The model focuses on equipping interpreters with the necessary linguistic, cultural, and ethical competencies to navigate the complexities of war-related scenarios effectively.

We can say that all studies mentioned above help to adopt training programs for the needs of higher education institutions in Ukraine programs in response to the challenges brought about by the ongoing war.

The Purpose of the Article. The purpose of the publication is to explore the impact of the war on training of scientific and technical translation specialists in higher education institutions in Ukraine.

3. The Main Material Statement

The war in Ukraine brought a lot of challenges to educators in training translation specialists. One of the most pressing issues was the disruption of traditional learning environments. Many universities had to switch to online (synchronous and asynchronous) teaching on remote learning platforms such as Google Meet and Zoom to ensure accessibility and continuity of education. This transition led to the adaptation of the content and focus of scientific and technical translation Syllabuses to the conditions caused by the war. The programs included specialized courses on defense industry terminology, crisis communication, and international legal framework. The war caused demand for translation services related to military technology.

We cannot underestimate the pivotal role of technical translation which enables access to the global market and has a significant impact on the global economy and international communication especially during times of war. Besides, “technical translations represent 90% of translations on the global market” (Kingscott, 2002, p.247).

And this is not surprising, as the modern world, with its rapid development of information technology and engineering, is unimaginable without the translation of various industry-specific literature. Most scientific and technical texts, including international standards that are being harmonized, are presented in English. For example, documents such as the Council of the European Union Regulation C411 (1998a), the EU Directive 98/37/EC (Council of the European Union, 1998b), the Council Directive 93/42/EEC (1993), as well as international standards (EN 292-2:1991 and EN 62079:2001) are just a fraction of the documents that companies entering the global market must be familiar with (S. Nikolaeva, 2003, p.273).

It is necessary to point out that the training of scientific and technical translation specialists in higher education institutions during the war in Ukraine was significantly shaped by the integration of technology. Today, “translation practice is inextricably linked to technological advancements, influencing every aspect of translator education”. (Polo, Chelo Vargas, 2023) With the war this process further was accelerated, causing the necessity to adopt digital tools, machine translation to ensure continuity in training. Besides, “teaching technical translation presents unique challenges and expectations, especially as digital tools and resources reshape how both students and professionals approach the topic”. (Grigoraş, 2024) Educational institutions have had to rethink their

approaches, incorporating technology-driven methodologies to address wartime challenges, maintain academic standards, and prepare specialists for the evolving demands of the profession.

The translation of English scientific and technical literature differs from the translation of fiction, magazine, and newspaper articles. (Panov & Kuzmenko, 2024) The primary requirement for scientific and technical translation is the accurate transmission of information. As is it well known, the main challenge in translation is ensuring the correct meaning of each sentence, which often does not correspond to a literal translation. As I. Korunets (2003) noted "the most important defining feature of a scientific and technical text is its cognitive nature and informational richness". And the process of teaching scientific and technical translation from its side "correlates with the stages of practicing translators' professional activity comprising a set of steps aimed at solving particular translation tasks: preparatory, analytical, synthesizing, correction and assessment ones" (Strilets, 2022). Technical translation heavily relies on consistent and accurate terminology management, a skill that must be developed during translation training and through practice. The competencies and skills that translation students need to acquire in order to develop a successful career in the industry have been widely addressed in the Translation Studies literature.

Scientific and technical translation, which is included in the syllabi of translation departments and faculties in Ukraine, aims to introduce students to the system of terms and concepts that will be used in all translation tasks and directly in practice throughout their years of study. Essentially, all terminology is related to terminology, including military, medical and diplomatic. This familiarizes first-year students with translation subjects that are part of the professional training system for translators and interpreters. Therefore, the primary goal is to achieve the following specific objectives: to convey to students the exceptional importance of translation activities in supporting international relations, strengthening mutual understanding between nations and organizations at all levels, supporting scientific and technological progress, as well as global peace. It is also very important to provide students with a comprehensive understanding of the significance and role of interpreters and translators in sustaining daily interactions with the world at the level of state leaders, global organizations such as the UN, the EU, and NATO, as well as numerous business relations between countries and political or other social organizations. To ensure that students understand these

responsibilities fully, it is essential to instill in them “the high standards expected of translators and interpreters as individuals of profound cultural and moral integrity, bearers of their nation’s traditions and culture, patriots of their homeland, and individuals who are disciplined, honest, and courteous. They must always perform their assigned duties in a timely and professional manner, submit their translations as required, and fully and accurately convey the content and distinctive responsibilities of both the source and the recipient” (Korunets, 2008).

Every profession has its own ethical norms and rules of professional conduct that must not be violated. A translator must strictly adhere to established traditions in accordance with the moral code of a technical translator. There cannot be a nationally tinted profession such as a "Ukrainian translator." There is simply the profession of a translator. Thus, a professional translator must adhere to the moral code of a technical translator:

1. A technical translator is a mediator who converts an oral or written text created in one language into a text in another language.

2. The source text for a technical translator is inviolable. A technical translator has no right to alter, shorten, or expand the text at their discretion unless the client has specifically requested adaptation, summarization, additions, or similar modifications.

3. In some cases, during consecutive or simultaneous interpreting, a technical translator assumes diplomatic functions (e.g., in international negotiations). If these diplomatic functions are officially recognized, the translator has the right to deviate slightly from the accuracy of the original text to facilitate diplomatic relations and prevent complications. However, they are not obligated to advocate for any particular party's interests (Panov, 2015).

It should be noted that in the training of specialists in scientific and technical translation, a very important aspect is psychological and emotional resilience, considering that translators have to work in difficult conditions, even in wartime, where attention and accuracy are essential. They have to quickly adapt to changes, maintain composure in stressful situations, and take responsibility for conveying specialized terminology, as mistakes can lead to critical consequences. Students preparing for this profession have to study under challenging circumstances – spending nights in bomb shelters, constantly hearing air raid sirens and explosions. However, despite all the hardships brought by the war, students continue their studies, adapting to such conditions. They have to master new terminology related to military technology and the realities of war, train

their endurance, and remain calm. An important part of their training is the development of critical thinking, the ability to process large amounts of material for translation and communication effectively. These demand of the world puts forward the necessity of a modern, competency-based approach to education. There is an urgent need to develop new competencies. "The emergence of a competency-based approach to teaching and learning is a result of the social changes we have been experiencing over the past decades" (Basilotta-Gómez-Pablos, 2022). Translators must continuously adapt to changes of rapidly developing world, acquiring new skills that ensure their effectiveness in different environments, and in this case, in wartime conditions.

4. The Results of the Research

The ongoing war in Ukraine has significantly impacted the training of scientific and technical translation specialists in higher education institutions. The research findings indicate that universities have faced substantial challenges, yet they have also demonstrated remarkable resilience in adapting to the new realities.

The situation that has unfortunately developed in Ukraine requires expanding connections to seek support on the international stage and cooperation with foreign partners. Translators/interpreters play an extremely important role in this process, as translation demands not only a high level of proficiency in a foreign language but involves capturing the nuances of both languages and cultures to facilitate effective communication. An example could be the meeting between the President of Ukraine, V. Zelensky and the President of the United States, D. Trump. In such high-level discussions, the role of the interpreters, is crucial. **Interpreters** participate in official meetings and summits, contribute to information campaigns, and often work on a volunteer basis. Thanks to the work of translators, the world can receive more up-to-date and reliable information about the events taking place in Ukraine and provide the support that is so urgently needed now.

In today's world, the profession of a translator is recognized as one of the most prestigious and essential, as it enables people in the contemporary globalized world to communicate and collaborate. Educational institutions face the challenge of training high-quality translators, providing them with deep knowledge of foreign languages and developing modern competencies that are crucial for being competitive in this globalized world.

The translation of scientific and technical literature occupies a distinct domain within the field of translation, fundamentally differing from other types of text translation due to its specific lexical, morphological, grammatical, and stylistic features.

In wartime, a translator has specific professional responsibilities and duties, which include:

1. Summarizing and compiling reports based on the testimonies of prisoners of war, statements from defectors, and confessions obtained from captured enemy personnel.
2. Preparing daily reports on foreign press coverage regarding the course of military operations on land, at sea, and in the air against enemy forces. This includes continuous monitoring and summary translation of foreign news agency reports on battles, casualties of both allied and enemy troops, and media reactions to major conflicts.
3. Translating reports on the international community's response to violations of the Geneva Conventions concerning the treatment of prisoners of war and civilians in occupied territories.
4. Translating instructions for the use of captured enemy weapons, ammunition, medical supplies, and other military equipment.

5. Conclusions

The war in Ukraine has deeply affected the training of specialists in scientific and technical translation. Higher education institutions have risen to the challenge of the war and adapted to the new conditions. By using digital tools, updating curricula according to the demands of wartime, providing psychological support, and strengthening international cooperation, instructors continue to deliver high-quality educational services and train professionals in both oral and written translation. They are preparing students to make an effective contribution to strengthening Ukraine's resilience and its post-war recovery.

The training of specialists in scientific and technical translation during wartime is one of the most crucial tasks for higher education institutions in Ukraine. Translators play an indispensable role in international communication, information exchange, and the integration of Ukrainian scientific achievements into the global space. Their work is directly essential for supporting the country's development, ensuring accuracy and efficiency in communication within scientific, technical, and military fields.

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Authors

Serhii PANOV

*Doctor of Pedagogical Sciences,
Candidate of Technical Sciences,
Professor the Department of Germanic Languages,
Ukrainian State Dragomanov University,
Kyiv, Ukraine
ORCID <https://orcid.org/0000-0003-4200-7270>
E-mail: panovsf@ukr.net*

Raisa KUZMENKO

*Doctor of Philosophy, Associate Professor,
Senior Lecturer, Department of Foreign Languages,
National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute",
Kyiv, Ukraine
ORCID <https://orcid.org/0000-0002-4881-1879>
E-mail: raisa.kuzmenko.kiev@gmail.com*

Abstracts

СЕРГІЙ ПАНОВ, РАЙСА КУЗЬМЕНКО. Підготовка фахівців науково-технічного перекладу у вищих навчальних закладах під час війни в Україні. Мета дослідження. Метою статті є аналіз особливостей підготовки фахівців з науково-технічного перекладу у вищих навчальних закладах України в умовах воєнного стану. Дослідження спрямоване на виявлення викликів, адаптацію освітніх програм до сучасних реалій, використання цифрових технологій та інноваційних методів навчання, оцінку впливу війни на професійну підготовку майбутніх перекладачів. Методологія дослідження. У методології дослідження використано змішаний методологічний підхід, що ґрунтується на герменевтичному та компаративному методах, які характеризують

комплексне вивчення важливості ролі перекладача науково-технічного перекладу в українських закладах вищої освіти в умовах війни. Ретельне вивчення існуючих наукових праць, присвячених підготовці перекладачів, мовній освіті в умовах кризи та впливу війни на вищу освіту. Наукова новизна. Наукова новизна дослідження полягає в тому, що воно є одним із перших досліджень, у якому комплексно проаналізовано адаптацію підготовки науково-технічних перекладачів у вищих навчальних закладах України в умовах війни. Результати. Результати дослідження розширюють академічний дискурс з питань освіти перекладачів, пропонуючи нові уявлення про стратегії навчання, адаптовані до кризових умов. Показують, що війна має великий вплив на освітній процес в Україні, який вимагає адаптованості до умов війни навчальних програм, силабусів, методів викладання. Результати можуть бути застосовані не тільки в Україні, а й в інших регіонах, що переживають конфлікти або кризи.

Ключові слова: технічний переклад, перекладач, мова, війна, вищі навчальні заклади, Україна.

SERGII PANOV, RAIISA KUZMENKO. **Kształcenie specjalistów w zakresie tłumaczenia naukowo-technicznego na uczelniach wyższych podczas wojny w Ukrainie.** Cel badania. Celem niniejszego artykułu jest analiza specyfiki kształcenia specjalistów w zakresie tłumaczenia naukowo-technicznego na ukraińskich uczelniach wyższych w warunkach stanu wojennego. Badanie koncentruje się na identyfikacji wyzwań, dostosowaniu programów edukacyjnych do współczesnych realiów, wykorzystaniu technologii cyfrowych oraz innowacyjnych metod nauczania, a także ocenie wpływu wojny na przygotowanie zawodowe przyszłych tłumaczy. Metodologia badawcza. Metodologia badania opiera się na podejściu metodologicznym o charakterze mieszanym, które opiera się na metodach hermeneutycznej oraz komparatywnej, charakteryzujących się kompleksową analizą roli tłumacza naukowo-technicznego w ukraińskich instytucjach szkolnictwa wyższego w warunkach wojny. Szczegółowa analiza dostępnych prac naukowych dotyczących kształcenia tłumaczy, edukacji językowej w sytuacjach kryzysowych oraz wpływu wojny na szkolnictwo wyższe. Nowatorski charakter badania. Nowatorskość niniejszego badania polega na tym, że stanowi ono jedno z pierwszych badań, w którym kompleksowo przeanalizowano adaptację kształcenia tłumaczy naukowo-technicznych na ukraińskich uczelniach wyższych w warunkach wojny. Wyniki. Wyniki badania poszerzają akademicki dyskurs

dotyczący kształcenia tłumaczy, proponując nowe podejście do strategii dydaktycznych dostosowanych do warunków kryzysowych. Wykazują one, że wojna znacząco wpływa na proces edukacyjny w Ukrainie, który wymaga modyfikacji programów nauczania, sylabusów oraz metod dydaktycznych w celu ich dostosowania do realiów wojennych. Wyniki mogą znaleźć zastosowanie nie tylko w Ukrainie, ale także w innych regionach dotkniętych konfliktami lub kryzysami.

Słowa kluczowe: tłumaczenie techniczne, tłumacz, język, wojna, uczelnie wyższe, Ukraina.